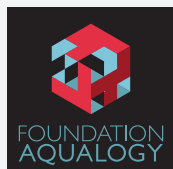


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STUDY ON THE PRICE OF WATER IN SPAIN

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Authors: Carmen Albiol Omella, Antoni Bru Angelats

Technical Committee: Juan E. Iranzo Martín, Pascual Fernández Martínez,
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In collaboration with:



Colegio de
Economistas
de Madrid

STUDY ON THE PRICE OF WATER IN SPAIN ¹

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The effort and commitment of many people was necessary to undertake and to publish this study. We would therefore like to express our deepest and sincere gratitude to the Technical Committee which collaborated actively on the completion of this study, and especially Mr Juan Iranzo Martín, Dean-President of the Madrid Economists' Association, for his guidance, monitoring and continuous supervision of the study, but above all for the motivation and support received.

¹ The study represents, in part, an updating of the work "La Financiación del ciclo del agua en España. Problemática y retos de Futuro" (The Financing of the water cycle in Spain. Problems and Future challenges), prepared by Albert Martínez Lacambra, Carmen Albiol and JoPre Masana and published in Presupuesto y Gasto Público. Instituto de Estudios Fiscales.

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ABSTRACT

The study demonstrates that the price of water in Spain is below the average of the countries of the European environment and that of other "utilities" such as telephony or electricity and that, therefore, there is a capacity to absorb the costs of water in Spain through the.

This study analyses the water bill in Spain, giving visibility to the different items included thereon with the aim of analyzing what is the real price of water in this country and concluding whether or not it is expensive. We present an analysis of the prices based on an indicator which allows us to compare, in terms of per capita disposable income, the relative effort of Spanish consumers with that made by the rest of European countries, and with other basic services.

KEYWORDS

Water tariffs, Water Framework Directive, cost recovery, water bill, complete water cycle, supply, sewerage, effort to pay for the water service, Spanish public administrations, cost of water.

1. INTRODUCTION

The aim of the complete water cycle is to guarantee water supply and its sustainability. It is made up of a chain of activities which cover drinking water supply, sewerage and wastewater treatment. The cycle begins with the catchment of water for its subsequent distribution and consumption, concluding with the collection and treatment of the wastewater for its discharge into the public domain.

The necessary adaptation to new regulations, the improvement of the efficiency of the management of the services which make up the complete water cycle, the relative scarcity of water resources and the demands for a better quality of water and of the service imply the need to make important investments in the transformation and renewal of the infrastructures existing, in addition to an increase in the expenditure on water services.

This situation is related to a context of deterioration of the finances of the Spanish public administrations and the imposition of the recovery of costs through the tariff, mainly motivated by the requirements of Article 9 of the Water Framework Directive, which inevitably foresees a scenario of necessary and significant increase in the water prices in Spain over the coming years.

The distribution of powers over the complete water cycle in Spain involves numerous public and private agents, in addition to different orders of the state administration.

At present there are important tariff differences between the water services of the different towns, due to various reasons such as the origin of the resource, the quality of the service provided and the level of investments executed, in addition to the different levels of subsidy by the public sector or, in other words, the different degree of recovery of costs of the services. It should be added that the water bill is sometimes used as an instrument to collect other items not related to the complete water cycle, the most common being the charge for the collection of solid urban waste.

All this makes the water bills of the different municipalities very heterogeneous, which means that the end consumer does not know the real price of the water.

The main objective of this study is therefore to give visibility to the different items included on the water bill in Spain for the purpose of deciphering what is paid with the water bill and thus being able to conclude whether or

not it is expensive in Spain, and whether there is possible scope to increase its prices in this country.

In order to determine whether or not water is expensive in Spain we will use objective scales of comparability, using an indicator which measures the user's effort to pay for the water service. This indicator allows us to make a comparison between Spain and different European countries, a comparison that is carried out in terms of purchasing power in relation to the water prices between countries. The prices of the complete water cycle are likewise compared with those of other "utilities" such as telephony, electricity and other public services such as public television.

Finally, on being a highly regulated activity, complete water cycle management makes a very significant contribution to the different regulatory public administrations and organizations. This contribution is included in part on the water bills (rates, fees and general taxes on consumption), so the analysis of the real contribution of water bills to the different competent public administrations will also be studied.

The study focused on the price of water for domestic users, being the one which generates the most important social awareness and the one which allows a comparison to be developed with the rest of the countries of the European Union.

2. LEGISLATION AND DISTRIBUTION OF POWERS

In the legislative sphere, as water has become an increasingly scarce resource both quantitatively and qualitatively, vulnerable to threats such as pollution, drought, overexploitation and inefficient management of the resources, the public powers have gradually established new mechanisms of intervention, in order to make its use more sustainable.

In this respect, the European Union has adopted a series of directives, the aim of which was to protect and manage water in the whole territory of the European Union.

In 2000, the European Union took a major step forward with the adoption of the Water Framework Directive (WFD), which establishes a community-wide framework of action in the sphere of water policy ², introducing a new

2 Which was modified by Directive 2008/32/CE of the European Parliament and of the Council, of 11 March 2008, which modifies Directive 2000/60/CE which establishes a community-wide Framework of action in the sphere of water policy, in relation to the powers of execution attributed to the Commission and by Directive 2009/31/CE of the European Parliament and of the Council, of 23 April 2009, concerning the geological storage of carbon dioxide.

legislative focus to water management and protection. This new framework is not based on national borders, but on hydrographic characteristics and geographic locations. Both in view of its focus, which considers surface and groundwater as a whole, and of the objectives pursued, which are based on obtaining good water condition and, at the same time, protecting the dependent ecosystems, this Directive represents a significant change in the European legislation in force and implies great complexity both in its definition and in its introduction.

This Directive moreover requires the coordination of the different policies of the European Union and establishes a precise calendar of actions, fixing 2015 as the target date for all the water of the European Union to be in good condition.

An important and novel aspect of the WFD is its reference to pricing policy, in its Article 9 establishing that "Member States shall take account of the principle of recovery of the costs of water services, including environmental and resource costs (...) and in accordance in particular with < the polluter pays > principle".

The principle of recovery of the costs means "de facto" the end of a policy of subsidies in the complete water cycle which has been applied on numerous occasions. This will imply, among others, a change in the tariff approval procedure, usually carried out in Spain by the municipal administrations, which has been based on the evolution of the increase in consumer prices, a mechanics which does not permit an appropriate provision of financial resources to the service and which represents a failure to comply with the objective pursued by the aforementioned Framework Directive.

The new community directive planned moreover seeks a change in the consumption of resources both by the overall population and by the different economic actors of the system. It is hoped to achieve efficiency of use, management of the resource and the implicit environmental costs through a new pricing policy which encourages this behaviour.

The WFD is consequently the framework for the European Union's water policy, although it is completed by other legislative provisions which regulate specific aspects of water use: the Urban Waste Water Directive (1991), the Nitrates Directive (1991), the Drinking Water Directive (1998), the Bathing Water Directive (2006), the Groundwater Directive (2006) and the Directive on Environmental Quality Standards (2008).

The regulatory framework and framework of powers of complete water cy

cle management in Spain means that numerous public and private agents are involved in the activity. As proof of this and by way of illustration, we can indicate that water catchment is a power of the hydrographic confederation or of the autonomous communities, while home supply is a municipal power (the latter is based on the Ley de Bases de Régimen Local [Law on Local Regimes], which establishes that the drinking water treatment and distribution, sewerage network and wastewater treatment services are a municipal power). In relation to drinking water treatment, in some cases it coincides with the provider of the water distribution service and in others it is a supramunicipal or autonomous body.

The involvement of the state government is centred on the public water domain of the intercommunity basins, adopting a role of both technical and economic support, and of supply and sewerage planning.

For their part, the autonomous communities hold a large number of powers concerning the environment, management of the public water domain in the internal basins, regional planning, protection of the ecosystems and other related powers either independently or jointly with other administrations.

3. FINANCIAL SITUATION OF THE SPANISH PUBLIC ADMINISTRATIONS

The autonomous communities are one of the economic agents most affected by the current economic crisis due to the current measures of austerity and control of the public deficit (they represent approximately a third of the total expenditure of the public administrations as a whole), demanded both by the European organizations and by the financial community. This means that they are immersed in a difficult financial situation, which has been aggravated by the closing of access to the financial markets or, where they do have access, by a high financial cost (Madrid has managed to issue debt to the markets and only Aragón, Navarre and Galicia are considering doing the same). However, the creation of alternative financing measures offered by the central government (Autonomous Liquidity Fund or FLA) represents a financing alternative not exempt from rigorous budgetary and public deficit control. The return of these funds is guaranteed by the future income from the share in state income (PIE).

This economic environment has a direct repercussion on the services provided to the citizens as a large number of powers have been assigned.

This phenomenon is especially present in those communities most subjec-

ted to the factors of pressure on internal demand and the financing difficulties of the Spanish economy.

Given that the imbalance of the autonomous communities is structural, the European organizations have established a calendar of autonomous public deficit objectives of 1.5% of regional GDP for the financial year 2012, which has been exceeded, reaching 1.73% (six autonomous communities failed to comply with the objective, with the Valencian Community +3.45%, Murcia +3.02% and Andalusia 2.02% at the head), and of 0.7% for the financial year 2013. In relation to the objective established for this year, numerous both national and international economic and social agents advocate an easing of the deficit objectives for Spain and a different distribution of the charges (established at 4.5% for the administrations as a whole, 3.8% assigned to the state).

The economic situation varies greatly from one autonomous community to another. As regards the public debt on closing 2012, while some autonomous communities had debt levels above 20% of their regional GDP, for example Castile-La Mancha, the Valencian Community and Catalonia, others had levels close to or below 10%, especially the Basque Country, Asturias, the Canary Islands and Madrid.

This discrepancy is also observed in terms of public deficit, having an impact on their consumption.

The serious economic crisis being experienced by Spain has also affected the progressive convergence between the autonomous communities that was being observed over the last few years. Thus, the difference in per capita GDP between the Basque Country, the territory with the highest income, and Extremadura, which occupies the last position, reached 65 points in 2011, the highest level since 2003.

Moreover, a very significant part of Spanish town councils are in an economic situation which is not very different from that described for the autonomous communities.

Traditionally their main function has been the provision of public services and their contribution to the overall economy is not minor (around 5% of Spanish GDP in 2009). Fundamentally, this activity has not been performed so much through financial planning as through budgetary management. That is to say that the projects carried out by the town councils have not been valued under a current expenditure perspective which could arise from their commissioning and maintenance. The inefficiencies and their

negative effects on the liquidity and solvency of the local authorities have coexisted with and been offset during the years of economic boom by the strong income coming from urban management and construction

The aforementioned economic effects mean that the town councils have a general increase in debt (whether long or short term), high commercial debt (which grows faced with the difficulty in obtaining bank financing) and a reduction in income.

It is foreseen that this situation will remain for as long as the current unfavourable situation persists in the Spanish economy as a whole. This has meant that the central government has prepared a Draft Bill on Rationalization and Sustainability of the Local Administration with the aim of the local entities adapting to the Organic Law on Budgetary Stability and Financial Sustainability, considering, among other aspects, the establishment of quality standards for the services which will act as a basis to fix the financial resources assigned by the state to the municipalities. In the municipalities with a population below 20,000 inhabitants, the provincial councils will take ownership of all those powers which do not attain the quality standard or are inefficient in view of economies of scale.

4. FINANCING OF THE COSTS OF THE COMPLETE WATER CYCLE

The water bill should include all the costs arising from the urban water cycle, going from its catchment in rivers or reservoirs, to drinking water treatment, continuous health control and distribution, until it reaches our homes, but also from when it disappears down the drain until, once treated, it is returned to the natural environment or is reused for other purposes.

The overall activities of the water cycle are aimed at guaranteeing the water supply and, in turn, maintaining a balance with the environment, guaranteeing that the resource is not exhausted with the consequent environmental damage, and its return to the environment in the appropriate environmental conditions.

The necessary adaptation to new regulations (the Water Framework Directive, the one concerning the quality of water for human consumption, groundwater, etc.), and the relative scarcity in quantity of water resources, coupled with the demands for greater quality, make a significant transformation of the existing infrastructures necessary, in addition to the creation of new ones, in order to guarantee both the supply and the adequate treatment of the water, which involves the need to make considerable investments and an increase in the costs of the services in order to guarantee the quality

level demanded for the water supplied and that the wastewater is returned to the environment without damaging the ecosystem.

Consequently, at present the water cycle services require technology both for the treatment processes and to guarantee the resource, which implies growing associated costs.

The question raised is how the costs of the complete water cycle are financed.

In general, the main source of financing of the complete water cycle is, or should be, the tariff applied to the users.

Indeed, the Water Framework Directive, as we saw above, promotes efficient water use, with a price which reflects its true value, applying the principle of the “water user pays” and thus discouraging excessive consumption in view of its scarcity. In accordance with the above-mentioned Directive, the price of water should fulfil a triple objective: recovery of all the costs (including the depreciation of assets and the environmental costs), environmental sustainability and raising the awareness of users in relation to responsible and affordable water consumption so that the fixing of the prices does not prejudice those most economically disadvantaged.

Thus, the pricing policy, or in other words the design of the tariff structure, must be carried out in a way which provides incentives for efficient and rational use of the resource and moreover ensures a sustainable recovery of the costs.

There is a generalized consensus in public opinion on the need for sustainable water use, although the same cannot be said about accepting the costs that this represents. Indeed, there is considerable demagoguery concerning the prices of water on being an essential, non-replaceable and universal resource.

In general, the citizens have a considerable lack of knowledge on the costs of the water service, in part because historically they have been heavily subsidized and the cost of the water cycle has not been emphasized. In the urban cycle, the expression “water falls from the sky” is not valid because, as already mentioned, there are costs which arise from the processes of catchment, drinking water treatment, distribution, wastewater collection and its treatment and, if appropriate, reclamation for other uses, whether agricultural, urban or recreational, costs which have increased substantially in recent years due to the greater complexity and technological development of the processes.

In general, a price is defined for each stage of the water cycle. Thus, for home supply the urban supply tariff is applied, the aim of which must be to recover the costs of the services for catchment and impoundment, drinking water treatment and distribution in the distribution networks.

The sewerage network and wastewater treatment activities have developed substantially over the last 30 years, despite the fact that, in general, the citizens are not aware of the complex tasks concealed behind the simple gesture of flushing the toilet. The urban sewerage network and the construction of wastewater treatment plants has become generalized, with the application of advanced engineering, making sewerage management sophisticated and costly, in addition to the development of systems aimed at protecting the natural habitats, permanent surveillance of the water quality and the drastic reduction in pollutants which can damage the aquatic environment.

In some cases, the wastewater collection part is financed partly with the sewerage network fees approved by the municipalities, while many other municipalities have chosen to pay for the cost of the service out of their own budgets. The wastewater treatment stage is sometimes financed with tariffs and on other occasions with rates applied by the autonomous communities.

The tariffs are thus the “natural” channel to recover the costs incurred to supply the water cycle in optimal conditions as required by the regulations and demanded by the users.

However, the different water tariffs and prices in Spain have traditionally evolved in line with or even below inflation, this being the reference element in the price reviews, rather than the evolution of real costs. On most occasions, this has led to increasing economic and financial imbalances, contributing to the debt of the town councils and of the organizations of the autonomous communities responsible for the services which in some cases has reached unsustainable situations.

In this respect it is necessary to stress the opacity existing in relation to the financial statements of the public bodies managing water in Spain. On most occasions there is only public information on their budgets, but not on their real evolution which frequently presents significant negative deviations in relation to that budgeted. Despite the above-mentioned opacity of information of the water management bodies, we can find some examples which confirm the difficult economic situation that these bodies are experiencing.

By way of example, there is the situation of the Catalan Water Agency (ACA) and the Public Wastewater Treatment Body of the Valencian Community (EPSAR)

The main financial magnitudes of EPSAR, on closing 2011, are thus as follows: the operating result amounted to 20 MEUR compared with the -6 MEUR of the financial year 2010. The net result of the financial year amounted to -2.2 MEUR compared with the -24.1 MEUR of 2010. The net debt reached 690.3 MEUR. The shareholders' equity was 138 MEUR which, in order to remain balanced, required subsidies of 282 MEUR. With these data it can be concluded that the current situation of EPSAR is delicate, the flows generated not allowing the volume of debt to be reduced and making its viability difficult without significant increases in tariffs and/or drastic reductions in investments (75 MEUR of which have already been made since 2010).

In relation to the ACA, its financial magnitudes on closing 2011 are as follows: the operating result amounted to +77 MEUR compared with the -18 MEUR of the financial year 2010. The net result of the financial year amounted to +33 MEUR compared with the -54 MEUR of the previous financial year. The net debt reached 1,355 MEUR. The shareholders' equity reached 621 MEUR which, in order to remain balanced, required subsidies of 751 MEUR. As can be gathered from the above data, the situation of the ACA presents the same problems as those identified for EPSAR.

These are two examples of the situation being experienced by many of the management bodies of the Spanish water resources which, in the majority of cases, do not have a remuneration which allows them to finance their operations autonomously, depending, to a greater or lesser degree, on additional public contributions, which "de facto" represents a public subsidy of the service provided.

The convergence of Spain's need to adapt to the Water Framework Directive, which establishes that the price must allow the recovery of all the costs of water-related services, including the environmental costs and those relating to resources, with the financial situation of the public administrations and water management bodies of Spain, places us in a context in which the tariff review needs to abandon the referencing with inflation or other subjective criteria linked to electoral purposes and focus on cost recovery.

Likewise, the current economic context of the public administrations, the necessary adaptation to the Water Framework Directive, together with the already announced and foreseeable greater investment needs, allow us to glimpse a scenario of necessary and significant increase in water prices in the coming years, allowing the needs of the present generation to be met without compromising the capacity of future generations to meet their own needs.

5. THE WATER BILL IN SPAIN: ITEMS INCLUDED ON THE DOMESTIC WATER BILL

The supply of drinking water to the consumers is a service which forms part of a broader activity, made up of a series of actions linked in a sequence which covers water catchment and impoundment, drinking water treatment and adaptation for consumption, supply to the end user along the distribution networks, the subsequent sewerage works, treatment and final discharge to the public domain, that is to say the complete water cycle.

It is essential to understand each of the phases of the complete water cycle so that the end consumer understands the contents of the water bill, as all these phases have their place on the bill and represent an effective cost for them, as they are often not aware of the components which make up the water bill.

Each of the activities which make up the complete water cycle has a tariff or price, and they are all fundamental to guarantee quality supply for the consumer and, in turn, to maintain a balance with the environment (especially as regards the sewerage and wastewater treatment activities which take place after the supply of the water and its use by the consumer).

When we analyze the bills of different municipalities in Spain we observe important differences in the amounts billed, these differences being motivated, on the one hand, by the different items which are included on the water bill, as it is an instrument which is sometimes used to include items from outside the complete water cycle, the most common being the charge for collection of solid urban waste. However, on the other hand, there are also tariff differences both in the unit prices and in the tariff structures (different band limits are set in order to establish the progressive nature of the unit prices).

The differences in the unit prices can be due to several reasons, including the origin of the resource, the quality of the service provided and the level of investments made, but also the different levels of subsidy by the public sector or, which amounts to the same, the different degree of recovery of costs of the service.

Another of the elements which affect the user's perception of the cost of water is the frequency of billing (bimonthly predominates for domestic uses, although many municipalities also apply quarterly billing).

All this leads the subscriber to consider the water bill to be a complex and confusing document with heterogeneous items, and inevitably means that the consumer lacks real knowledge on the price and the true value of water.

In this respect, educational work by the water utilities and regulators is recommended in order to enhance the value of the water service and eliminate the belief that it falls from the sky. It is also desired to simplify and unify as far as possible the bills and the measurement units so that they are clearer and easier for the citizens to understand.

Below we detail the most common items included on the water bill in Spain:

I. Water supply service

The water supply tariff is the remuneration for the costs of the services of catchment and impoundment, drinking water treatment and distribution through the distribution networks.

In general, the predominant tariff structure for drinking water is binomial, that is to say it contains a fixed part and a variable part.

The fixed part is the so-called service charge and guarantees the immediate availability and permanent access to the water service. It has a fixed amount which, in general, is calculated taking the calibre of the meter installed as the reference.

The variable part is calculated in accordance with the water consumption and is generally applied by consumption bands with increasing prices in order to encourage responsible water use, increasing the price of the cubic metre in a phased and progressive manner as consumption increases.

There is usually an initial consumption band, considered as vital, with subsidized price, in order to guarantee that it is affordable for underprivileged groups.

II. Sewerage network service

This is the payment for the maintenance of the sewerage network and wastewater collection and transfer to the wastewater treatment plant.

It can be binomial, with a fixed part which guarantees the sewerage network service whether or not there is consumption, and a variable part, depending on the water consumption recorded, or it can include only the variable part in accordance with the consumption recorded.

III. Sewerage treatment service

This is for wastewater treatment so that, once reclaimed, it is reused or returned to the natural environment with the least environmental impact possible.

It can be monomial, depending on the water consumption recorded, with one or numerous bands, or binomial, that is to say with one fixed and another variable part, likewise considering the control of the discharges in the public waterways.

In general, sewerage rates are applied, with a marked ecological component which is charged on wastewater production, and the pollutant load discharged by the different water users.

IV. Charge for maintenance of the meter

This is the payment for the maintenance of the meter. It covers the costs to change and replace the meter due to age or breakage.

V. Charge for collection of solid urban waste

This is the amount collected to finance the collection and treatment of rubbish and solid urban waste.

VI. Autonomous rates

The autonomous communities have the power to create their own taxes under the terms foreseen in Article 133.2 of the Spanish Constitution.

For this, and in order to finance complete water cycle infrastructures of interest to the autonomous community (mainly related to wastewater treatment), different improvement rates have gradually been established for the financing and recovery of the costs arising from the execution of these infrastructures.

They normally count as an income of the autonomous community and the tariff structure can be monomial, depending on the water consumption recorded, with one or numerous bands, or binomial, that is to say with one fixed and another variable part in accordance with the water consumption recorded.

In any case, the rates included on the water bill should be limited to the complete water cycle and not finance other aspects from outside it.

VII. VAT

VAT is the main indirect tax of the Spanish taxation system, being levied on the consumption of goods and services produced or marketed in the development of business or professional activities. Businesses can deduct the VAT paid, while the end consumers cannot deduct the tax, effectively paying it on consuming goods or services. VAT is included among the taxes assigned to the autonomous communities in the ordinary regime without regulatory powers, 50% of the tax yield generated in the territory of each autonomous community being assigned since January 1999.

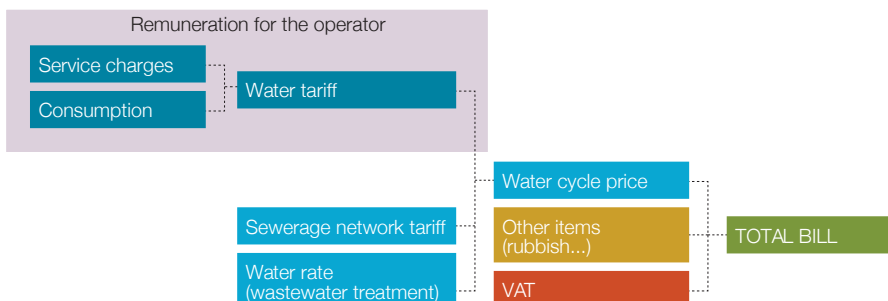
Several VAT rates can be found on the water bill. Thus, the reduced rate (10% from 1 September 2012) is applied to water supply, while the general rate (21%) is applied to other items on the bill, such as the charge for maintenance of the meter. The autonomous and municipal fees of the water bill are exempt from VAT on being taxes.

VIII. Rebates and discounts

In some cases there are rebates or discounts on the water bill for different items, the most usual being the rebates for large families, for the retired and pensioners, for people with low income, and the unemployed. The rebate can be with a special tariff for the group of users in question, or an extension of the band limits. It is recommended that these discounts be explained on the bill so that the subscriber is aware of the real cost of the service. In any case, subsidizing the costs of the service or certain groups of users is a decision for the regulator, which must make an informed decision in order to avoid possible perverse effects which discourage good water use.

The different items included on the bill are summarized graphically in graph 1.

Graph 1. Items included on the water bill



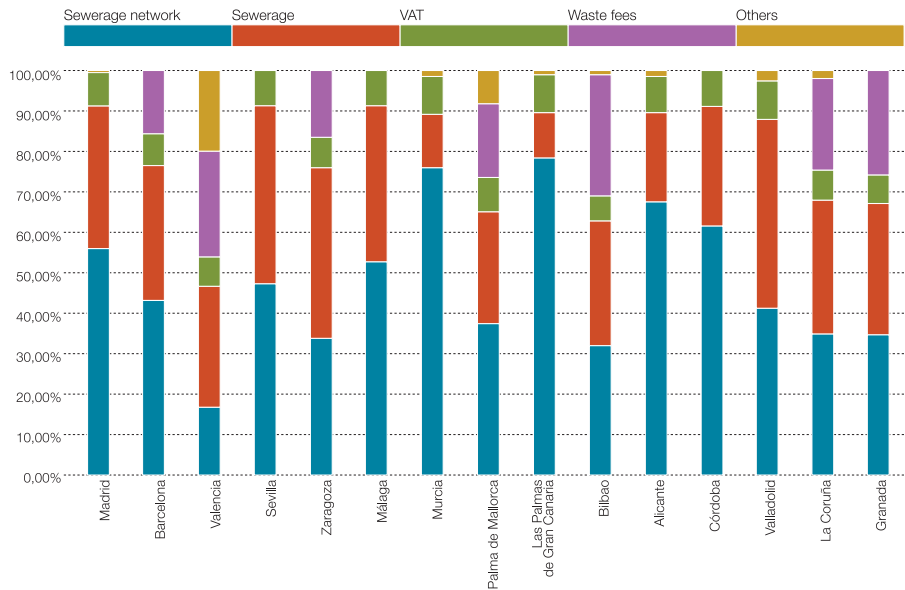
5.1. ANALYSIS OF THE COMPOSITION OF THE WATER BILL
OF 15 SPANISH CITIES

The composition has been analyzed of the water bill for domestic use of the 15 Spanish cities with the largest population (Madrid, Barcelona, Valencia, Seville, Zaragoza, Málaga, Murcia, Palma de Mallorca, Las Palmas de Gran Canaria, Bilbao, Alicante, Córdoba, Valladolid, La Coruña and Granada)

Beyond the obvious price differences in each of the cities, and regardless of whether this price is expensive or cheap, which will be studied later, it is now of interest to see the weight of the different items included on the water bill.

Table 1 summarizes the percentage represented by each of the items included on the water bill out of the total amount of the bill received by the subscriber in the different cities of Spain analyzed ³.

Table 1. Items included on the water bill in percentages

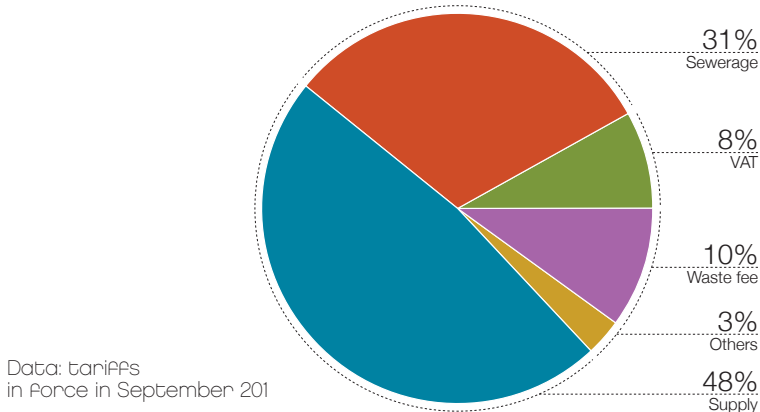


Data: tariffs in Force in September 2012.

In accordance with the information set out, and observing the average of the 15 Spanish cities studied, the resulting average composition of the bills is that shown in graph 2.

3 The analysis was performed taking a monthly consumption of 16 cubic metres of water; being the average consumption that the International Water Association (IWA) tends to take as the reference in its studies. Data From August/September 2012.

Graph 2. Composition of the water bill of the 15 Spanish cities with the largest population



It is observed that the price relating to the complete water cycle (supply and sewerage) is, on average, around 79% of the total price of the bill paid by the subscriber, the rest of the bill being made up of items not directly related to the water service, such as waste fees, maintenance of meters and VAT, which are collected by the operator but on behalf of the corresponding public administration.

We can observe the asymmetry of the items included on the water bill between the different Spanish cities, a difference which is even more pronounced when we make comparisons with other countries around us.

6. COMPARISON OF WATER PRICES IN EUROPE

As previously mentioned, a scenario is foreseen in which a significant increase in water prices appears to be inevitable, so it is necessary to analyze the price of water in our country in order to determine whether or not it is expensive and infer whether there is some scope to increase the price in relation to other countries of the European Union.

The starting point of this section is the price level of the water cycle, taking the last available publication of the International Statistics for Water Services (IWA, 2012) as a reference. The last available edition of this report is from 2012 and refers to 2011 prices expressed in US dollars. This choice is due to the representative nature of the sample and the objective character of the institution responsible for the study, referring to water prices in the international sphere with a biannual frequency. The price of supply and sewerage is quantified for each city for a consumption of 200 m³/year with domestic use.

This study has reduced the sample to 16 countries belonging to the European Union together with Norway, in order to have a sample of countries from a similar environment with a similar level of development, and whose data also form part of the EUROSTAT publications in order to be able to compare prices in relation to disposable income levels by country. In addition, to aid the comparison, the values have been expressed in euros / cubic metre.

Table 2. Unit prices of the complete water cycle for domestic use by country

Country	Unit price supply (€/m)	Unit price sewerage net & treatment (€/m)	Unit price VAT & other rates (€/m)	Unit price complete cycle (€/m)
DENMARK	2,04	2,55	1,15	5,74
GERMANY	1,80	2,66	0,00	4,46
BELGIUM	1,46	2,15	0,22	3,83
AUSTRIA	1,29	1,86	0,32	3,46
FINLAND	1,22	1,34	0,83	3,40
UNITED KINGDOM	1,73	1,58	0,00	3,31
NORWAY	1,19	1,41	0,65	3,24
HOLLAND	1,28	1,56	0,24	3,08
CYPRUS	1,05	1,41	0,23	2,69
SLOVAKIA	1,02	1,09	0,44	2,55
SWEDEN	0,82	1,14	0,49	2,45
HUNGARY	0,79	0,74	0,38	1,92
POLAND	0,81	0,95	0,00	1,76
SPAIN	0,85	0,70	0,16	1,72
PORTUGAL	0,96	0,63	0,12	1,71
LITHUANIA	0,62	0,70	0,28	1,59
ITALIA	0,55	0,52	0,11	1,18

Source: IWA international statistics for Water Services 2012
own elaboration, data 2011

If we observe table 2, we appreciate significant price differences, both as regards supply and sewerage network and wastewater treatment. Denmark and Germany lead the list with an average of 5.74 euros/m³ and 4.46 euros/m³, respectively, for the complete water cycle. On the other side we find Italy, with an average amount of 1.18 euros/m³. Spain is in the lower area of the classification, with an average price of 1.72 euros/m³ for the complete water cycle.

These price differences, as previously mentioned, may have different causes, such as quality levels, quality and origin of the resource, service levels provided, degree of coverage and development of sewerage and level of investment made, among others

This study does not cover the comparison of prices from the viewpoint of cost of the service and its efficiency, as matters such as quality of supply, origin of the resource or what part of the costs is internalized in the public budget are unknown. The analysis will focus on the effort made by the citizen to pay for the service, compared with the rest of the countries of the EU,

which will allow us to demonstrate whether or not there is scope to increase the tariffs in Spain.

For the purposes of making a better estimation of which country has more expensive water we are going to give the price of water in relative terms, so we will elaborate an indicator which measures the effort that a user makes to obtain one cubic metre of water. For this we take the per capita disposable income expressed in purchasing power standards (PPS). We consider this indicator to be appropriate given that it takes into account the distribution of income among the population and avoids the distortions caused by use of per capita GDP.

The indicator of user effort to pay for the water service measures what part of per capita disposable income is allocated to acquisition of one cubic metre of water ⁴:

$$\text{User effort} = \frac{\text{water cycle price (€/m}^3\text{)}}{\text{per capita disposable income PPS (€)}}$$

Table 3. Disposable income expressed in purchasing power standards by country

Country	Income (€)
NORWAY	26.248
GERMANY	24.698
AUSTRIA	23.806
BÉLGIUM	22.291
SWEDEN	21.899
UNITED KINGDOM	21.669
FINLAND	21.586
HOLLAND	21.264
DENMARK	20.453
ITALY	20.140
CYPRUS	18.713
SPAIN	18.604
PORTUGAL	15.941
SLOVAKIA	13.557
POLAND	12.662
LITHUANIA	12.636
HUNGARY	11.848

Source: Eurostat "Real adjusted gross disposable income of households per capita in PPS". Data From 2011.

The indicator of user effort to pay for the water service was calculated for each country studied. To make the comparison easier, the indicator of effort made by each country was referenced with the indicator of average effort of the countries studied. The result of this estimate is shown in table 4

⁴ The disposable income level of each country has been referenced with the average disposable income of the countries selected.

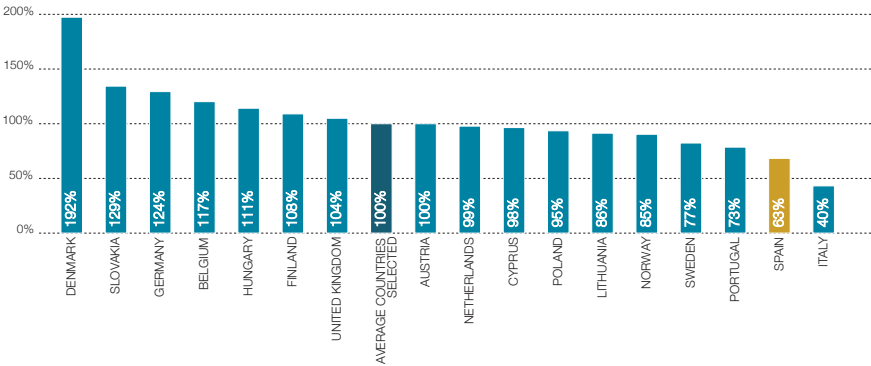
Table 4. Indicator of user effort to pay for the water service by country

Country	% effort in supply (av. countries = 100%)	% effort in sewerage (av. countries = 100%)	% effort in VAT \$ other fees (av. countries = 100%)	% effort in complete cycle (av. countries = 100%)
DENMARK	167%	181%	322%	192%
SLOVAKIA	126%	117%	185%	129%
GERMANY	122%	156%	0%	124%
BELGIUM	109%	140%	56%	117%
HUNGARY	112%	90%	186%	111%
FINLAND	95%	90%	221%	108%
UNITED KINGDOM	133%	106%	0%	104%
AVERAGE COUNTRIES SELECTED	100%	100%	100%	100%
AUSTRIA	90%	113%	77%	100%
HOLLAND	101%	106%	66%	99%
CYPRUS	94%	109%	70%	98%
POLAND	107%	108%	0%	95%
LITHUANIA	81%	80%	125%	86%
NORWAY	76%	78%	142%	85%
SWEDEN	63%	76%	128%	77%
PORTUGAL	101%	57%	43%	73%
SPAIN	76%	55%	50%	63%
ITALY	46%	38%	31%	40%

Source: Own elaboration, IWA International Statistic For Waste Services 2012 Eurostat. Data 2011

We show the results of the indicator of user effort to pay for the water service in graph 3.

Graph 3. Indicator of user effort to pay for the water service by country



On analysing the indicator of user effort to pay for the water service by country it is observed that Denmark, Slovakia and Germany make a notably bigger effort than the other countries in the study with 192%, 129% and 124% of effort in relation to the European average, respectively. The countries situated above the average effort stand out on making a high effort in sewerage. As for Spain, the relative effort made by Spanish users is significantly lower compared with the level of effort of the majority of European countries. In particular, Spain made 63% of the European level of effort as regards the water cycle.

Although there are factors characteristic of each country which can alter the costs of the service, this indicator can be considered as a measurement of the margin to increase prices to make Spain's effort match the European average. Consequently, it is demonstrated that our tariff system has significant scope for a rise.

7. COMPARISON OF THE PRICE OF WATER WITH THE PRICE OF OTHER "UTILITIES" IN EUROPE

Nowadays, electricity and telephony have become essential services in our society, so below we proceed to carry out a comparative analysis between water and these basic services, likewise comparing the relative effort of the Spanish consumers in relation to their fellow European citizens.

7.1. ELECTRICITY

The same comparative analysis is carried out, studying the prices of electricity. The community statistics institute Eurostat publishes, half-yearly, the average prices of electricity for domestic use in euros per kWh. For comparative purposes, the average prices of the same countries studied for the basic water services were selected.

Table 5. Unit price of electricity for domestic use by country

Country	ELECTRICITY (EUR/kvh)
CYPRUS	0,173
SPAIN	0,160
BELGIUM	0,157
NORWAY	0,156
AUSTRIA	0,144
GERMANY	0,141
ITALY	0,140
SWEDEN	0,138
SLOVAKIA	0,137
UNITED KINGDOM	0,137
AVERAGE COUNTRIES SELECTED	0,135
HUNGARY	0,134
DENMARK	0,126
HOLLAND	0,125
POLAND	0,115
FINLAND	0,108
PORTUGAL	0,102
LITHUANIA	0,100

Source: Eurostat. Electricity prices for household consumers EUR per kWh. Data from 201

1

The prices per kWh were in a range which goes from 0.173 euros/kWh (Cyprus) to 0.100 euros/kWh (Lithuania). Spain is in second position with 0.160 euros/kWh, significantly above the European average of 0.135 euros/kWh.

In order to be able to compare the prices set out above, they are expressed in the following table in relation to the level of effort by the consumer in terms of per capita disposable income, as we did for water.

Table 6. Indicator of user effort to pay for electricity by country

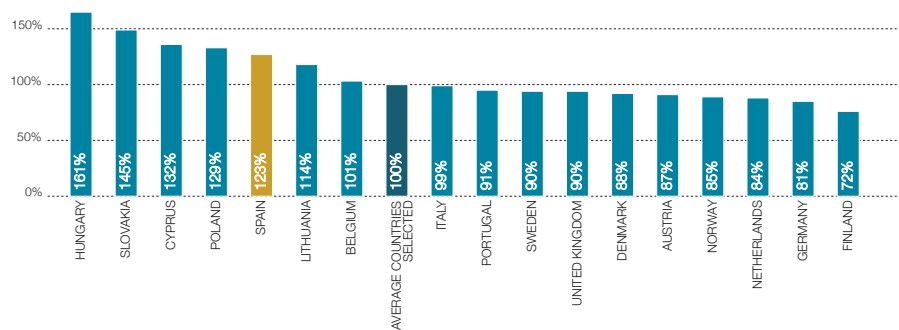
Country	Price electricity / per capita DI
HUNGARY	161%
SLOVAKIA	145%
CYPRUS	132%
POLAND	129%
SPAIN	123%
LIITHUANIA	114%
BELGIUM	101%
AVERAGE COUNTRIES SELECTED	100%
ITALY	99%
PORTUGAL	91%
SWEDEN	90%
UNITED KINGDOM	90%
DENMARK	88%
AUSTRIA	87%
NORWAY	85%
HOLLAND	84%
GERMANY	81%
FINLAND	72%

Source: Eurostat. Own elaboration. Data From 2011.

In relation to the user effort, countries like Hungary, Slovakia and Cyprus stand out in view of their high level of effort, which ranges from 161% to 132% in relation to the average. At the other end of the classification is Finland, which only made 72% of the average effort. In relation to the situation of Spain, Spanish citizens made 123% of the average effort of the countries selected, being 23 points above the average level, which means that Spain makes an effort above the average of the European countries selected to pay the electricity bill.

The graphic representation can be seen in graph 4

Graph 4. Indicator of user effort to pay for electricity by coun



7.2. TELEPHONY

The January 2012 MTR Benchmark snapshot report prepared by the Body of European Regulators for Electronic Communications (BEREC) studies, among other aspects, the price per minute of voice telephony in 32 Euro-

pean countries. We have used the same selection of countries analyzed in the previous sections.

Table 7. Price per minute of voice telephony for domestic use by country

Country	TELEPHONE (€/ min)
SLOVAKIA	0,055
ITALY	0,054
NORWAY	0,044
SPAIN	0,041
FINLAND	0,038
POLAND	0,037
DENMARK	0,035
UNITED KINGDOM	0,035
PORTUGAL	0,035
GERMANY	0,034
AVERAGE COUNTRIES SELECTED	0,034
HUNGARY	0,031
BELGIUM	0,028
HOLLAND	0,027
SWEDEN	0,023
AUSTRIA	0,020
CYPRUS	0,018
LITHUANIA	0,018

Source: BEREC. MTR Benchmark snapshot (January 2012). Data From 2011.

The price per minute for voice telephony varies from 0.018 euros per minute (Lithuania) to 0.055 euros (Slovakia). Spain is in the upper part of the classification with 0.041 euros per minute.

As with the previous sections on the complete water cycle and electricity, the consumer effort is calculated in terms of 2011 per capita disposable income expressed in PPS for this basic service.

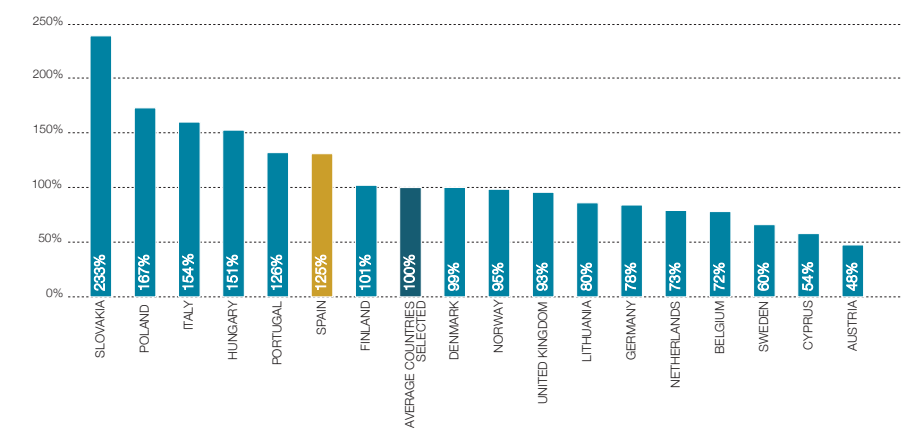
Table 8. Indicator of user effort to pay for voice telephony by country

Country	Price téléphiny / per capita DI
SLOVAKIA	233%
POLAND	167%
ITALY	154%
HUNGARY	151%
PORTUGAL	126%
SPAIN	125%
FINLAND	101%
AVERAGE COUNTRIES SELECTED	100%
DENMARK	99%
NORWAY	95%
UNITED KINGDOM	93%
LITHUANIA	80%
GERMANY	78%
HOLLAND	73%
BELGIUM	72%
SWEDEN	60%
CYPRUS	54%
AUSTRIA	48%

Source: Berec. Eurostat and own elaboration. Data From 2011

The results of this study indicate that in Europe there is a broad differential between the countries selected. Slovakia makes an effort which doubles (233%) the European average in contrast with Austria, whose effort is only 48% of the average level. Considering Spanish consumers, they are above the European average, with a relative effort of 125% of the average effort of the countries studied.

Graph 5. Indicator of user effort to pay for voice telephony by countrySource:



Benec. Eurostat and own elaboration. Data From 2011

7.3. COMPARISON OF THE USER EFFORT
IN THE DIFFERENT "UTILITIES"

Table 9 compares the efforts in water, electricity and telephony services. The real effort that each consumer makes on acquiring a consumption unit of each "utility" is shown, referenced with the average of European countries with data available. Table 9. Indicator of user effort to pay for water, el ectricity and telephone by country

% Effort in relation to the average of countries selected			
Country	Water	Electricity	Téléphone
DENMARK	192%	88%	99%
SLOVAKIA	129%	145%	233%
GERMANY	124%	81%	78%
BELGIUM	117%	101%	72%
HUNGARY	111%	161%	151%
FINLAND	108%	72%	101%
UNITED KINGDOM	104%	90%	93%
AUSTRIA	100%	87%	48%
HOLLAND	99%	84%	73%
CYPRUS	98%	132%	54%
POLAND	95%	129%	167%
LITHUANIA	86%	114%	80%
NORWAY	85%	85%	95%
SWEDEN	77%	90%	60%
PORTUGAL	73%	91%	126%
SPAIN	63%	123%	125%
ITALY	40%	99%	154%

Source: Own elaboration. Data From 2011

It is concluded that in the European sphere there is a wide range of efforts for the three basic services studied. In relation to Spain, water is the public service whose relative effort is the furthest from the average of the countries studied. The level of effort is 63% of the average of these countries. The same indicator for the electricity service amounts to 123% and for telephony 125% of the community effort.

The comparative analysis shows that the current water prices in Spain are at a great distance from European countries and from the other "utilities". Consequently, the existence of a margin to increase water tariffs is again demonstrated.

8. COMPARISON OF THE EXPENDITURE ON WATER, ELECTRICITY AND TELEPHONY IN SPAIN

Below we transfer the comparison carried out in Spain to the autonomous communities.

The Household Budget Survey (base 2006), was taken. Published annually by the National Statistics Institute of Spain (2008), it provides information on the nature and destination of consumer expenditure and on different characteristics concerning the living conditions of households. We analyze the annual expenditure per consumer in the water, electricity and telephony services, the relative weight and the percentage of expenditure of the households of each autonomous community in the three basic services studied.

According to data from the 2011 Household Budget Survey, the average amount per person and year in the state overall for the water service amounts to 80 euros, the amount for electricity is 299 euros and the amount for telephony is 338 euros. Expressing these amounts in relation to the total expenditure on the utilities studied, the relative weight of the water service represents 11% of the total amount, the electricity service 42% and the telephony service reaches 47% of the total amount paid per person and year.

The detail by autonomous community is presented in table 10.

Table 10. Amount per person and year in complete water cycle, electricity and telephony by autonomous community

Autonomus Communities	Amount per person and year				Relative weight utilities		
	Water (complete cycle)	Electricity	Telephony	Total	Water (complete cycle)	Electricity	Telephony
Murcia	98	326	278	702	14%	46%	40%
Canary Island	93	242	337	672	14%	36%	50%
Balearic Island	85	371	404	860	10%	43%	47%
Valencian Community	85	331	320	735	12%	45%	43%
Madrid	83	290	379	752	11%	39%	50%
Catalonia	83	297	347	727	11%	41%	48%
Andalusia	82	314	317	712	11%	44%	44%
SPAIN	80	299	338	716	11%	42%	47%
Basque Country	73	275	381	728	10%	38%	52%
La Rioja	72	256	330	657	11%	39%	50%
Aragón	66	293	348	707	9%	41%	49%
Extremadura	62	311	292	665	9%	47%	44%
Asturias	58	270	328	656	9%	41%	50%
Navarre	58	277	366	700	8%	39%	52%
Castile-La Mancha	57	334	310	701	8%	48%	44%
Galicia	53	276	328	657	8%	42%	50%
Castile & León	52	263	337	652	8%	40%	52%
Melilla	41	196	253	491	8%	40%	52%
Cantabria	nd	273	334	607	nd	45%	55%

Source: INE, Household Budget Survey and own elaboration. Data From 2011. Refers exclusively to domestic consumption.

There are very significant differences in the basic services studied in relation to the autonomous communities. Murcia and the Canary Islands were the communities with the highest water expenditure per person, with over 90 euros per person and year. Galicia, Castile & León and Melilla were in the lower band, with an annual water expenditure of 53 euros, 52 euros and 41 euros per person and year, respectively.

In the other two basic services studied, the Balearic Islands are the community with the highest annual per capita expenditure, while Melilla has the lowest.

It is possible that the figures are not completely comparable, as they should be corrected by the purchasing power standards of each autonomous community but, in any case, they show that the weight of water in the per capita expenditure on basic services is not very significant and that in the highest case it only represents 14% of the total expenditure on basic services.

Analyzing the expenditure by household, we can observe the percentage of annual expenditure of the households allocated to the water, telephony and electricity services in 2011.

Table 11. Relative weight of water, electricity and telephony in the expenditure of households by autonomous community

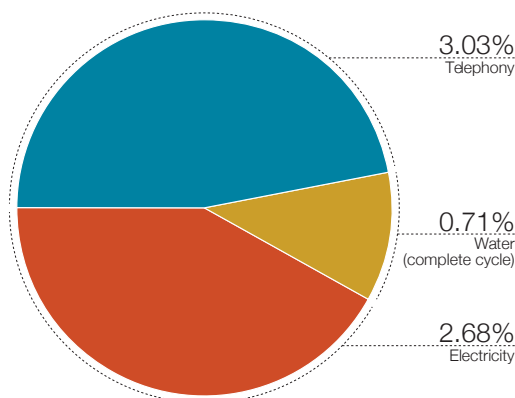
Autonomous Communities	Relative Weight on household expenditure		
	Water (complete cycle)	Electricity	Telephony
Canary Islands	1,02%	2,67%	3,72%
Balearic Islands	0,75%	3,26%	3,55%
Madrid	0,62%	2,16%	2,82%
Valencian Community	0,84%	3,27%	3,15%
Catalonia	0,68%	2,45%	2,86%
Andalusia	0,83%	3,18%	3,22%
SPAIN	0,71%	2,68%	3,03%
Basque Country	0,53%	1,99%	2,76%
Extremadura	0,67%	3,38%	3,18%
La Rioja	0,63%	2,25%	2,91%
Aragón	0,59%	2,63%	3,13%
Melilla	0,46%	2,17%	2,81%
Asturias	0,51%	2,37%	2,88%
Castile-La Mancha	0,59%	3,45%	3,20%
Navarre	0,45%	2,12%	2,80%
Galicia	0,50%	2,56%	5%
Castile & León	0,48%	2,44%	0,48%
Cantabria	nd	2,36%	nd
Murcia	1,02%	3,41%	1,02%

Source: INE. Household Budget Survey. Data From 2011

The water cycle represents from 0.46% (Navarre) to 1.02% (Murcia and Canary Islands) of household expenditure, amounts which are significantly different to the percentages of expenditure on electricity (minimum: 1.99% in the Basque Country; maximum: 3.45% in Castile-La Mancha) and on Telephony (minimum: 2.76% in the Basque Country; maximum: 3.72% in the Canary Islands).

Overall, in Spain the water service represents only 0.71% of the total average household expenditure. On the other hand, electricity and telephony represent 2.68% and 3.03% of total expenditure, respectively.

Graph 6. Relative weight of expenditure on utilities in Spanish households



Source: INE. Household Budget Survey. Data From 201

It is thus evident that the water service in Spain makes up a very small percentage of total household expenditure, especially if compared with other basic services such as telephony or electricity.

9. PAYMENT OF THE PUBLIC SERVICE BY THE BUDGET OF THE PUBLIC ADMINISTRATION: THE MONETARY ILLUSION

There are other services which, being considered of general interest, enjoy a mixed financing system, this being understood as a dual origin of financing: resources obtained from the sale of the service offered and also public contributions.

This mixed method of business financing is especially useful for newly created markets where the minimum private activity existing does not allow the survival of the activity by itself. This fact, which can be positive in the early stages, tends to generate inefficiencies and/or distortions of the market in the long term, there being several reasons for this: a) maintaining a market for which there is no real demand; b) maintaining inefficient operators which compete in a more favourable situation than with completely private operators; c) consolidation of inefficient business structures and practices and of services which receive a high public subsidy which implies the payment of services below their real cost, and d) lack of perception of the real value of the service by the end consumer, which implies inefficient patterns of consumption.

To demonstrate this aspect we selected the cost of public television in Spain.

In Spain there is a broad offering of public television, whether state or regional, as a result of the development of autonomous powers relating to culture. Thus, the RTVE group (the only state public television channel) began to broadcast in 1956, the regional television channels not beginning to broadcast until 1983 (ETB in the Basque Country in 1982, TV3 in Catalonia in 1983 and TVG in Galicia in 1985). Other autonomous communities subsequently launched their own television channels. Broadcasts by private operators did not begin until 1990.

The financing of public television varies significantly depending on whether it is state television, which is entirely with public capital, or regional television, which mainly has mixed financing, the public contribution being predominant.

Table 12 compares the cost of the complete water cycle with the cost of the whole of public television in Spain (state plus regional)

Table 12. Total cost of public television per inhabitant by autonomous community

(Euros)	Amount complete cycle inhabitant/ year	Total cost public television (habitante /año)	Cost public television vs complete cycle (%)
Balearic Islands	89,70	108,9	121%
Murcia	n/d	64,44	n/a
Canary Islands	92,30	60,74	66%
Catalonia	80,70	76,67	95%
Andalusia	76,10	72,96	96%
Extremadura	61,70	50,74	82%
Madrid	83,30	47,78	57%
Valencia Community	81,40	70,37	86%
Cantabria	44,50	22,59	51%
Castile - La Mancha	50,30	62,96	125%
Aragón	59,80	78,52	131%
Galicia	48,20	66,30	138%
Asturias	50,70	51,85	102%
Basque Country	65,30	103,33	158%
La Rioja	60,80	22,59	37%
Castile & Leon	47,00	22,59	48%
Navarra	49,40	22,59	46%
Melilla	56,30	n/d	n/a
Average in Spain	75,10	69,6	92%

Source: Analysis of Television in Spain 2010 (Deloitte), INE and own elaboration

It is important to stress the scarce perception of public opinion on the cost of the above-mentioned television channels for the overall administrations, which creates a false monetary illusion as the user does not make a direct payment, thus creating a false perception that there is no cost.

This aspect is especially important in a situation of scarce resources, as is the case of water. If the users do not pay directly for the service that they consume they do not perceive the value or the cost of the service, so they do not have any stimulus to consume it efficiently, and they perceive that it is going to cost them the same, independently of their consumption.

10. CONTRIBUTION OF THE URBAN WATER SUPPLY SECTOR TO THE REVENUES OF THE PUBLIC ADMINISTRATIONS

On being an activity which is highly regulated by the public administrations, an important contribution is made to the different public regulation administrations and organizations through complete water cycle management. This contribution is made in part through the water bill, therefore being a contribution paid by the consumer on paying the bill.

However, it should not be forgotten, and this will be developed specifically later on, that the contribution to the finances of the public administrations by the water sector is completed with the different tax burdens of the water supply companies and bodies.

As indicated above, the subscribers contribute to a large extent to the public finances whenever they pay their water bill, in so far as this bill includes items which are collected by the water operator or distributor body, but on behalf of the public administration, these items being separate from what strictly speaking constitutes water consumption.

This contribution is mainly made through the following items included on the bills:

- Rates and fees, whose main beneficiaries are the local and autonomous administrations.
- Consumer taxes, such as VAT, the proceeds of which go to the state administration and to the autonomous administration (50% of the tax yield generated in the territory of each autonomous community being assigned to it).

However, in some Spanish cities the public water supply service is also provided by a public administration under a direct management regime and

not by a public operator, which means that, in these cases, the whole water bill goes to this administration and not to a private company.

Indeed, the public water supply service can be provided in different ways:

- Under a regime of **direct management** by the public administration, whether its management is entrusted to the town council of the municipality or consortium of municipalities, or a private company but with fully public capital (normally, a municipal company).
- Under a regime of **indirect management** through a private operator, that is to say through a commercial company with private capital to which the competent public body for water regulation in this territory grants the administrative concession to provide the public service for a certain concession period and in a certain geographic area, or through a mixed-ownership company (in which the town council of the municipality in question participates together with a private operator or industrial partner which contributes its technical knowledge and its experience in the water sector).

For the purposes of carrying out a detailed analysis of what items on the water bill represent a real and direct contribution to the public administrations, we started from the composition of the water bill of the 15 Spanish cities analyzed above (Madrid, Barcelona, Valencia, Seville, Zaragoza, Málaga, Murcia, Palma de Mallorca, Las Palmas de Gran Canaria, Bilbao, Alicante, Córdoba, Valladolid, La Coruña and Granada).

We thus see that in cities such as Zaragoza, Bilbao and Madrid the public water supply service is carried out by the public administration itself (whether local, as in the case of Zaragoza and Bilbao, or regional, as in the case of Madrid).

Moreover, in cities such as Madrid, Seville, Málaga, Palma de Mallorca, Córdoba and La Coruña, the service is managed directly but through a municipal or regional company fully owned by the city council of these municipalities.

In other cities, such as Valencia, Murcia, Las Palmas de Gran Canaria, Alicante and Granada, the service is managed by means of a mixed-ownership company.

Furthermore, in cities such as Barcelona and Valladolid, the service is managed by a private operator under an administrative concession regime (both municipalities are managed by companies belonging to the Agbar Group).

Chart 1. Water supply service providers in 15 Spanish cities

Service provided public administration	Service provided by municipal / autonomous company	Service provided by mixed-ownership company	Service provided by private operator
Zaragoza	Sevilla	Valencia	Barcelona
Bilbao	Málaga	Murcia	Valladolid
-	Palma de Mallorca	Las Palmas de Gran Canaria	-
-	Córdoba	Alicante	-
-	La Coruña	Granada	-
-	Madrid	-	-

Thus, except in those municipalities managed either by a mixed-ownership company or by a private operator, in the above-mentioned cities 100% of the sum of the water bill is collected by the public administration, in its name and on its behalf.

Apart from these municipalities, though, that is to say in those in which the management or the service is fully or partially carried out by a private company under a concession regime, there are also items which, passed on to the water bill by the operator, go directly to the public administrations. This is the case of Barcelona, a city in which, although the service is managed indirectly through the private company Agbar, the water bill includes items such as the “sewerage network fee” ultimately collected by Barcelona City Council, the “water rate”, which is collected by the operator but on behalf of the Catalan Water Agency, and the “metropolitan waste treatment fee” which corresponds to Barcelona Metropolitan Area.

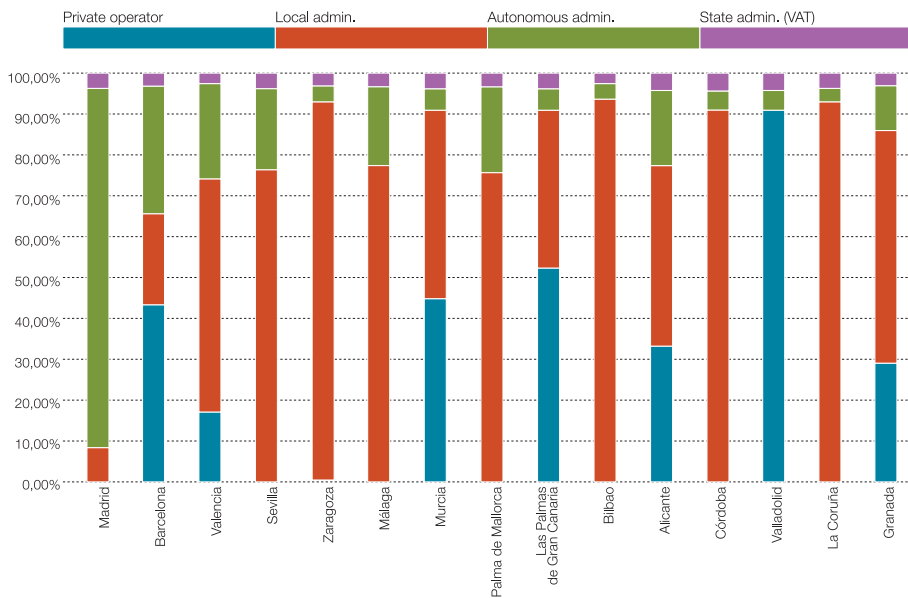
Likewise, in cities such as Valencia, where the service is managed by a mixed-ownership company, the water bill passes on the “sewerage network fee” (which corresponds to Valencia City Council), the “water rate” (which corresponds to the Generalitat [Autonomous Government] of Valencia), and the “fee for the provision of the metropolitan urban waste treatment and disposal service (TAMER)”, collected for the Metropolitan Waste Treatment Body.

In other cities such as Seville, Córdoba, Granada and Málaga, in addition to items similar to those already indicated, the water bill also includes a wastewater treatment infrastructure improvement rate, of interest to the Autonomous Community (Autonomous Government of Andalusia).

In all the cities mentioned, the water bill moreover includes the corresponding VAT, at a rate of 10% for the complete water cycle, and collected by the state administration.

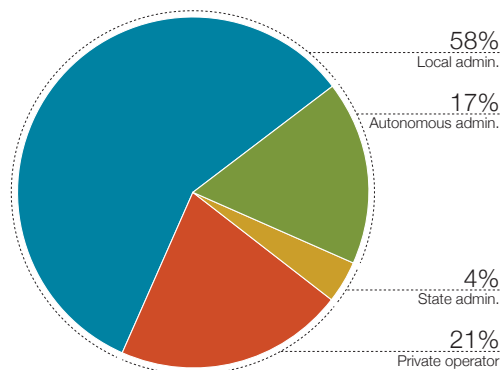
Table 13 shows the percentage contributed by the subscriber on the water bill to a private operator, or to the local, autonomous or state administration in each of the 15 cities analyzed.

Table 13. Contribution of the water bill to each complete water cycle agent



The data corresponding to the water bill of the 15 cities analyzed show an average collection by the private operator (whether a private company or a company in which it has a stake through a mixed-ownership company) of approximately 21%, the remaining 79% corresponding to the different public administrations (graph 7).

Graph 7. Collection of the water bill



As can be gathered from the cities analyzed, the amount collected by the public administrations on the water bill varies greatly in the different cities of Spain, where in some cases (such as Madrid and Zaragoza), 100% of the collection corresponds to the administration, while in others (such as Valladolid), 90% of the amount collected goes to a private operator.

As indicated in previous sections, it is not just the subscribers or end consumers who through their effort contribute to the public finances on paying the water bill, but also the operating bodies themselves make their contribution on paying tax to the tax authorities and by virtue of other not merely tax concepts.

Indeed, when granting an administrative concession for the management of the public water supply service, normally the company holding the concession has to pay the public body granting the concession a **concession rate**, which can take the shape of a single payment at the beginning of the concession period, or of a periodic (normally annual) rate to be paid throughout the validity of the concession. This rate is perceived by the granting public administration as remuneration for granting the concession, although there can be additional compensation, such as the obligation taken on by the concession holder to carry out investments or infrastructure improvement works and, in many other cases, to return the facilities to the public body at the end of the concession period. All this constitutes a direct contribution by the water sector (and, in particular, by the supply bodies) to the public administrations.

In the tax sphere, on granting the concession for the management of the public service, the body holding the concession will have to pay the **estate transfer and legalization of documents tax (for the transfer of assets against payment)**, taking as the tax base the amount of the remuneration paid by the operator to the public body granting the concession (by means of specific calculations, when it is a periodic rate), at a rate of 4% (which can vary from one autonomous community to another). This tax (called ITP-AJD) is assigned to the autonomous communities, which have the power to levy and collect it.

In the sphere of direct taxation it should be stressed that the profit of the water supply service operating companies is taxed at a rate of 30% under **corporation tax**, a tax accrued annually and levied by the state tax authorities.

Likewise, the water supply bodies, like any other economic agent, have to pay the annual **tax on economic activities**, a local tax payable on the performance of a certain economic activity, weighting the type of activity carried out and different production factors.

The water supply bodies also have to pay the annual **property tax (IBI)**, a local tax which corresponds to the town councils, levied annually on the ownership of property.

Likewise, on transferring urban property, the supply companies have to pay another local tax, the **tax on the increase in urban land value** (formerly known as municipal capital gains), levied on the increase in the value experienced by urban land subject to transfer. As a result of their activity, the supply bodies also have to pay the land and subsoil occupation fee (which is determined on the basis of 1.5% of the body's turnover), and the tax on buildings, installations and works (ICIO), which is determined as 4% of the execution value of the work.

Finally, it should be mentioned that the supply bodies also contribute to the **Social Security**, by paying contributions corresponding to the personnel on their payroll.

11. CONCLUSIONS

Household drinking water supply and wastewater collection and treatment for its return to the natural environment or reuse for other purposes have a cost.

The necessary adaptation to new regulations (the Water Framework Directive, the one referring to the quality of water for human consumption, groundwater, etc.), together with the relative scarcity in quantity of water resources, and the demands for greater quality, impose a significant transformation of the existing infrastructures and the creation of other new ones, which implies the need to make considerable investments and, consequently, an increase in the expense of water services.

Even though the improvement in the efficiency of the management of the complete water cycle services continues and has been generalized, through the development and introduction of new, more efficient, technologies and processes, the need to confront this increase in costs, together with the requirements of the Water Framework Directive to recover the costs through the tariff, inevitably leads to a scenario of necessary, and significant, increase in the prices of water in Spain over the coming years.

The question, therefore, is whether there is really any scope to increase the water tariffs in Spain. This study thus carried out a comparison of the tariff levels of different European countries based on the average tariffs of each state. This comparison was performed in terms of effort, according to the

purchasing power of the citizens of the different states. A comparison of the price of water was likewise carried out with the price paid and relative effort made by consumers in relation to other utilities (electricity and telephony services) in the same countries.

The study shows that the price of water in Spain is below the average of the neighbouring European countries and the price of other utilities such as telephony and electricity, and that, consequently, there is scope for a rise of the tariffs in Spain.

Over the coming years the competent Spanish authorities will thus have to tackle the need to increase the water tariffs. The alternative would be to continue subsidizing, to a greater or lesser extent, the water costs using the public budget. This is not, however, recommended at all given that the subsidies conceal the real cost of the water and the value of the service is not transferred to the users. This makes it difficult to raise their awareness about sustainable use of the resource, this being very important given the scarcity and unequal distribution of water resources in Spain. Furthermore, a subsidy using the public budget would aggravate the deterioration of the finances of the Spanish public administrations.

In order to undertake this tariff evolution, the Spanish public administrations with powers over the different phases of the complete water cycle will need to perform a substantial awareness-raising action among the citizens in order to highlight the cost of water, carrying out educational work and explaining the costs arising from the processes of catchment, drinking water treatment, distribution, wastewater collection and treatment, etc., in order to dispel certain misconceptions and generate social awareness.

This decision cannot be delayed as if this does not take place the problem is transferred to the future generations, who will have to confront an increasingly urgent situation of scarcity of water resources and their deficient quality, which will make it necessary to make robust investments to recover the environment and obtain water, undoubtedly at a higher cost.

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