

Economic Regulation in Context: The Case of the Water Sector in Europe

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Outline: It is useful to remember the UK's regulatory structure is not universal

1. Society's objectives for the water sector
2. Variations in the water sector's outcomes and organisation
3. The importance of independent regulation for investment

Material adapted from: Ennis, S. and D. Deller (2019), 'Water Sector Ownership and Operation: An Evolving International Debate with Relevance to Proposals for Nationalisation in Italy', a report for the Centre on Regulation in Europe (CERRE)

Society has a range of objectives for the water sector that need to be balanced

From introspection key objectives are:

1. **Operating efficiency**
2. **Appropriate investment over the long run**
3. Affordability
4. Managing water scarcity/water conservation
5. Security of supply
6. Public health
7. Environmental protection



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A number of observations can be made about these multiple objectives

- All objectives are influenced by economic regulation, even if only indirectly
- Some objectives are complementary e.g. Operating efficiency and Affordability
- Some objectives can be in conflict e.g. Affordability and Environmental protection
- Due to these potential trade-offs societies may place differing weights on the different objectives
- While an 'optimal' industry/regulatory structure may be identifiable for an individual objective, it may difficult to identify one for the full bundle of objectives taken together
- Arguments over the structure of the sector may be difficult to separate from arguments over the weight to attach to different objectives



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Water sector outcomes suggest EU countries may be placing differing weights on objectives (1)

Water Quality		Wastewater Treatment		Non-Revenue Water	
	Overall Compliance Rate		Connections to Secondary/Tertiary Treatment		Share of Total Supply
England and Wales	99.71%	Germany	91.3%	Germany	7.13%
Germany	99.70%	England and Wales	88.6%	Spain	18.9%
France	99.65%	Spain	80.9%	France	21.3%
Italy	99.57%	France	79.3%	England and Wales	23.4%
Spain	98.89%	Italy	57.8%	Italy	34.7%
Ireland	96.50%	Ireland	45.3%	Ireland	44.4%

Data: Collated by Global Water Intelligence (2018). Figures are long-run averages using data for up to 28 years (1989-2017). Years covered varies by country



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Water sector outcomes suggest EU countries may be placing differing weights on objectives (2)

System Costs		'Direct' Affordability		Investment (in 2013)	
	Total Cost per Capita		Charge to Customers per m ³		CAPEX per capita
Italy	€156.39	Ireland	€0.06	France	€150
Spain	€249.72	Spain	€1.32	Ireland	€120
England and Wales	€272.70	Italy	€1.50	England and Wales	€117
Ireland	€329.22	France	€3.48	Germany	€98
Germany	€343.40	England and Wales	€4.14	Spain	€43
France	€521.47	Germany	€4.66	Italy	€35

Data: Collated by Global Water Intelligence (2018). Figures are long-run averages using data for up to 28 years (1989-2017) in 2017 prices. The years covered varies by country



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The ownership, operation and regulation of water utilities vary across Europe (1)

	England	Republic of Ireland	France
Ownership and Operation	Private ownership: 9 regional water and wastewater companies (plus 6 water only companies, 8 'small' water and waste water companies, numerous non-household licences)	1 state owned provider: Irish Water	c. 15,000 operating entities. Majority involve concessions where assets are publicly owned but privately operated by large companies e.g. Veolia, Suez. Some direct public operation
Regulation/Governance	Economics: Ofwat Drinking Water: Drinking Water Inspectorate Environment: Environment Agency	Economics: Commission for Regulation of Utilities Drinking Water and Environment: Environment Protection Agency	Economics: Local Municipalities Drinking Water: Regional Health Agencies (Ministry of Social Affairs and Health) Environment: Ministry of the Environment, Energy and Sea

Sources: Mixed, in particular EurEau (2019)

- The UK and Ireland are outliers due to regional/national organisation structures. Most member states organise water utilities at the local level



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The ownership, operation and regulation of water utilities vary across Europe (2)

	Germany	Italy	Spain
Ownership and Operation	6,065 operating entities in 2010 A mix of wholly publicly owned utilities and utility companies with significant public shareholdings	2,100 water operators in 2017 that vary a lot in size Assets are publicly owned, but operation can be public, private or public-private partnerships	Organised at municipal level (8,000 municipalities) A mix models, but more than a third involve private concessions. Large private operators are Agbar and Aqualia
Regulation/Governance	Economics: Regional and local government Drinking Water: State and municipal health departments Environment: Regional environmental laws	Economics: Local (EGA) and national (ARERA) Drinking Water: Institute of Health (ISS) and local health authorities (ASL) Environment: Ministry of Environment and regional environment authorities (ARPA)	Economics: Local municipalities Drinking Water: Regional health offices and Ministry of Health Environment: Water Directorate General and River Basin Authorities

Sources: Mixed, in particular EurEau (2019)

- Individual member states can contain multiple forms of organisation
- Utilities' frequent small size means unexploited economies of scale and geographic externalities are key issues



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Italian water nationalisation: An example of weights and structure changing simultaneously?

Italian proposals for water nationalisation (draft law AC52) go far beyond simply transferring ownership:

1. Free water allowance for essential consumption (↑ affordability, ↓ water conservation)
2. National (public) fund for investment (↑ investment, ↓ investment?)
3. Independent regulator abolished and subsumed into Ministry of Environment (↑ environmental protection, ↓ investment?)
4. Small municipalities can have independent water utilities (localism and public participation as per se objectives)

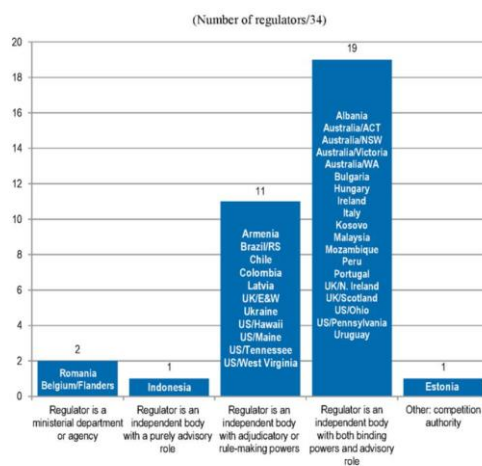
■ = potential consequence



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Around the world many countries have placed water regulation in an independent body... Why?



Source: OECD Survey on the Governance of Water Regulators (2014).



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Regardless of ownership ensuring appropriate long-run investment is a potential issue

- At the heart of network utilities is infrastructure requiring large continuing investments to remain effective
- BUT infrastructure deteriorates slowly creating a potential for opportunism...
- In a publicly owned system politicians may:
 1. choose prices below long-run average cost to win votes
 2. restrict funding to meet government borrowing targets
- In a privately owned system:
 1. firms might choose high dividends over maintenance
 2. politicians might regulate prices to be below long-run average cost (a form of expropriation)



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Independent economic regulation can be a commitment to a particular investment level

- Delegation from government to an independent regulator provides a commitment to the pursuit of particular objectives
- This can lead to higher investment because:
 - a) Under public ownership: funding levels could be directly linked to the regulators' assessment of investment needs
 - b) Under private ownership: regulator required to guarantee an appropriate rate of return for firms (lowers risk of political intervention/expropriation)
- Commitment is achieved as legislative change is a relatively lengthy/difficult process (but commitment is never absolute)
- Political independence (and from industry) can support 'unhelpful' technocratic assessments entering the public domain



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