Regulation Meets Resistances: the case of performance indicators in French water services

BOLOGNESI, Thomas
REGULATION MEETS RESISTANCES: THE CASE OF PERFORMANCE INDICATORS IN FRENCH WATER SERVICES

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International Summer School on Regulation of Local Public Services
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Palgrave Studies in Water Governance

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Looking at the issues of water governance through the perspective of the social sciences, books in the Palgrave Studies in Water Governance series take a global perspective on one of the key challenges facing society today: the sustainable development of water resources and services for all. In stepping away from the traditional focus on engineering and geophysics, the series will take a more holistic approach intended to both consolidate and generate knowledge that can be applied to different geographic areas by academics, researchers, policy-makers, NGOs and the private sector.

This series will emphasise the link between science and policy through considering water as a socio-ecological system, water and the territoriality of action, water and institutional economics, and water in the context of conflicts. We welcome proposals in subject areas such as: hydropolitics, social network analysis and water governance, water scarcity, water nexus, and trans-boundary water governance.


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OUTLINE

1. Performance indicators for regulating public services
2. Performance indicators in the French water sector
3. The puzzle: Resistances to performance indicators?
4. Our approach and the case of Grenoble
5. Prop. 1: resistances are significant
6. Prop. 2: main triggers are not strategic behavior
7. Discussion
PERFORMANCE INDICATORS FOR REGULATING PUBLIC SERVICES
Evolution of PPP in infrastructures in the world

Source: PPI database, World Bank
THEORY OF AGENCY AND NEW PUBLIC MANAGEMENT

- Principal-agent dilemma (Ross, 1973; Laffont, Tirole, 1993)
  - “an agency relationship has arisen between two (or more) parties when one, designated as the agent, acts for, on behalf of, or as representative for the other, designated the principal, in a particular domain of decision problems” (Ross, 1973: 134)
  - With $U_p \neq U_a$ and $Info_p < Info_a$
  - Risk of strategic use of the information by the agent.

  - Stands on: public choice, TCE, principal-agent (Aucoin, 1990)
  - “more effective public services could be obtained by judicious application of private-sector management” (Hood, 2001: 12554)
  - “entrepreneurial public managers” (Moore 1995)
  - Public management: accountability, cost-effective action and organizational best practices (based on market and private sector)
  - 7 dimensions (Hood, 1991)

- Focus on:
  - controlling the agent
  - revealing its preferences
MAIN APPROACHES IN REGULATION

- Creating competition (Baumol et al., 1982; Demsetz, 1987)
- Incentivizing
  - Cost-plus (Averch, Johnson, 1962)
  - Price-cap (Linhard, Radner, 1992)
- Benchmarking
  - Yardstick regulation (Schleifer 1985)
  - Sunshine regulation (‘naming and shaming’)

→ Performance indicators
REGULATION AND PERFORMANCE INDICATORS

Why?
- To manage information asymmetries (P-A)
- Managerial good practices ➔ accountability

Who?
- national (regulatory bodies) and international (OECD, UN-Water, IWA) entities

Where? (OECD,1995-2001; Gruening, 2001)
- UK and US (end 1970s-1980s)
- NZ, Australia
- OECD (1990)…
Performance indicators in the French water sector
# THE FRENCH URBAN WATER SYSTEM

<table>
<thead>
<tr>
<th>Context</th>
<th>Institutional structure</th>
<th>Urban water cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High water availability:</strong> 211km(^3)/year</td>
<td><strong>Decentralization</strong></td>
<td>-35 160 sce</td>
</tr>
<tr>
<td></td>
<td><strong>Regionalization</strong></td>
<td><em>(13790 dws)</em></td>
</tr>
<tr>
<td></td>
<td><strong>Private participation:</strong></td>
<td>-3 main operators</td>
</tr>
<tr>
<td></td>
<td>-31% sce</td>
<td>-Intermunicipalities</td>
</tr>
<tr>
<td></td>
<td>-61% pop</td>
<td></td>
</tr>
<tr>
<td><strong>Urban structure:</strong></td>
<td><strong>Admin. organization</strong></td>
<td><strong>Consumption:</strong></td>
</tr>
<tr>
<td>-urban sprawl</td>
<td>-6 water basins</td>
<td>-93.53m(^3)/hab/year</td>
</tr>
<tr>
<td>-high maturity</td>
<td>-4 main admin levels</td>
<td>-3.83€/m(^3)</td>
</tr>
<tr>
<td>-high anthropization</td>
<td>-local management</td>
<td></td>
</tr>
<tr>
<td>-strongly hierarchic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Bolognesi 2014, Bolognesi 2017
PERFORMANCE INDICATORS

Legal framework
- Law 30 December 2006 (LEMA): ONEMA in charge of reporting on water services
- Decree 2 May 2007: def 27 indic (performance & description)

Drinking water
- 17 indicators
- First available data: 2008
- 2009 ref year: 41% sce, 80% pop
- Response level 2014: 40% sce, 60% pop
# Performance Indicators in Drinking Water Supply

<table>
<thead>
<tr>
<th>cust1</th>
<th>Customers</th>
<th>descriptive</th>
<th>D101.0</th>
<th>Estimated number of supplied inhabitants</th>
</tr>
</thead>
<tbody>
<tr>
<td>cust2</td>
<td>Customers</td>
<td>descriptive</td>
<td>D102.0</td>
<td>Price per m³ incl. Tax. for 120m³</td>
</tr>
<tr>
<td>cust3</td>
<td>Customers</td>
<td>descriptive</td>
<td>D151.0</td>
<td>Maximum connection time</td>
</tr>
<tr>
<td>wat1</td>
<td>Water quality</td>
<td>performance</td>
<td>P101.1</td>
<td>Microbiological compliance rate</td>
</tr>
<tr>
<td>wat2</td>
<td>Water quality</td>
<td>performance</td>
<td>P102.1</td>
<td>Physico-chemical compliance rate</td>
</tr>
<tr>
<td>net1</td>
<td>Network</td>
<td>performance</td>
<td>P103.2A</td>
<td>Asset knowledge and management index (until 2012)</td>
</tr>
<tr>
<td>net3</td>
<td>Network</td>
<td>performance</td>
<td>P103.2B</td>
<td>Asset knowledge and management index</td>
</tr>
<tr>
<td>net4</td>
<td>Network</td>
<td>performance</td>
<td>P104.3</td>
<td>Network efficiency rate</td>
</tr>
<tr>
<td>net5</td>
<td>Network</td>
<td>performance</td>
<td>P105.3</td>
<td>Linear index of unaccounted volumes</td>
</tr>
<tr>
<td>net6</td>
<td>Network</td>
<td>performance</td>
<td>P106.3</td>
<td>Leakage index</td>
</tr>
<tr>
<td>wat3</td>
<td>Water quality</td>
<td>performance</td>
<td>P107.2</td>
<td>Network renewal rate</td>
</tr>
<tr>
<td>fi1</td>
<td>Financial management</td>
<td>performance</td>
<td>P108.3</td>
<td>Water resource protection improvement index</td>
</tr>
<tr>
<td>cust4</td>
<td>Customers</td>
<td>performance</td>
<td>P109.0</td>
<td>Sum of debt waivers &amp; payment to a solidarity fund</td>
</tr>
<tr>
<td>cust5</td>
<td>Customers</td>
<td>performance</td>
<td>P151.1</td>
<td>Occurrence rate of unscheduled service interruptions</td>
</tr>
<tr>
<td>cust5</td>
<td>Customers</td>
<td>performance</td>
<td>P152.1</td>
<td>Compliance rate of new customer maximum connection times</td>
</tr>
<tr>
<td>fi2</td>
<td>Financial management</td>
<td>performance</td>
<td>P153.2</td>
<td>Debt extinguishment period</td>
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<tr>
<td>fi3</td>
<td>Financial management</td>
<td>performance</td>
<td>P154.0</td>
<td>Rate of unpaid bills</td>
</tr>
<tr>
<td>cust6</td>
<td>Customers</td>
<td>performance</td>
<td>P155.1</td>
<td>Complaint rate</td>
</tr>
</tbody>
</table>
IMPLEMENTATION ISSUES

- Diverse perspectives
  - Political: opportunism and lobbying (Canneva, Guerin-Schneider 2011)
  - Regulation: transparency (Salvetti 2013)
  - Organizational: misfit between public value and management practices (Tsanga-Tabi, Verdon 2014; Renou 2015)

- In practice (Court of Auditors, 2015)
  - Low completeness levels (p.259)
  - Partial completion (p.225)
  - Completion not always reliable process (p. 225)
  - Issues with small sce territorial grouping (p.221)
The puzzle: Resistances to performance indicators?
GOVERNANCE ISSUE AROUND PI

- PI regulation faces perturbations in coordinating
  ...but these perturbations remain understudied

- Regulation is about control
- Control is knitted with resistance (Flemming, Spicer, 2008; De Holan, 2016)

  ➔ Therefore, regulation faces resistance

- Opening the black-box by going inside organization:
  - Extent
  - Nature(s)
  - Process
LOCAL RESISTANCE TO GOVERNANCE BY INDICATORS

- Prop. 1: locally, significant forms of resistance are present in relation to correct completion of performance indicators
  - Assessing existence of the phenomena and its magnitude

- Prop. 2: opportunism and strategic behaviour are not the only significant rationale behind resistance
  - Complementing PA perspective
Our approach and the case of Grenoble
Mixed Quanti-Quali Approach (Creswel, 2014)

- Exploratory approach
- Quanti for assessing significance of resistances (Prop1)
  - recalculating and comparing IP (rate of changes)
  - pointing out most relevant IP
- Quali for observing diversity of triggers (Prop2)
  - building a typology of resistances
  - Identifying main forms of resistances
- 3 years field works:
  - Grenoble metropolitan area (53 sce)
  - collection of raw data: IP, sce and completion
Data collection

- $\text{Indic}_{comp} = \frac{\text{Indic}_{sispea} - \text{Indic}_{calc}}{\text{Indic}_{calc}}$

- Collection from 2011 to 2013

- Direct from services, interviews and collective meeting
The case of the Grenoble area

53 services:
- 34 public
- 19 PPP
- 25 producers
- 46 distributors

Resource:
- abundant
- high quality
- close to consumption
- mountainous character
PROP. 1: RESISTANCES ARE SIGNIFICANT
Distribution of resistances based on indic\textsubscript{comp}
Distribution of resistance based on the comparison index
Distribution of resistance based on the comparison index
Distribution of resistance based on the comparison index

Performance indicator
## Summary statistics of indic\textsubscript{comp}

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
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<tbody>
<tr>
<td>cust1</td>
<td>53</td>
<td>98.0</td>
<td>159410.0</td>
<td>8889.56</td>
<td>25630.76</td>
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<td>cust1comp</td>
<td>32</td>
<td>-0.67</td>
<td>0.06</td>
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<td>0.48</td>
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<td>wat1comp</td>
<td>25</td>
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<td>0.11</td>
<td>-0.0754</td>
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<td>-0.08</td>
<td>0.66</td>
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<tr>
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<td>0.03</td>
<td>-0.02</td>
<td>0.06</td>
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<tr>
<td>net4comp</td>
<td>31</td>
<td>-0.24</td>
<td>110.49</td>
<td>9.67</td>
<td>21.33</td>
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<tr>
<td>net5comp</td>
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<td>0.95</td>
<td>0.02</td>
<td>0.36</td>
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<td>fi1comp</td>
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<td>3124.17</td>
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<td>1300.92</td>
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<td>cust4comp</td>
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<td>0.12</td>
<td>-0.021</td>
<td>0.11</td>
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<td>cust5comp</td>
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<td>0.05</td>
<td>0.017</td>
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<td>fi2comp</td>
<td>9</td>
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<td>4.68</td>
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<td>-1.00</td>
<td>5.88</td>
<td>1.03</td>
<td>3.28</td>
</tr>
</tbody>
</table>
Distribution of the comparison index for the \textit{dist} category

Redlines= 25%

Except cust2 & net3 (5%)
Frequency of NR per indicators

% of NR

Performance indicators
Density of resistances (1/2)
Density of resistances (2/2)
PROPENSITY TO RESIST
SUMMARY (PROP. 1)

- Prop1: locally, significant forms of resistance are present in relation to correct completion of performance indicators

- Resistance can be NR or dist
- Resistance is frequent (65%, 82% without NA)
- Resistance could be significant

- Index suggests that some services are unable to manage performance indicators
PROP. 2: MAIN TRIGGERS ARE NOT STRATEGIC BEHAVIOR
OUR TYPOLOGY

- 6 forms of resistance:
  - Technical
  - Structural
  - Interpretative
  - Strategic
  - Cognitive
  - Territorial

- 4 criteria:
  - Origin
  - Participants
  - Media
  - Scale

Le Bourhis & Lascoumes (2014); Saurugger (2012); Terpan(2016); Commons (1934)  
Ostrom (2005; 2011); Saleth (&Dinar 2004; 2005; & Ménard 2013)
Number of types of resistance per service
Frequency of resistance types
5 HIGHLIGHTS

1. NR: strategic, structural, structural and interpretative
2. Cust2: hardly subject to structural and territorial
3. Technical turn into structural or interpretative
4. Interpretative $\rightarrow$ cognitive by dissemination among agent (e.g. wrong definition or method)
5. Territorial
   - Often NR
   - IP not relevant in a context of abundant resource $\rightarrow$ why working to reduce losses?
   - Vector for innovation and creativity
     - ONEMA think about adapting IP to specific context
     - Propose counter-project
SUMMARY (PROP. 2)

- Resistance is resistances
- Resistances are often intertwined
- Forms of resistance change over time
- Resistance is not an issue per se
Discussion
LESSONS LEARNT

- Resistances are the norm, not the noise:
  - frequent
  - significant
  - various

- IP are nor neutral nor exempt of doubt:
  - cf. dist
  - favor org. of services at a larger scale

- Regulation is a crafting process, not only a matter of design (Ostrom 1992):
  - adaptive governance and participation
  - meso-institutions for coherence
INTERPRETATIONS

- Misalignment between nature of the instrument and context (Renou 2015)
- Non-convergence in values
- Lack of coherence in polycentric governance
- Resistances interrelations
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