



Knowing the FIELD for infrastructure regulation at local level: actors, information, incentives

Florence | 13th of June 2014

3rd Florence Conference on the Regulation of Infrastructures

Franco Becchis, Turin School of Local Regulation

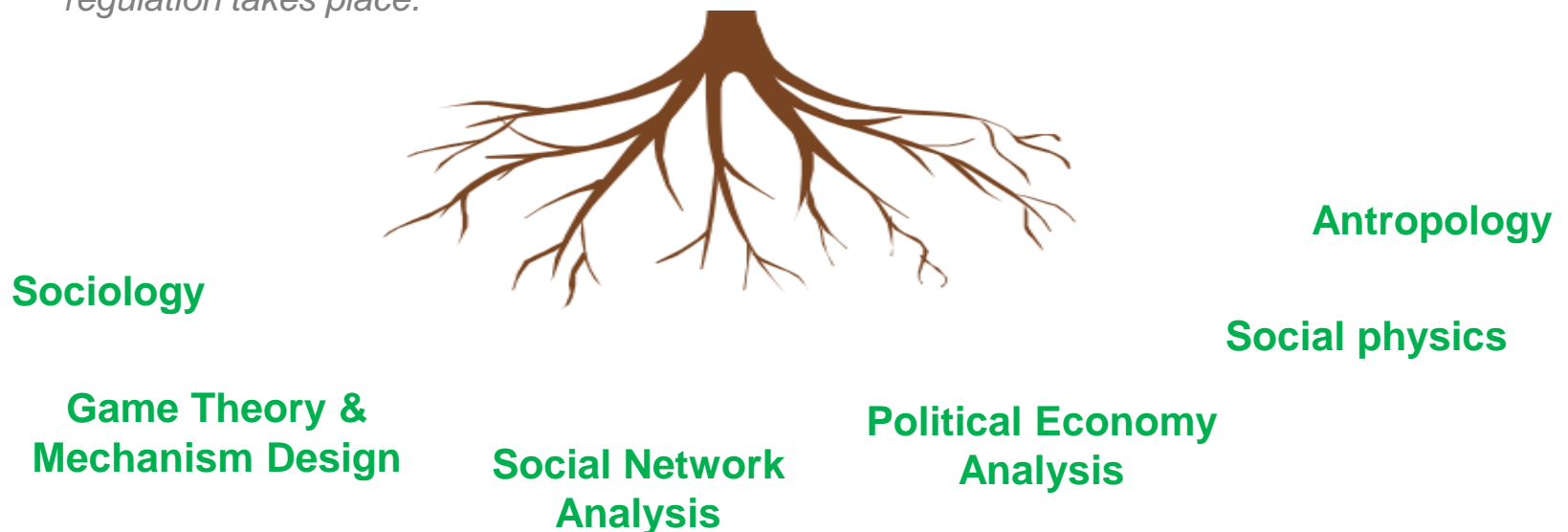
THE DESIGN

- **Is the local dimension relevant for infrastructure regulation?**
- **Are there peculiar critical aspects in local regulation?**
- **How to prepare the field for better regulatory framework at local level?**
- **Tangle of relationships, actors/players, incentives, information endowment and exchange**
- **From information to knowledge to awareness**



Framework of Incentives to Empower Local Decision-makers

A multidisciplinary methodology for the analysis of local actors, incentives and information endowment that surround and lie behind the success or the failure of local services, infrastructures and projects, defining the playing field where their implementation and regulation takes place.



Estimates indicate that at least 40 trillion USD will be needed **globally** in the next 20 years for **urban infrastructure investments alone**. Annual infrastructure investment needs are **expected to increase by around 70% from 2.6 trillion USD in 2013 to 4.5 trillion USD in 2030**.

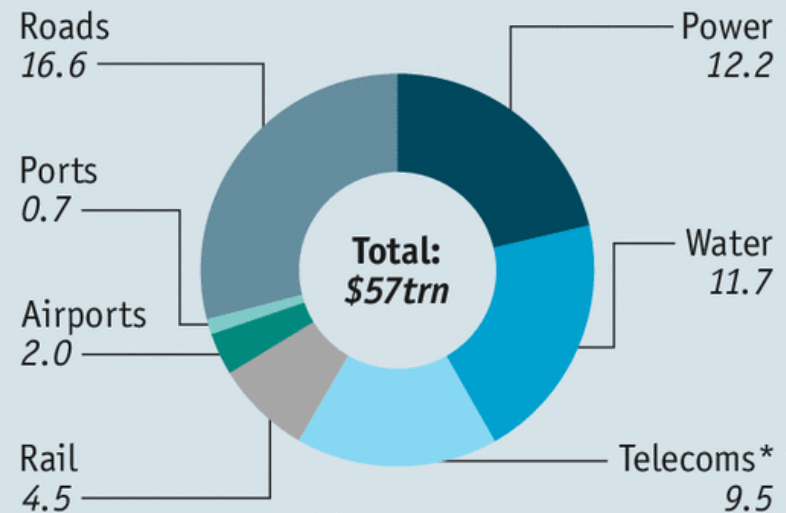
The OECD estimates that 1.3 trillion USD need to be invested annually to replace and maintain **water infrastructure in developed countries and emerging markets alone** (without considering support needed for new infrastructure).

Sources:

- Frederic Ottesen (2011), "Infrastructure Needs and Pension Investments: Creating the Perfect Match", OECD Journal: Financial Market Trends, Vol. 2011/1.
- OECD (2006), Infrastructure to 2030: Telecom, Land Transport, Water and Electricity, OECD Publishing
- The Economist (2014), Infrastructure financing: A long and winding road - The world needs more infrastructure. How will it pay for it?, Mar 22nd 2014

Planes, trains and sewers

Global infrastructure investment required
2013-30, \$trn, 2010 prices



Source: McKinsey
Global Institute

*Brazil, China, India
and OECD countries only

THE MATRIX - FIELDS



Categories of players

- Politicians
- Public officials
- Market actors (non-financial)
- Market actors (financial – local or national/international)
- Lobbies
- Consumer organizations
- Administrative tribunals (administrative, procedural, budget conflicts)
- Consumers / final users

Information endowment

Information on:

- Operational costs
- Investment costs
- Physical assets
- Revenues
- Demand side

Direct ownership (resident) vs indirect ownership (non-resident, through transmission) of information?
In case of indirect ownership, what are the costs to obtain information?

Information exchange

Nature:

- mandatory (check, sanctions)
- control
- voluntary
- uses

Truth revealing incentive compatibility (Yes / No)

Truth revelation mechanisms?

Players' incentives

- Efficiency in provision of the service (I)
- Profit (I)
- Market share (I)
- Effectiveness and quality (I)
- Equity / redistribution / accessibility (I)
- Electoral consensus (S)
- Consensus (S)
- Political control (S)
- Religious control (S)
- Ethnic control (S)
- Maintaining / increasing own budget (S)
- Financial public budget constraints (S)
- Legacy (S)

Types of relations

- Appointment
- Election
- Lobby pressure
- Strong political influence
- Corruption
- Command
- Control
- Regulation: price, quantity, quality, accessibility, distributional
- Sentences / rule of law / judicial enforcement
- Assignment
- Business relationship
- Market power

1. High degree of **subjectivity**
2. Difficulty to **compare** case studies that are economically and socially different

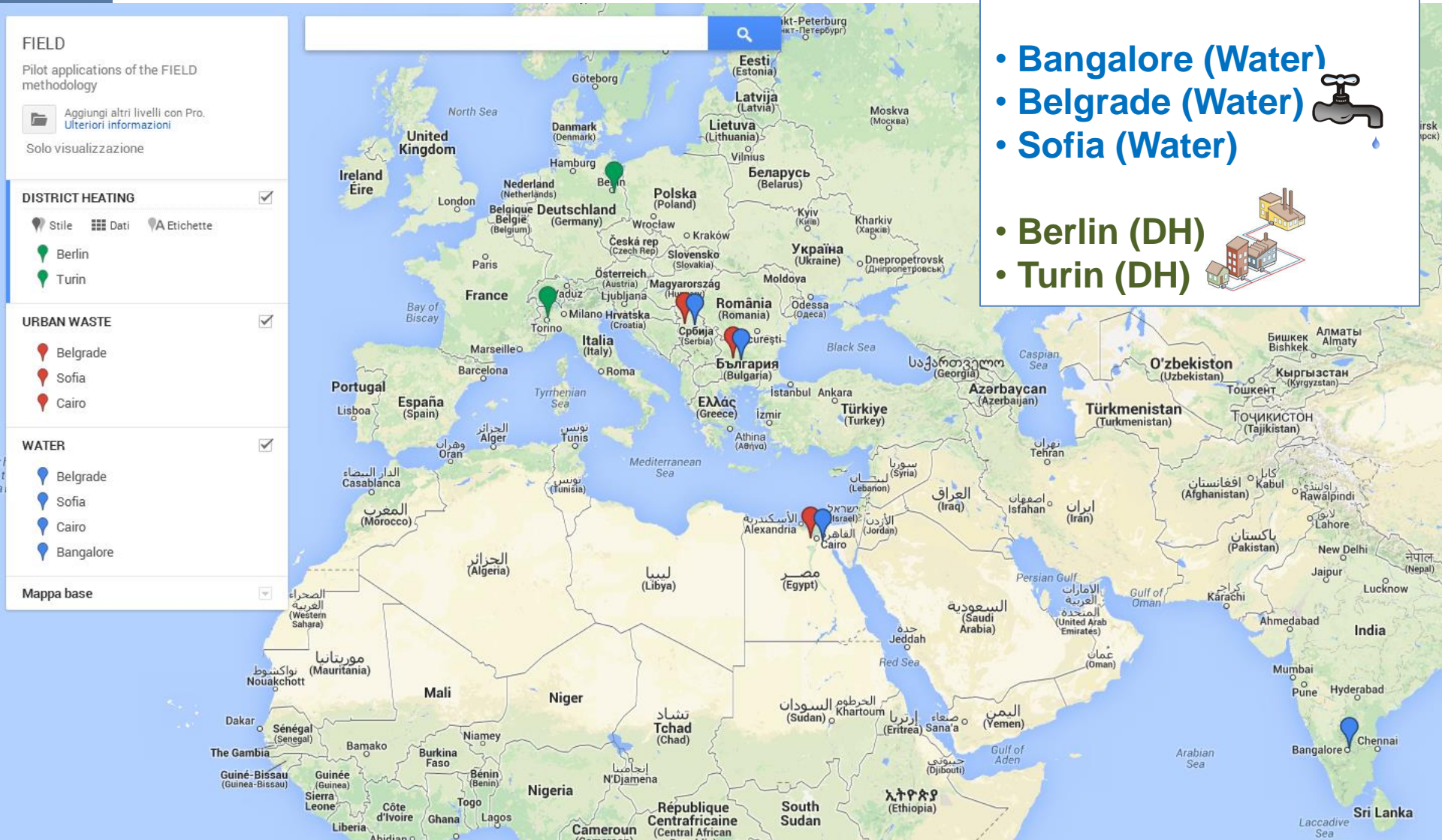


Policy-oriented tool

THE CASE STUDIES ANALYZED SO FAR

THIS PAPER FOCUSES ON:

- Bangalore (Water)
- Belgrade (Water)
- Sofia (Water)
- Berlin (DH)
- Turin (DH)



	Water and sanitation			District heating	
	Bulgaria	India	Serbia	Germany	Italy
Who has the ownership of networks and plants?	State; Local governments	Local governments PUBLIC	State; Local governments	Companies owned by State or local public bodies; Private entities; Mixed private / public PRIVATE / PPP	Private entities; Mixed Private/public
How is the service assigned ?	Public tender	In-house providing	Direct assignment	Public tender Direct assignment	Public tender Direct assignment In house providing
If applicable, who is in charge of tendering the services?	Local governments State Government	Only the capital works are tendered. The utility tenders the work on behalf of the local governments	Local governments	Local governments	Local governments
What is the average duration of concessions ? Can they be re-negotiated?	<u>On average</u> : 25 years <u>Renegotiation</u> : possible	N/A	<u>By law</u> : up to 99 years. <u>Renegotiation</u> : possible <u>In practice</u> : no experience in the water sector.	<u>On average</u> : 20-30 years (33% of concessions) and up to 50 ys 14%; unlimited concession for the duration of heat provision (26%)	<u>On average</u> : 20 years. Up to 40 years.
Who operates the services?	Generally public companies. 1 case of PPP	Local governments PUBLIC	Local governments and public companies	Generally private companies or PPPs PRIVATE / PPP	Generally PPP companies or private companies
Is PPP a common practice in the sector?	No. It exists, but this model is not common.	No	No	Yes (Mixed private / public companies)	No. It exists, but this model is not common.
Who regulates tariffs , profits/revenues and so on?	The State Energy and Water Regulatory Commission	Local governments	State Government sets a reference price; Local governments set tariffs.	The service is not regulated. The Antitrust authority can intervene <i>ex-post</i>	The service is not regulated. A contract (not standardized) exist between the Municipality and the service provider but regulation is weak
Who plans investments ?	Service operators with approval by the regulator	Local governments	State Government (Directorate for Water of the Ministry of Water Management); Local governments	Service operators	Service operators by the local government
What is the structure of revenues ?	Customer bills (+) EU funds (-)	Customer bills State subsidies	Customer bills (+) State subsidies (-)	Customer bills (+) Public subsidies (for plant construction) (-)	Customer bills (so far pegged to natural gas retail prices)

The State Energy and Water Regulatory Commission

Yes (Mixed private / public companies)

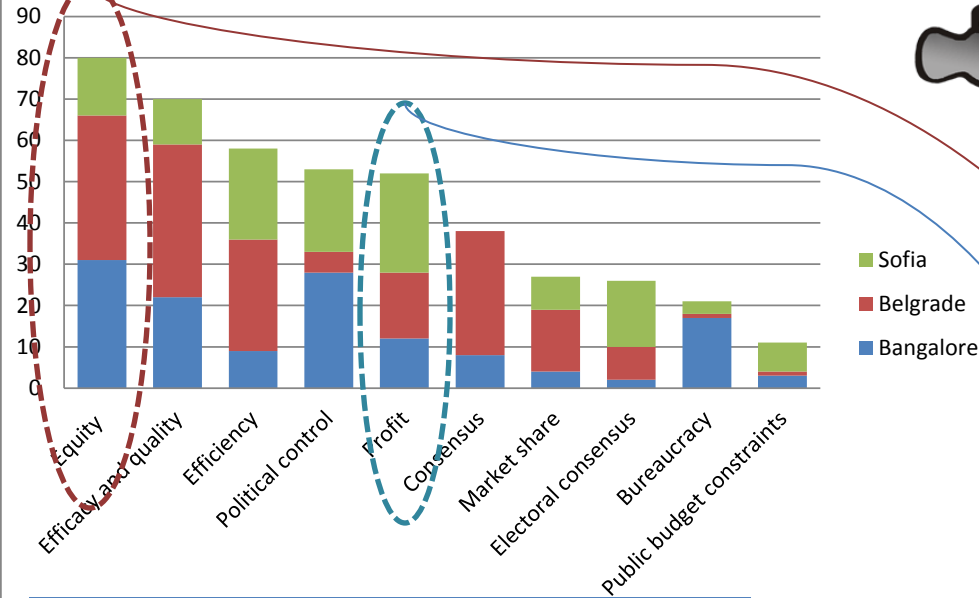
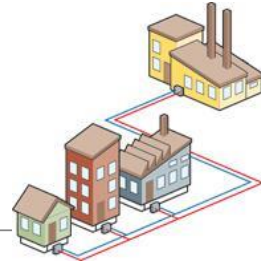
DE and IT Antitrust authorities's sector inquiry

WWS Sector - Players' Incentives

Weighted Total summing the results in the 3 Cities analyzed



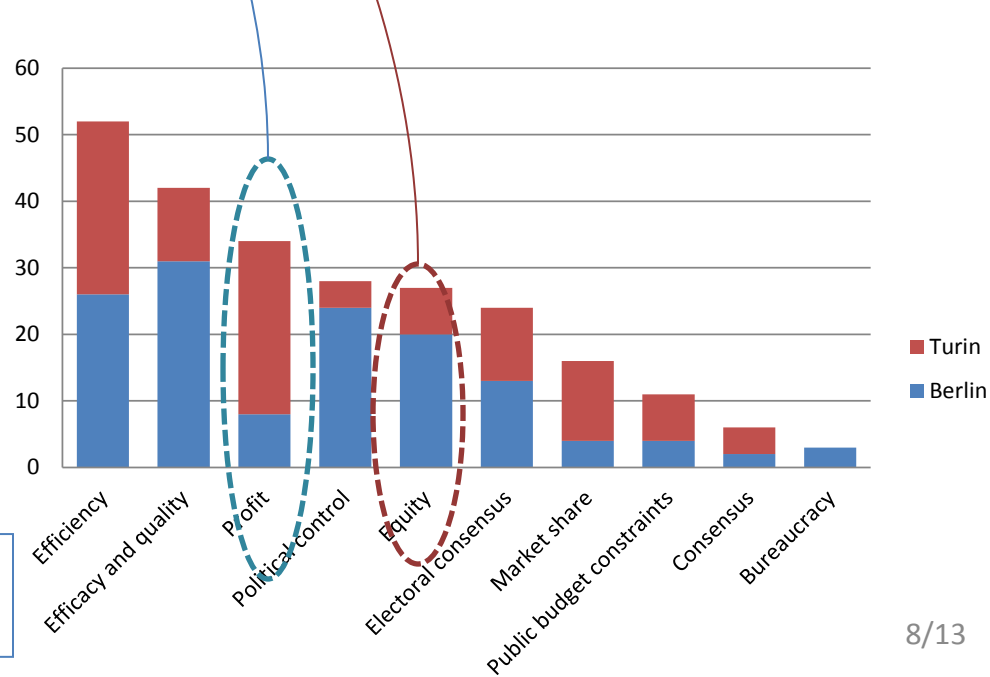
SOME PRELIMINARY RESULTS: INCENTIVES



Bangalore: Political control (2nd) and Bureaucracy (4th)
Sofia: Profit (1st)

DH Sector - Players' incentives

Weighted total summing the results in the 2 cities analyzed

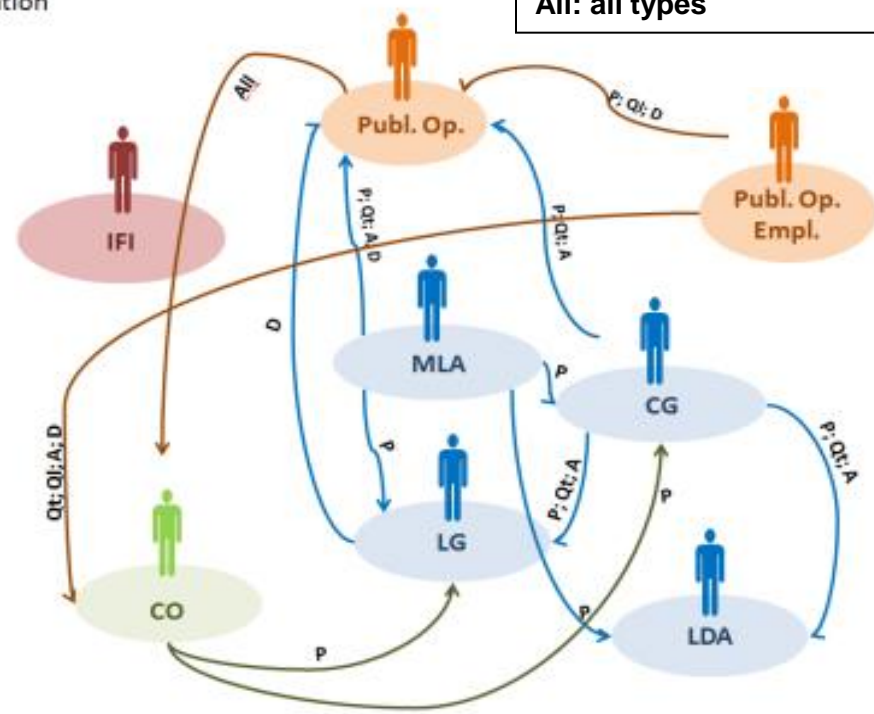


Turin: Profit (1st) → Case of F2i – Fondi Italiani per le Infrastrutture

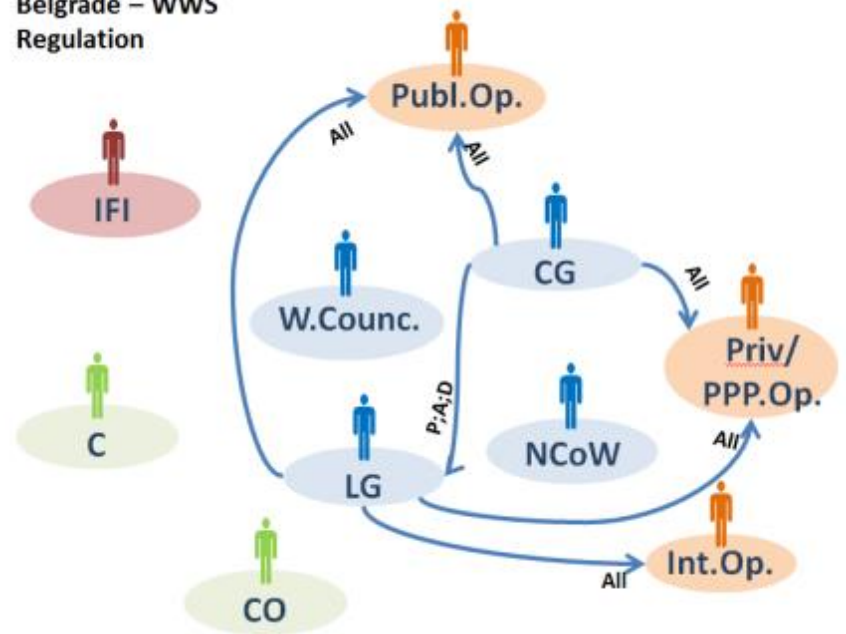
RELATIONSHIPS IN THE WATER SECTOR: REGULATION

P: Price
Qt: Quantity
Ql: Quality
A: Accessibility
D: Distributional aspects
All: all types

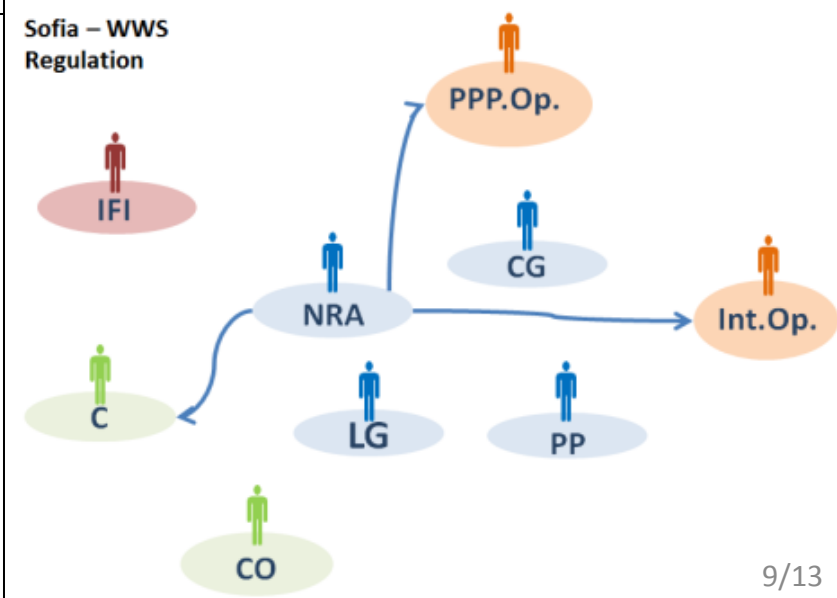
Bangalore – WWS Regulation



Belgrade – WWS Regulation



Sofia – WWS Regulation



Public bodies: Central Government (CG), Local Government (LG), National Regulatory Agency (NRA), Water Council (W.Counc.), National Conference on Water (NCoW), Political Parties (PP), Members of Legislative Assembly (MLA), Local Development Agency (LDA)

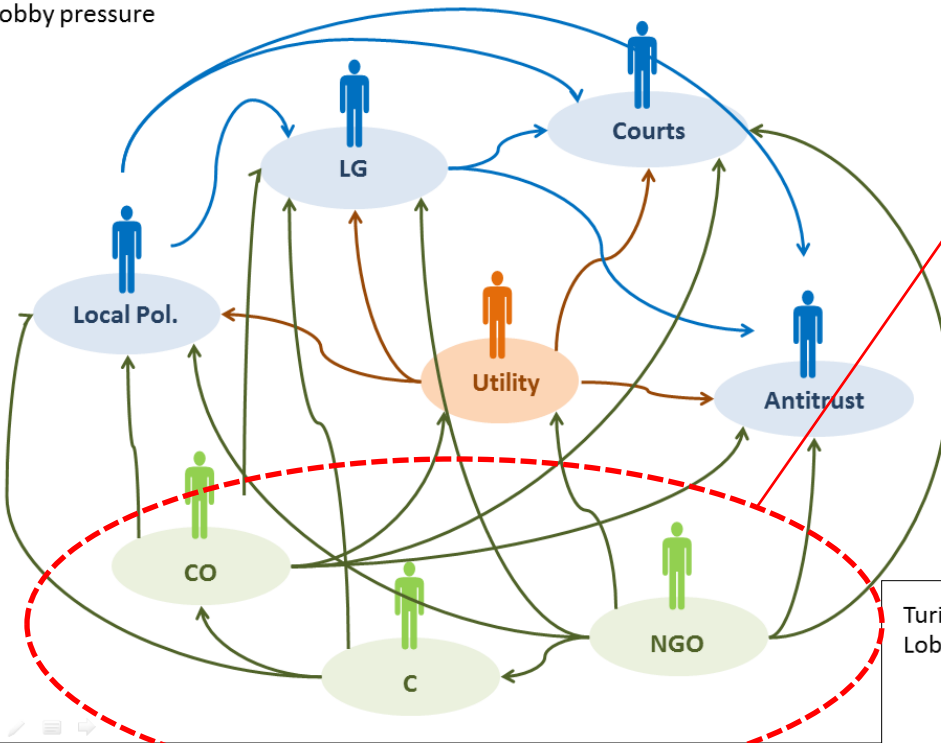
Market operators: Public (Publ.Op.), Private (Priv.Op.), Public-private (PPP.Op.), International / Foreign (Int.Op.), Public Operator's Employees (Publ. Op. Empl.)

International financial institutions and donors (IFI)

Consumers (C) and their organizations (CO)

RELATIONSHIPS IN THE DH SECTOR: LOBBY PRESSURE

Berlin – DH
Lobby pressure

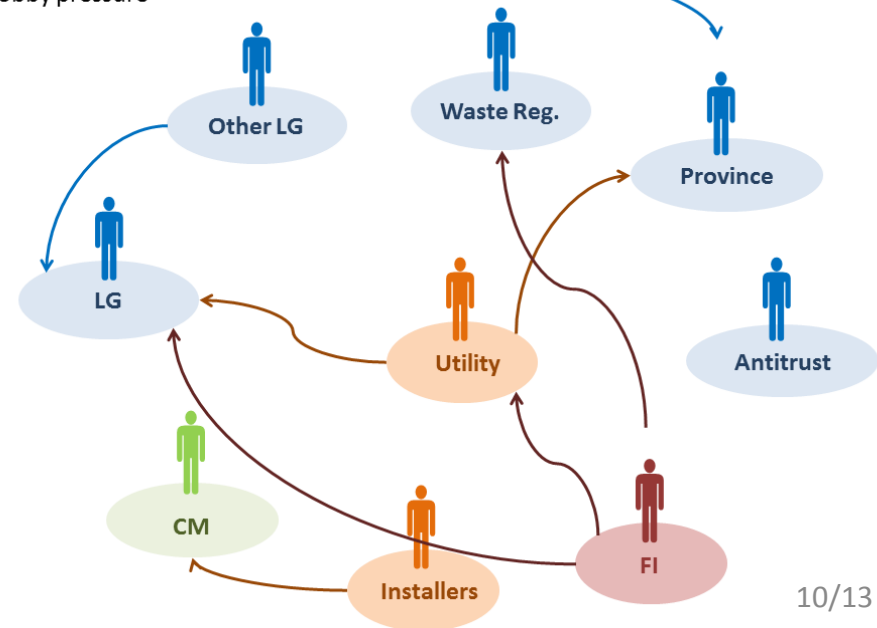


Very relevant role ≠ Turin

Lobby pressure: what for?

- **FIs:** good return on investment + they have been financing the w-to-e plant → lobby on waste regulator
- **Neighbour municipalities:** environmental compensations + future provision of heat at fair retail prices
- **Installers:** make CM opt for their systems instead of DH

Turin – DH
Lobby pressure



Public bodies: Local Government (**LG**), Local Politicians (**LP**), **Province**, Provincial Waste Regulator (**Waste Reg.**), Antitrust authority (**Antitrust**), Neighbour Local Governments (**Other LG**), Administrative Courts (**Courts**)

District heating operator (**Utility**), Installers of small hydrothermal systems (**Installers**)

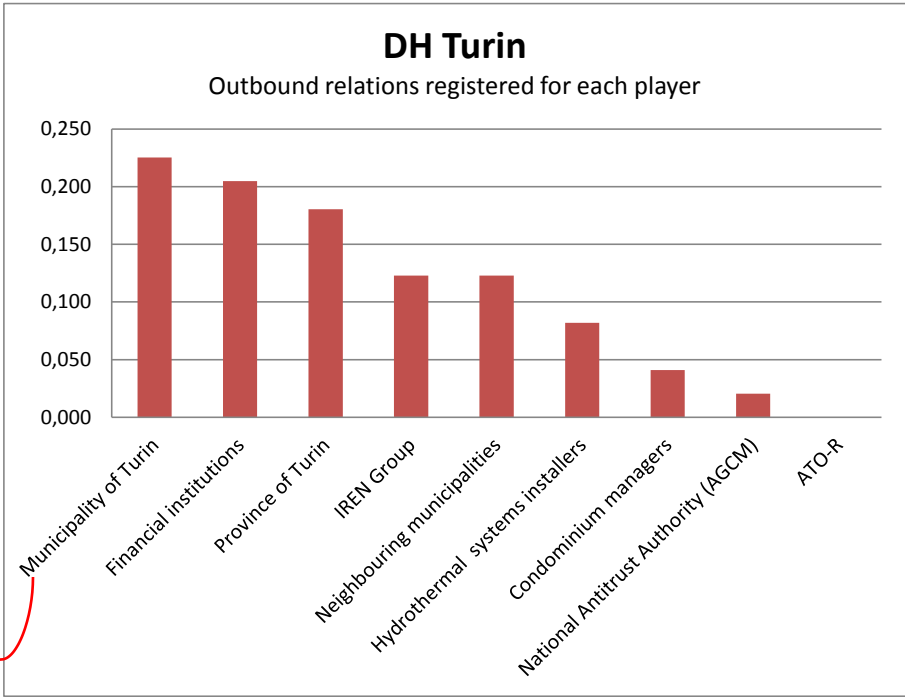
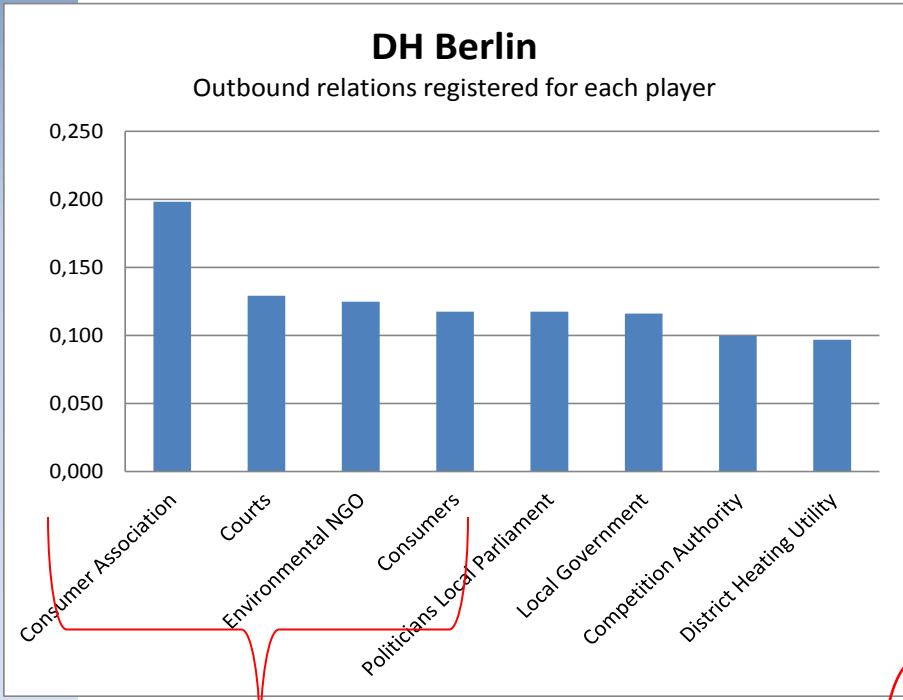
Financial institutions (**FI**)

Consumers (**C**), Consumer organizations (**CO**), Environmental NGO (**NGO**), Condominium Managers (**CM**)

Outbound / Inbound Relation Ratio Index: a demonstration of the Outbound RRI in the DH sector

FOREWORD: “outbound” and “inbound” relations registered for each player were calculated, according to who is the agent of the relation and who is the passive target. An **index** was created to assess the “influence” of each player in the context analyzed, based on the number of outbound relations that the player exerts. The index has been calculated dividing the sum of outbound relations registered for a single player by the total sum of outbound relations registered in that city (Outbound relations ratio). The same procedure has been adopted for inbound relations (Inbound relations ratio).

$$\frac{\text{Outbound relations of Player X}}{\text{Total outbound relations of the city players}} = \text{Player X's Outbound RRI}$$



Strong role of players representing and protecting consumer interests: Consumer associations, Courts, Consumers themselves

Much higher index compared to Berlin, and this can be due to the fact that it is also stakeholder in the service provider (IREN)

POWER QUESTIONS & NEXT STEPS

- Did we pose the right questions?
- Are there other institutions that are asking the same questions in other contexts ? → enlarging literature survey ?
- Are questions suitable for a quantitative representation? are we really leaning towards this objective? Can econometrics give answer to complex socio-economic phenomena and relationships
- How to reduce subjectivity? → pools of referees (see the case in Turin)?
- Is it possible to transform the Outbound/Inbound Relations Ratio Index into something more than a purely descriptive tool?

...to be done ASAP:

Build a large portfolio of case studies to further test it:

- Local welfare (Turin)
- Biogas plant (Piemonte)
- Local public transport (Istanbul)
- Others to be identified



Franco Becchis
Scientific Director

franco.becchis@turinschool.eu

www.turinschool.eu

Credits:

The co-authors: Elisa Vanin and Daniele Russolillo.

The Country experts who contributed to the survey: Atanas Georgiev (Bulgaria), Tatjana Jovanic (Serbia), Vincent Pál (Germany), Arvind Shrivastava (India).

The working group of the Turin School of Local Regulation, and in particular: Andrea Sbandati, Fulvia Nada, Alice Montalto.

XVII Edition
**INTERNATIONAL
SUMMER SCHOOL ON
REGULATION OF LOCAL
PUBLIC SERVICES**

An international study experience on
local regulatory issues

Turin, Italy
8th - 19th September 2014

For any further information please contact:
Turin School of Local Regulation
@ Fondazione per l'Ambiente "T. Fenoglio"
Via Pomba 23 - I 10123 - Turin (Italy)
tel. +39 011 5714750 - fax +39 011 5714751
iss@turinschool.eu
www.turinschool.eu/iss

Deadline for applications:
6th of June 2014

Partner
CAMERA DE COMMERCIO
INDUSTRIA, ARTIGIANATO E AGRICOLTURA
DI TORINO

An initiative of
Fondazione per l'Ambiente "T. Fenoglio"

Under the patronage of
Città di Torino
Provincia di Torino

In partnership with
UNIVERSITÀ DEGLI STUDI DI TORINO
POLITECNICO DI TORINO
ISCTE IUL
ffu
BC CARE

Registration fee:
- 150 EUR
- FREE for candidates from
non-OECD countries or
non-EU member states

The Institutional Activity of Fondazione per l'Ambiente is supported by
Compassion in Action Italia

An initiative of

Under the patronage of

In partnership with

