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The new Italian water tariff method: A launching point for novel infrastructures or a backwards step?

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ABSTRACT

In Italy recently the regulatory authority for electricity, gas and the water industry was mandated to design a new tariff method more consistent with EU standards of 'full cost recovery' and the 'polluter pays' rules. This paper attempts to highlight the strengths and limitations of this new method, its actual effects on tariffs, financial plans and utilities' investment policy, compared to the previous method, with a focus on the effects of the tariff method for both users and utilities. A case study was selected and this included the biggest water utility controlled by the local water authority in Verona province.

1. Introduction

According to Eurostat data (2014), in Italy in 2005 (the last available data), the total freshwater abstraction from the public water supply was the highest in Europe. Organisation for Economic Cooperation and Development (OECD) data (OECD, 2008) shows that Italy (along with Korea) is under severe stress, with freshwater abstractions exceeding 40 per cent of renewable resources, while other countries exhibit moderate stress (Belgium and Spain), and many others are in the upper echelons of moderate stress, calling for increased investment in resource development. Moreover, Italy currently faces many problems in terms of the technical efficiency, economic profitability and financial sustainability of water utilities (Romano and Guerrini, 2011; Cruz et al., 2012; Romano et al., 2013), water scarcity (EEA, 2009) and inefficient water use, since leakages accounted for around 36 per cent of the water fed into the water grid (OECD, 2013), with a maximum average of 43 per cent in the south of Italy (Cittadinanza attiva, 2013). The Italian water industry should provide the investments required to meet infrastructure needs (around €64 billion, according to D'Angelis and Irace, 2011), but the scarcity of funds available to national and local governments, along with the effects of the EU Stability and Growth Pact, limit the investment capacity of municipalities for water infrastructure and service improvements. Therefore, water prices levied to users are the main source of finances to realise crucial new investments (Massarutto et al., 2013; Massarutto and Ermano, 2013).

The Italian Government recently gave the regulatory authority for electricity and gas control over the water industry, with the aim of improving investments in water infrastructure and overcome the scarcity of funds. It was mandated to design a new tariff method. The authority is now called the Italian Regulatory Authority for Electricity, Gas and Water (*Autority per l'Energia Elettrica, il Gas ed il Servizio Idrico*—AEEGSI). AEEGSI began its activities in 2012 by issuing a transitional tariff method (the *Metodo Tariffario Transitorio*, or MTT), replacing the previous method for 2012–2013 (the *Metodo Tariffario Normalizzato*, or MTN), in force since 1996. Then AEEGSI developed a new method to apply in 2014–2015: the '*Metodo Tariffario Idrico*' (MTI). This is more consistent with EU standards of 'full cost recovery' (FCR) and the 'polluter pays' rules. MTI is respectful of the outcome of the public referendum held in Italy in 2011 (Guerrini and Romano, 2013), which eliminated recognition of a given return rate on investments for water utilities.

Existing literature on water utility regulation generally focuses on how water services are regulated in different countries or within

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the same country or a region (Asquer, 2010; Aubert and Reynaud, 2005; Ballance, 2006; De Witte and Marques, 2010; Marques and De Witte, 2010; Marra, 2007; Peter, 2007) or on what accounts for differences in water and wastewater systems across countries and among utilities in terms of ownership, size and diversification (see Abbott and Cohen, 2009; Guerrini et al., 2011; Berg and Marques, 2011). Other studies observe the workings of a specific regulatory framework and its impact on utilities' performance and tariffs (Shaoul, 1997; Casarin et al., 2007). Moreover, literature on water tariff has deeply investigated the endogenous and environmental determinants of water tariffs in many countries (see for references Romano, et al., forthcoming). However, literature on how rules – and specifically the tariff method settled by the regulator -, are concretely applied by utilities is extremely scarce (Guerrini & Romano, 2012). This article tries to bridge this gap by studying the strengths and limitations of the new tariff method launched in Italy (MTI), its actual effects on tariffs, financial plans and utilities' investment policy, compared to the MTN. The focus is largely on the effects of the tariff method for both users and utilities. In fact, the tariff is one of the main determinants of water consumption in Italy (Romano, Salvati & Guerrini, 2014), and has significant effects on water utility financial and operational plans (Guerrini and Romano, 2013).

Our research questions were:

(1) What are the main differences between the previous and the new tariff method applied to the Italian water industry?
(2) What will be the effects on users and water utilities of the application of the new tariff method?

To do this, a case study was selected. This included the biggest water utility controlled by the local water authority in Verona province (in the north of Italy), for whom we worked as consultants in 2011, during the construction of MTN's financial plan, and in 2014, to examine the new tariff plan drafted following the MTI.

The paper is organised as follows: Section 2 provides a brief overview of the Italian context, describing the regulatory framework for water and its effect on tariffs; Section 3 examines the characteristics of the new MTI and compares this method with the previous MTN; then, the effect of the MTI on financial plans of the case studied are presented and discussed in Section 4; finally, the concluding section gives some insights into adjustments of the MTI, beginning with its main critical issues.

2. The Italian water regulatory framework

In Italy, the water distribution, wastewater transportation and treatment, called *Servizio Idrico Integrato*, SII, covers the public collection, transportation and distribution of water for civil use, as well as sewerage and wastewater treatment for both mixed-use residential and industrial clients. The Italian water industry includes companies (water utilities) that operate as monopolists in specific areas of the country.

The sector is characterised by an unstable legal framework that has changed many times in the last 20 years (Massarutto and Ermano, 2013; Massarutto et al., 2013; Guerrini and Romano, 2014). In 1994, the Italian Parliament enacted the first law (Law 36/1994, called the 'Galli law' for Giancarlo Galli, the Italian parliamentarian who was its principal proponent) for the reorganisation of the SII, in response to the emergency affecting a large part of the country (Guerrini and Romano, 2014). The purposes of Law 36/1994 were manifold: to integrate water-related (water and wastewater) services to exploit economies of scope; to merge water utilities to exploit economies of scale; to overcome the monopoly of in-house supply of services by municipalities by entrusting water-related services to independent firms; to apply tariffs that cover both current costs and investments (Danesi et al., 2007; Guerrini et al., 2011). Moreover, the law delegated to the regions the duty of identifying 'optimal areas' (*Ambito Territoriale Ottimale*, ATO) to be managed under the supervision of a local public authority for water services (*Autorità d'Ambito Territoriale Ottimale*, AATO). In 2010, Law n. 42 provided for the deletion of the AATOs, no later than 1 January 2011 (then pushed back to 31 December 2012), leaving the task of assigning the functions exercised by the AATO to the regions, through enacting a new Law. Consequently, the number of AATOs dropped from 92 to 71, as four Italian regions (Emilia Romagna, Tuscany, Abruzzo and Calabria) opted for a unique regional AATO. This instability affecting the governance rules also characterises the tariff method that must be applied to users. In 1996, according to the Galli Law, a ministerial decree (DM 01/08/1996) introduced a new system for setting water tariffs, the MTN. With this method, the Italian tariff regulation system was quite similar to that of other European countries, such as Portugal (Cruz et al., 2012; Marques, 2006, 2010). The MTN was a form of revenue cap regulation (Marques, 2010; Carrozza, 2011). In 2006, the procedure for tariff setting in the water industry was further revised (by legislative decree no. 152/2006): water utilities were now allowed to include an investment remuneration component in water tariffs for inflation and return on capital, capped at seven per cent (the "seven per cent rule"). Therefore, with the MTN water tariffs increased at nominal rates twice the consumer price index or larger (on average by five per cent from 2007 to 2008, and six per cent from 2004 to 2008), sometimes linked with the introduction of private sector participation to the ownership of water utilities, to spur languishing investment.

After the outcome of the 2011 public referendum that delayed the "seven per cent rule", it was no longer compulsory for water tariffs to include an adequate remuneration of invested capital. The new authority for water, AEEGSI, introduced a new method, the MTT, for the regulatory period 2012 and 2013, and then replaced it with the new MTI for 2014 and 2015. Further reforms are expected in the next regulated period (2016 onwards).

3. A comparison of two tariff methods: MTN and MTI

This section provides a detailed description of the past and current tariff methods used in Italy, to highlight their main differences and identify their strengths and critical issues. The main characteristics of both methods are summarised in Table 1.

3.1. Revenues and tariffs

The MTN was based on the 'average real tariff', effectively a form of revenue cap regulation (Marques, 2010; Carrozza, 2011) as tariff increase without inflation must be lower than five per cent per year. The Galli Law provided for the establishment of a tariff system based on the principle of a single tariff for each ATO—including the drinking water supply, sewerage and wastewater—to ensure full coverage of the operating costs and investment. The tariff was determined by taking into account directly or indirectly a variety of factors, including the quality of water resources and the service provided, the investment needs and required maintenance, the extent of operating costs and the adequacy of the return on investment. According to this provision, the revenue cap determined as follows:

$$Rn = (C + A + R)_{n-1} * (1 + \pi + k) \quad (1)$$

Where: