



Promoting an efficient use of water resource

An international comparison

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Policy for water savings

Scant attention was set on a sustainable use of water resource. This principle was provided also by the Water Framework Directive (2000/60/EC)

The policies for water savings could be based on:

- TARIFFS
- TECHNOLOGY
- RATIONING
- **INFORMATIVE CAMPAIGNS**

Research aim

Information campaign on web site carried out by Italian and Portuguese water utilities.

These aspects were observed

- ✓ presence in the firm's web site of a link to a page dedicated to water savings
- ✓ Presence of a decalogue of good practices:
 - ✓ Incentive practice as : 1) closing the tap when is not necessary to make water flow; 2) use shower instead of bathtub; 3) instal an efficient toilet flush; 4) wash fruit and vegetables in a basin; 5) use washing machine and dish water with a full load; 6) check water leakage in the domestic network; 7) instal tap flow reducers; 8) wash car with a bucket; 9) close the main valve before leave the house for holiday; 10) water plants in the evening.

The two countries observed

Common features: wether;
distribution of water resources;
presence of a national authority

Different features: scale of
operations and strategy of
vertical integration of water
utilities





Data

161 firms (114 Italian and 47 Portuguese) for which the following information was collected:

- Nationality, Ownership structure; Degree of investments diversification and vertical integration; Size, Expenditure for cubic meter of water; mm of rainfall from 2000 to 2009 (Co.N.Vi.Ri., AIDA, ERSAR, ADPA).
- Features of information campaigns on web sites of 161 firms selected



Method

Regression M-quantile:

It allows to study the distribution of a variable y (score representing the quality of information campaigns) related to specific exogenous variables (nationality, ownership, ecc.)

Coefficients were calculated **q_{ij} for each company** and estimation of **the average value for each cluster of firms:**

Italian/Portuguese; public/private; mono-multiutilities; scarce rainfall/medium/abundant; low tariff/medium/high; scarce population/medium/high; low revenues/medium/high.

Main results

<i>Country</i>		<i>Annual rainfall</i>		<i>Diversification</i>		<i>Ownership</i>		<i>Tariff</i>		<i>Population served</i>		<i>Annual sales</i>	
<i>Italy</i>	0.417	<i>Low</i>	0.496	<i>Mono</i>	0.435	<i>Publicly</i>	0.442	<i>Low</i>	0.437	<i>Low</i>	0.365	<i>Low</i>	0.328
<i>Portugal</i>	0.472	<i>Medium</i>	0.466	<i>Multi</i>	0.430	<i>Mixed-Private</i>	0.417	<i>Medium</i>	0.463	<i>Medium</i>	0.375	<i>Medium</i>	0.489
		<i>High</i>	0.337					<i>High</i>	0.399	<i>High</i>	0.564	<i>High</i>	0.481

Conclusions

1. Promoting the sustainable use of water **is an alternative to «tariff leverage»**, which is more difficult to apply, since tariff is determined by regulatory authority;
2. It is possible to use these results to **provide a guide for politicians and policy maker**, to privilege those specific water utilities which incentive and promote a sustainable use of water;
3. **Portuguese firms** realize more promotion in comparison to Italian utilities.
4. The **presence of public owner** provides more incentives to realize information campaigns.
5. **Further researches:** evaluate the real impacts of these information campaigns on water consumption : Nieswiadomy (1992), Michelsen et al. (1999), Hurd (2006), Lee et al. (2011) and March et al. (2013).