The Privatization of Water Services in Italy: Make or Buy, Capability and Efficiency Issues

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Abstract Increasing private-sector participation to improve the efficiency of infrastructure services was a growing trend in Europe in the 1990s. Dissatisfaction with state solutions, ever-tightening government budgets and technical innovation favored therefore the privatization of the utilities sector and even water utilities. The privatization of water services was generally regarded as the supreme failure of the (welfare) State that turned water into a commodity. The paper presents a critical review of the privatization process of water services in Italy and provides a theoretical insight into critical issues related both to the regulatory framework and pricing mechanism and to make-or-buy decisions. The aim of the paper is to show how the State (i.e., the institution-of-institutions) and the Market can be conceived of not as opposing entities but in a complementarity perspective, according to which the State expresses in the broadest terms society's organization and historical course and intervenes to correct market failures.

Keywords Water services · Capability approach · Efficiency · Sustainability Make or buy

1 Introduction

Policy makers and water-resources managers are worldwide concerned with increasing and competing demands on water as a scarce resource and are faced with uncertainty over its availability and quality due to population growth and climate change. Sustainable water policies have top priority in agendas at the national and international levels as scarcity and competition for water challenge poverty eradication policies, public health and food production (Ward 2007). Growing human demands for water are to be satisfied while protecting the ecosystems and identi-

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G. Mondini et al. (eds.), *Integrated Evaluation for the Management of Contemporary Cities*, Green Energy and Technology,
https://doi.org/10.1007/978-3-319-78271-3_18

fying the impacts and tradeoffs of current water-related decisions for future generations. Water decisions are controversial whenever emerging uses such as preservation or restoration of a natural environment compete (Giordano et al. 2016), for example, with agriculture, hydropower production and the city water supply. In this respect, water is a scarce resource, not in absolute terms but in relation to alternative remedies to its unavailability (Massarutto 2015; Buratto and D'Alpaos 2012, 2015): demand is to be compared with supply and the costs to access it. A water problem arises when water is not available in the desired quantity and quality in the place and at the time it is needed (Young 2005; D'Alpaos 2012) and risks of water stress for human communities and ecosystems are ever increasing.

The depletion of water represents a major concern in the Encyclical Letter "Laudato Si" of the Holy Father Francis as well. The Holy Father draws attention to the present consumption level that has already exceeded acceptable limits, (Penza 2016) whereas the fact that large cities have experienced water shortage and water poverty is still an unresolved problem in many countries worldwide. The Holy Father expresses apprehension for the growing tendency to privatize this resource and to turn it into a commodity subject to the market laws. By contrast, for economists, high water consumption has not a necessarily a negative connotation, but it is necessary to know whether and to what extent a specific use of the resource affects other alternative uses that can potentially increase individual and society utility. The concept of "value" refers in fact to the variation in utility of individuals and economists are concerned with the measurement of individual or collective utility variation and the occurrence of conflicts among alternative uses (Zamagni 1991, 2012; Massarutto 2015). Therefore, regarding water as an economic good has not an intrinsically negative connotation and does not mean turning it into a marketable good traded for a price, as well as defining scarcity costs as necessarily being other than zero. Similarly, the privatization of the utilities sectors that was a growing trend in Europe in the 1990s is not necessarily regarded negatively by economists. Privatization is not necessarily to be considered as the supreme failure of the (welfare) State and may potentially represent an opportunity to introduce technical innovation and increase the efficiency of water utilities. Nationalized industries gained a reputation for inefficiency and control problems that offset any pricing advantage of a public service provision with decreasing cost (Dnes 1995).

Although the main objective of welfare institutions remains that of protecting individuals from welfare losses, the "social" State currently fails to reconcile equity and liberty in a sustainable way. Differently than in the past, when risks to individual security were fundamentally considered as exogenous, in today's societies, insecurity is mainly endogenous and affects the organization of society itself and the economy (Zamagni 2009, 2012, 2015; Acemoglu and Robinson 2012; Reis 2012).

The paper presents a critical review of the privatization process of water services in Italy and provides a theoretical insight on critical issues related both to the regulatory framework and pricing mechanism and to make-or-buy decisions. The aim of the paper is to show how the State (i.e., the institution-of-institutions) and the Market can be conceived not as opposing entities but in a complementarity

perspective, according to which the State expresses in the broadest terms society's organization and historical course and intervenes to correct market failures and individuals are regarded as responsible agents that becomes partners in the design and delivery of public services. Currently the main challenge is indeed to create institutions that make resources available to individuals according to the capability approach à la Sen (1980, 1985, 2004) and to «avoid the erroneous identification of 'public' with 'state'» (Zamagni 2012, p. 123) whereas promoting the conceptual framework for equality of capabilities.

The remainder of the paper is organized as follows. Section 2 provide a review on privatization of water services and delegation schemes. Section 3 investigates the Italian reform of the water services and discuss its critical issues and outcomes. Section 4 concludes.

2 The Privatization of Water Services

Increasing private-sector participation to improve the efficiency of infrastructure services was a growing trend in Europe in the 1990s, after disenchantment with nationalization became widespread starting from the 1980s. Dissatisfaction with state solutions, ever-tightening government budgets and technical innovation favored therefore the privatization of the utilities sector that was historically viewed as either a natural monopoly or, of such extreme social interest, to require public ownership and public service provision (Demsetz 1968; Peacock and Rowley 1972; Williamson 1976; Braeutigam and Panzar 1993; Guash and Spiller 1999). Furthermore the EU policy on Services of General Interest tried to impose a more widespread recourse to competitive markets (European Commission 2004). In this respect, a vast literature suggests that private-sector participation in public utilities can be beneficial in improving service quality and management efficiency due to greater incentives in reducing costs and access to capital markets (Massarutto 2007; Massarutto et al. 2008).

During the 1990s, the dominant strategy was to create self-sufficient undertakings, sustained by customer fees on a full-cost recovery basis. Although this strategy did not require privatization or service commercialization, there was often a total delegation of responsibility to the private sector.

There exists a continuum of alternatives for involving the private sector in the provision of infrastructure services that ranges from supply and service contracts to concession-type arrangements that include *affermage* contracts and concessions (or franchises) *strictu* sensu (Guislain and Kerf 1995).[1] Menard and Peeroo (2011)

[1]In management contracts, there is limited transfer of responsibility to private operators; in *affermage* contracts, the private contractor is responsible at its own risk for provision of the service, including operating and maintaining the infrastructure; in concessions, the private contractor is responsible for both operation and new investments.

provided a classification of private-sector involvement where the polar cases are *full divestiture* and *direct public management.*[2]

In particular, when utilities exhibit natural monopoly characteristics and competition in the market is not possible, competition for the market (i.e., competitive bidding for the exclusive right to provide a service) represents the sole opportunity for final users to gain some benefits from competition. This situation is likely to occur when large barriers (e.g., significant sunk-investment costs) prevent new firms from entering an industry. The basic idea is that monopoly franchises can be auctioned off to the firm offering the most attractive bids, e.g., the lowest price to consumers (Dnes 1995). From this perspective, private firms compete to be awarded a contract that gives them the right to be the natural monopolist, though regulated by a public authority or the government against monopolistic conduct and abuses.

The rationale of regulation in network industries and utilities resides in the antinomy between the urgency to prevent consumers for monopolist market power, thus promoting price reduction and the need for guaranteeing service at full-cost recovery in order to access credit in the capital market (Newbery 2000): regulation can therefore reconcile private ownership and consumers' political power.

This issue is particularly challenging in the water-service sector where the output is characterized as a public good but is an essential good and a human right so accessibility-and-affordability issue arise. Contextually, high capital intensity and long-lived investments with long repayment schedules increase investment risks for private operators and in turn require regulatory arrangements, such as renegotiations and cost pass-through. This limits the binding of the operator to ex-ante commitments and hinders competition and its surrogates (Armstrong and Sappington 2004; Massarutto et al. 2008). In this respect, successful governance of water services requires adequate institutional solutions that guarantee investors full-cost recovery and consumers against regulatory capture and monopoly rents. Poor outcomes of regulated industries depend usually on a regulatory failure.

Contractual arrangements that combine private operation with public financing of investment appear to be the most sustainable option in many countries (Massarutto and Ermano 2013).

The organization of the water-service sector is a controversial issue and radicalism is not supported by empirical evidence. Empirical studies have not proved superior performance of private management, and neither ownership nor alternative regulatory and privatization models impact performance levels (Renzetti and Dupont 2005; Abbott and Cohen 2009; Walter et al. 2009; Marin 2009; Massarutto and Ermano 2013; Massarutto et al. 2013). It is nonetheless unrealistic to complain about lack of competition in a sector where it is generally absent, as well as to rely

[2]Under the full-divestiture scheme, all assets are privately owned and the private company is responsible for providing the service and achieving quality standards specified by law; whereas, direct public management consists of hierarchical control of the public sector over operating companies.

on public financing when government budgets are ever-tightening and public debt is increasing.

The institutional settings proves to be indeed the dominant driver of efficiency.[3] Definitely the organization of water services can be regarded as a make-or-buy decision where make costs are compared to buy costs. As far as water services are concerned, it is of paramount importance to determine whether the efficiency gains of privatization can outweigh higher market and regulatory risks (and in turn higher costs of capital) that confront private investors with respect to the State.

The problems arising from complete delegation of investment responsibilities to the private sector make an argument in favor of public–private partnership as a promising alternative both to pure public management with public procurement of assets and pure concessions to the private sector.

3 The Reform of Water Services in Italy

In Italy, the promulgation of Law n. 36/94, better known as Galli Law, represented a milestone in the reform and reorganization of the water-service sector. The increase in investments opportunity costs and the lack of public finances induced the government to promote the involvement of the private sector in the production and provision of water services. The reform of the water-service sector was meant to attract private financial resources and to reduce the fragmentation and the inefficiency that characterized the public production of water services in the 20th century and led to systematic and long-lasting underinvestment (Dosi and Muraro 2003; Muraro and Rebba 2003). The reform marked the privatization of the water-service sector, although it stated that ownership of water resources is public and water resources are to be preserved and used according to solidarity and fairness criteria. It represents though a peculiar combination of private and public. The Galli Law opened the water-service sector to competition in order to guarantee efficiency in production and management of water services in a setting where the public sector still controls the operations. The reform strategy aimed at the transformation of public organizations into commercial undertakings that are self-financed by cost-recovering tariffs, operate in optimal management units

[3]Many empirical studies conducted worldwide investigated the determinants of water- utilities performance with respect to their size and diversification and the existence of economies of scale, scope and density (Fraquelli et al. 2004; Farsi et al. 2008; Bortolotti et al. 2011; Pollit and Steer 2011; Ferreira da Cruz et al. 2013; Guarini and Romano 2014). In order to benefit from efficiency gains generated by scope and scale economies, some utilities responded to market liberalization by transforming themselves into multi-utilities (horizontal integration) that provide traditionally distinct services (e.g., gas, electricity, and urban waste collection and management). Nonetheless, the effects of horizontal integration are controversial: on the one hand, the emergence of multi-utilities can improve access and quality of utility services, but on the other hand, if not subject to closer control, it may paradoxically generate less competition, greater regulatory complexity and concentrate more political power in the utilities.

obtained by the aggregation of municipal utilities (ATOs) and take advantage of economies of scale. The reform established the separation between resource planning, assigned to the local water authority (AATO) and the operation of water utilities delegated to a single operator via auction procedures in case of private firms or via in-house providing[4] in case of public firms, according to EC competition rules. The reform provided a variety of possible arrangements (fully private, fully public, public-private partnerships) and set up the delegation scheme based on a BOT concession contract[5] (D'Alpaos and Moretto 2005, D'Alpaos et al. 2006; Massarutto et al. 2008, 2013). The AATOs set the price cap (i.e., maximum tariff increase) for water-service provision according to the full-cost recovery principle and including investments depreciation and an "adequate" capital rate of return[6] (D'Alpaos and Valbonesi 2006; Danesi et al. 2007; Antoniucci et al 2015).

The new water-service architecture designed by the Galli Law is complex and, after more than 20 years, it has not been fully accomplished yet: the institutional path was accomplished, but not the governance and management setting, and just 50% of the planned investments were undertaken. The expected outcomes were high, but the achieved results were poor because of regulatory failures, mainly due to contract incompleteness and regulatory capture.

Contrary to expectations, water tariffs increased (though they still remain among the lowest in Europe) and evidence of efficiency gains is insufficient. It is generally agreed that the reform implementation failed to achieve the win-win expected outcome: better quality, value for money, new investments and infrastructures upgrading (Massarutto and Ermano 2013; Massarutto et al. 2013). In order to accelerate the process, the government tried to favor private participation, but this raised strong public opposition that resulted in the 2011 referendum that sanctioned public ownership of water and established the non-profit operations of water utilities.

The referendum clearly marked a turning point and made clear the urgency of reconsidering the reform and its critical aspects. The debate is still controversial and no straightforward solutions can be easily found without overcoming the limits of the reform: delegation schemes based on concession; high regulatory and market risks; too many weak regulators; regulatory capture and contract incompleteness that lead to inefficient renegotiations; project-finance opportunity frustrated by tariff regulations that do not include financial amortization; lack of legal and political stability, and, last but not least, water poverty and affordability issues due to tariff increase.

[4]See Teckal case C-107/98, EU:C:1999:562.

[5]BOT contracts are build, operate and transfer arrangements where the private entity designs, builds and operates facilities according to the concession-contract requirements.

[6]The Galli Law defined a new pricing mechanism, i.e., the "Metodo Tariffario Normalizzato".

4 Discussion and Conclusions

The Italian reform of water services is generally regarded as being responsible for the negative outcomes of the privatization of water services that shifted from State provision to market-based and from social rights to a commercial approach. Nonetheless, public interest is not per se an obstacle to private-sector involvement in service provision, as well as the charge to final users of cost-recovering tariffs does not necessarily turn water into a commodity subject to market laws. The quid-pro-quo principle and consumer responsibility might indeed increase efficiency in resource allocation and contribute to reduced public expenditure, on condition that inter and intra-generational equity and Sen's capability approach are not disregarded. An equitable allocation suggests that all final users, regardless of their ability to pay, maintain a human right to safe and healthy water.

Water pricing is concerned with the pursuit of social justice, subsidiarity and consumers' responsibility rather than solely on cost sharing among communities of citizens. Though economists regard water pricing as an instrument to achieve allocation efficiency, demand elasticity, supply indivisibility, transaction costs, long-lived investments and related market risks can potentially reduce the benefits of pricing.

It is generally agreed that the Italian reform of water services failed to achieve the win-win expected outcome and is a clear example of a regulatory and institutional failure. Successful governance of water services requires adequate institutional solutions that guarantee investors full-cost recovery and consumers against regulatory capture and monopoly rents. Accountability of regulators and consumers participation are fundamentals in any regulatory process.

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