

6 Small, Medium, and Large Companies in the Supply of Water in Spain (1840–1940)

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Introduction

The study of water supply companies confirms the importance that private enterprise has had in the development of public utilities. It also provides information on the types of companies that have emerged to provide these activities and the long-term evolution of the management model. In Spain there is no clear preponderance of the private or public sector in the management of local public utilities (Fernández 2009). For this reason, it is useful to learn about the emergence in the nineteenth century of those companies that would become major players in a sector that has expanded greatly both nationally and internationally (Larrinaga 2008).

In the same vein, several reasons bolster the importance of studying the history of drinking water supply companies in Spain. Firstly, there is the concentration of investment, both national and foreign, that these companies monopolised in order to commence their business activity (Matés-Barco 2002; Castro-Valdivia & Fernández-Paradas 2019, 2020; Martínez 2020). Secondly, the unique typology generated by this business phenomenon allows us to obtain knowledge of matters related to the History of the Company. Finally, there is the fact that these firms burst onto the scene throughout the nineteenth century and became highly prominent, while at the same time pursuing significant advances from a technological point of view. On the other hand, they moved within a legislative framework characterised by the appearance of management techniques such as *natural monopoly* and *administrative concession*, which have played a predominant role in the development of public utilities and in the improvement of public health (Núñez 2000; Matés-Barco, 2004 ; Ruiz-Villaverde 2013).

The historical perspective allows us to glimpse a changing policy on the management model of municipal services (Mirás 2006, p. 1). In the second half of the nineteenth century, the transformation that took place in public utilities had significant impacts that affected the economy and technological development. The study of the regulation of *administrative concessions* and the confluence of public and private interests are issues that illustrate the search for solutions to the problems caused by urban growth (Ferreira da Silva & Cardoso de Matos 2004, p. 3; Matés-Barco 2018b).

However, despite the importance of the sector, it has been one of the most forgotten by historiography. Within the analysis of public utilities, much attention has been paid to other sectors – especially electricity, gas, and trams – but interest in the business development of the supply of household drinking water has been side-lined. The reasons may be related to the linkage of those other sectors with banking – which has been much studied – and the large investments required for power plants and railways. In countries such as Great Britain, France, and Italy, there are abundant studies on the management of water supply services, both from the perspective of companies and municipalities, as well as with respect to the evolution of the sector itself.

Between 1840 and 1939, one can observe the creation of a significant number of private companies dedicated to the supply of water. After this period of expansion, a new stage (1940–1980) saw their progressive disappearance from the business panorama. Only a few companies resisted the interventionist policies of the successive governments of the time. More recently (1981–2012), there has been a resurgence of private management in the water supply sector, marked by an essentially integrative dynamic both vertically and horizontally. There are various reasons for municipalities to adopt this trend. Firstly, there is the existence of a dynamic that wishes to take advantage of the managerial and financial capacity of large private groups. Secondly, there is the strategy of breaking free from the power of the unions in public companies. Finally, there is the manifest desire to reduce local government and generate income for municipal treasuries (Bel 2006, p. 43; González-Gómez 2006, p. 142). However, in recent years, the call to establish legal norms that permit the “re-municipalisation” of these services has been heard once again in certain municipal spheres. As can be seen, the trend with respect to the management of this public service is cyclical and shifting. Some authors have called it a “to-and-fro process”.

In order to highlight the importance that private companies have had in the development of the sector in Spain, it may be useful to make a brief reference to the situation in other countries. In Western Europe, public management of the drinking water supply service predominates, and in some countries such as Austria, Denmark, Greece, Holland, and Luxembourg it is absolutely dominant. In others such as Portugal, Sweden, Italy, Belgium, Finland, and Germany, the management by private companies is negligible and almost irrelevant. This pattern is broken by France and Great Britain, where the presence of private water supply companies has a long tradition, to the point that in the first years of the twenty-first century the figures were 75% and 88% of the municipalities, respectively. On the other hand, in the United States, private ownership of this sector dropped throughout the nineteenth century. While at the beginning of the eighteenth century the predominance of private ownership was overwhelming, by 1915 only 31.4% of water supply services were in private hands, and by 2002, after decades of dithering, only 10% of U.S. municipalities had a privately-run water supply. (Bel 2006, pp. 78, 119 and 121; Matés-Barco 2013, 2019b).

This research has been based on abundant source documents that provide fairly complete information on these companies. Among these are the *Revista de Obras Públicas, Memorias y Estadísticas Diversas* (Journal of Public Works, Reports and Miscellaneous Statistics), the financial yearbooks, and the abundant documentation in the municipal and state archives. Likewise, the *Catálogo de Sociedades de abastecimiento de agua potable* (Catalogue of Drinking Water Supply Companies) presents an exhaustive study of the existing bibliography and detailed information on each of the 273 companies that appeared in Spain between 1840 and 1990 (Matés-Barco 1997, 2014).

In this chapter, after this brief introduction, the next section deals with the context of water supply companies in relation to other public utilities such as electricity. The third and fourth sections analyse the different types of companies according to the size of their investments. In the fifth section, a brief overview is made with respect to the notions of risk and uncertainty that existed in this business at the beginning of its establishment in the cities. Finally, some brief conclusions are drawn, and the sources and bibliography are included.

Public Utilities in Spain

In the second half of the nineteenth century, many of these companies emerged thanks to the investment of foreign capital, especially British, French, and Belgian (Castro-Valdivia & Matés-Barco, 2020). These investors contributed their knowledge, technology, and industrial material to the development of this business sector. As Fernández-Paradas (2009, p. 110) indicates, this phenomenon was not limited to water supply companies, but was the result of a trend that was occurring in some public utilities, most notably the railways and the first gas, tram, and electricity companies (Bartolomé 2007, p. 31).

To compare the size of the water supply companies with other sectors, the choice was made on the basis of the size of the investment (railways), their novelty and connection to urban services (electricity), and similarity in investment parameters (textiles). It is clear that the railway companies were at a very high level, which does not allow for any kind of meaningful comparison with water companies.

Electricity companies, despite being above the investment capacity of the water companies and being much more numerous, operated at a relatively similar level. Isabel Bartolomé (2007, pp. 30–35 and 103–107), has highlighted the continued existence of a significant number of small companies, most of which had equity of less than five million pesetas around 1925. She notes the existence of large companies along with other very small ones. In 1935, the basic resources of the standard electricity company did not exceed ten million pesetas. In any case, the upward trend of the electricity companies can be observed, thanks to the process of consolidation they were undergoing, while the water companies remained almost static during this decade.

The situation of textile companies was the same; although they enjoyed a slightly higher investment than water companies, their profile was almost parallel to them. For gas companies, Mercedes Fernández-Paradas (2009,

pp. 121–122) describes that there were more small companies and that their basic resources did not exceed five million pesetas. Among the large gas companies, which were in the minority, the differences in the volume of their resources were very noticeable and could range from 10 to 390 million pesetas.

This brief comparison shows that the water companies operated at a similar level to other industrial sectors and were fairly well established in the 1920s and 1930s, with very stable development in the medium term. In essence, it had become a sector that was not experiencing major shocks, where investments were coming in that were perhaps not very large – in comparison with other areas – but which ensured a certain subsistence.

The Large Companies

Were these water supply businesses large companies or were they more in line with the hesitant beginnings of small, family-run businesses? In order to understand the size of the water companies in context, and to glimpse the degree of integration that existed with the development of the company in Spain, the work carried out by Carreras and Tafunell (1994) has been used as a model. While the special attention that these authors dedicate to large industrial companies, banks, and insurance companies means that they do not include the performance of any water company, it does serve as a reference for this comparative analysis. In order to establish a basic classification, a division has been made in order to ascertain the size of the companies: (a) small, with a capital of less than 0.2 million pesetas; (b) medium-sized, between 0.2 and 1.9 million pesetas; and (c) large, with an investment of more than two million pesetas.

This segmentation was made on the basis of various criteria. The first is due to the fact that the data available for the first decades of the twentieth century have been taken as a reference, since it is the period in which the greatest number of water supply businesses were set up and can be considered the expansion years of the sector. The second refers to a better understanding of the business behaviour of other sectors, and therefore it is possible to establish the level at which the water companies operated. Finally, during this period there are better statistical inputs, allowing us to know the trends and progress of each company. These data make it possible to ascertain the average capital of a water company for a series of years; between 1922 and 1934, investment moved between 1.64 and 1.78 million pesetas, with a peak in 1930 that reached 1.93 million pesetas. For this reason, a company with more than two million pesetas in capital could be considered one of the largest in the sector.

In general, these water companies did not particularly stand out for their large size. The very structure of the supplies determined the existence of a wide variety of situations. Before 1880, it was common for small companies to emerge, even in the larger cities, as the practice of monopolies was not yet very well established; however, between 1881 and 1900, the appearance of companies of considerable size began (Villar-Chamorro et al., 2019).

The data on total assets refer for the most part to the most profitable and longest-lasting companies. Most companies had total assets of between four

and eight million pesetas at their peak in the 1920s. Of course, the two biggest companies in the sector, Aguas de Barcelona and Aguas Potables y Mejoras de Valencia, were much larger than this.

Between 1860 and 1899, a small number of large companies was established in the water market, but this occurrence took place very slowly. It is evident that the size of the town determined to a great extent the size of the company, and in Spain large cities were not very abundant. It is not easy to specify the level of investment per capita in the different towns since it did not meet uniform criteria. However, what is clear is that the growing demand, not only in terms of quantity but also in the quality of the service provided, encouraged the establishment of these companies. They were trying to reach an optimum demand point that would guarantee their viability over the medium and long term. Barcelona stood out because of the rapid and massive incorporation of private companies into the management of the water supply, but in Madrid the same effect did not occur; there it was the state that initially undertook the management of the service (Matés-Barco 2018a, 2019a). Until the twentieth century, the capital of the kingdom was an administrative city with little private enterprise. This situation explains to some extent the absence of private companies in the water sector. Private water supply companies emerged in Valencia and Alicante somewhat later than Barcelona.

The source documents show two companies at the beginning of the sector, Aguas de Morón y Carmona (1853) and Aguas de Jerez (1868), which were set up with 1.1 and 8.7 million pesetas of nominal capital, respectively. This meant an investment of 37 and 166 pesetas per inhabitant which, despite the differences between the two, were significant amounts. Comparing the nominal capital with the classification of the main public limited companies made by Carreras and Tafunell (1994, p. 92) for 1866–1867, the Jerez company would be approximately at number 33, on par with a solid group of insurance, finance, and gas lighting companies. It should be remembered that, of the fifteen largest companies, thirteen were railway companies, and water supply was a sector that was just beginning to emerge at this time.

In the last decades of the nineteenth century, 1870–1899, the existence of seven companies of this type is observed, which established themselves in the business thanks to the expansion and strong growth of the sector. In 1871, Aguas Subterráneas del Río Llobregat was created and in 1882 Aguas de Barcelona emerged. The latter company, which was backed by foreign capital, took advantage of a large number of small companies that had paved the way in the city and gradually absorbed them over the following years. Sevilla Water Works (1881) dates from this period and also made a significant investment: 8.7 million pesetas, making it the third largest company in the sector at that time. Somewhat later were Aguas Potables y Mejoras de Valencia (1890) and Aguas de Alicante (1898), with 7.5 and five million pesetas in capital, respectively. From these years, we must highlight the appearance of La Hondura (1898) in Puerto de la Cruz on the island of Tenerife, and Fomento Agrícola Castellonense (1888), which despite its name had among its objectives the supply of drinking water. Both companies stand out, the first for the

size of its investment, five million pesetas, large for a small island town; the second, with an investment of 1.1 million, is notable for its early combination of supplying water for domestic consumption and for irrigation.

There is a very significant peculiarity; the largest companies were concentrated in towns with more than 30,000 inhabitants and there seems to be a certain relationship with the rate of population growth. Except for Jerez and Seville, which had annual rates of less than 1%, the rest of the cities were growing faster than this, even at double that rate. The reason for this trend seems obvious; large companies were interested first in those cities with the greatest customer potential in order to take advantage of economies of scale. As can be seen in Table 6.1, the date of the establishment of companies in capitals such as Barcelona, Valencia, Seville, Alicante, Valladolid, and Santander are tangible examples (Matés-Barco 2006 and 2008d).

Obviously, the small and medium-sized cities were an interesting market in the second phase, once the best prospects had been developed. These towns, because of their size, did not require such a big investment as the previous ones. Furthermore, in the medium-sized urban centres, small entrepreneurs often emerged, interested in developing local businesses that did not require too great an investment. On the other hand, there was no tendency for these

Table 6.1 Large Water Supply Companies (1933)

<i>Company</i>	<i>Year founded</i>	<i>Municipality</i>	<i>Nominal capital (ptas.)</i>
Aguas de Barcelona	1882	Barcelona	40,000,000
Aguas Subterráneas del Río Llobregat	1871	Barcelona	10,000,000
Sevilla Water Works	1881	Sevilla	8,750,000
Aguas de Jerez	1868	Jerez de la Frontera	7,500,000
Aguas Potables y Mejoras de Valencia	1890	Valencia	7,500,000
Aguas de Alicante	1898	Alicante	5,000,000
La Hondura	1898	Puerto de la Cruz	5,000,000
Aguas de Ceuta	1911	Ceuta	4,000,000
Empresas Hidráulicas de Canarias	1933	Las Palmas	3,765,000
Omnium Ibérico	1902	Alcira	3,200,000
City of Las Palmas Water & Power	1913	Las Palmas	3,125,000
Arandina de Aguas Potables	1933	Aranda de Duero	2,562,500
Aguas de La Coruña	1903	Coruña	2,500,000
Aguas de León	1923	León	1,500,000
Hidráulica Santillana	1905	Madrid	2,000,000
Canal de la Huerta de Alicante	1907	Alicante	2,000,000
Suministro de Aguas Potables	1924	Tarrasa	2,000,000

Source: prepared by author with data from: *Estadística de la Contribución de utilidades de la Riqueza Mobiliaria* (1905, 1910, and 1915); *Anuario Técnico e Industrial de España* (1913), *Anuario Financiero y de Sociedades Anónimas de España* (1922–1970); *Anuario Financiero de Bilbao* (1930–1934)

firms to merge; urban supply was a very compartmentalised market with a clear predilection for each town to have its own company.

The balance sheet for the period 1840–1940 shows that it was not usual to find large companies involved in the water sector. In the total calculation they represent 18.08%. The period that saw the greatest appearance of this type of company was between 1868 and 1900, but from then on much of this trend faded away. In the first decades of the twentieth century, some companies were set up that can be included in this group, but their individual importance was relatively low compared to companies in other sectors.

Small and Medium-Sized Companies

In the large group of medium-sized companies, 46.8% of the total, it is difficult to establish criteria that mark the profile of this type of company. They were established in both large and medium-sized cities, and even in some small ones. The population growth rates were very diverse, but it can be seen that these municipalities became very dynamic nuclei. We can mention the cases of Linares, Motril, Cartagena, Reus, Córdoba, and Manzanares, among others. Despite the chronological differences, there was a tendency to set up these companies in the first decades of the twentieth century, once the potential of the sector had been identified.

Large companies were not interested in markets that lacked potential, and sometimes there were no local entrepreneurs with sufficient financial or technical capacity to devote themselves to water management. Nevertheless, companies emerged that came about through the contribution of a group of local people, as was the case of Aguas de Arteta in Pamplona. The low nominal value of the shares – 100, 75, 50 pesetas, and sometimes even up to 25 pesetas per share – and the company names they adopted such as “Popular Ovetense”, “Hijos de...”, “Viuda de...” show the local and family nature of these initiatives.

Most of these companies managed the service for many years. This data allows us to assume that the business had to provide a certain return or at least break even. Some of these companies, equipped with financial resources, managed to establish themselves and grow in the sector (Matés-Barco 2009). That would include Aguas del Canto (1923), which supplied Elda, and Aguas Potables de Barbastro (1905), which, despite having very limited initial capital, managed to keep their business operating for over fifty years. Table 6.2 includes the companies that can be considered medium-sized, according to the capital invested. At the beginning of the sector it was not a very numerous group, but it began to grow in the first decades of the twentieth century and became practically the most represented.

As for small companies, 35.1% of the total, their significance cannot be overlooked. Firstly, they have enormous aggregate importance as they form a considerable group in terms of the total number of companies established. Individually they did not contribute very much investment, but all together they were a force to be reckoned with. Secondly, these companies had the

Table 6.2 Medium-Sized Water Supply Companies (1933)

<i>Company</i>	<i>Year founded</i>	<i>Municipality</i>	<i>Nominal capital (ptas.)</i>
Aguas de Reus	1913	Reus	1,600,000
Aguas Potables de la Murtra	1927	Barcelona	1,600,000
Aguas y alcantarillado de Manzanares	1918	Manzanares	1,500,000
Servicios Públicos	1926	Madrid	1,500,000
Hidráulica de Villarrobledo	1926	Villarrobledo	1,500,000
Aguas y Fuerzas del Brugent	1927	Barcelona	1,500,000
Aguas de Almendralejo	1927	Almendralejo	1,500,000
Fomento Agrícola Castellonense	1888	Castellón de la Plana	1,400,000
Aguas de Morón y Carmona	1853	Morón de la Frontera	1,125,000
Acueducto Príncipe Alfonso	1912	Villanueva y Geltrú	1,113,500
Abastecimiento de Sabadell	1903	Sabadell	1,000,000
Aguas Potables de Valdepeñas	1923	Valdepeñas	1,000,000
Aguas de Huelva	1925	Huelva	1,000,000
Cartagena Mining & Water C. Ltd.	1889	Cartagena	750,000
Aguas de Ciudad Real	1919	Ciudad Real	750,000
Aguas Potables de Córdoba	1891	Córdoba	725,000
Aguas de Linares	1908	Linares	620,000
Aguas del Gévora	1878	Badajoz	618,000
Aguas Potables de Alcázar de San Juan	1908	Alcázar de San Juan	600,000
Acueducto Vilanovés	1912	Villanueva y Geltrú	600,000
Aguas Potables de Barcelona	1924	Barcelona	600,000
Aguas de Cataluña	1927	Barcelona	600,000
Aguas de Argenton a Mataró	1922	Mataró	552,000
Aguas de Motril	1902	Motril	535,000
Aguas Potables de San Felú de Guixols	1923	San Felú de Guixols	510,000
Aguas de Santa Bárbara	1887	Cartagena	500,000
Aguas del Tibidabo	1928	Barcelona	500,000
Aguas Yerem Tomás	1929	Masnou	500,000
Empresa Hidrofórica	1848	Reus	473,500
Andalusia Water C. Ltd.	1912	Algeciras	437,500
Aguas de Lugo	1905	Lugo	350,000
Aguas Potables de Barbastro	1905	Barbastro	300,000
Aguas de Tafalla	1914	Tafalla	300,000
Aguas Potables y Riegos	1923	Valencia	300,000
La Salud	1910	Castro del Río	282,275
Aguas Potables de Cádiz	1885	Cádiz	250,000
Urbanizaciones	1925	San Cugat del Vallés	250,000
Aguas y Mejoras de Alcácer	1928	Alcácer	250,000
La Estrella	1918	Villa del Río	234,250
Aguas del Canto	1923	Elda	225,000
Aguas de Denia	1870	Denia	200,000
La Fraternidad	1900	Martos	200,000
La Alameda	1909	Bujalance	200,000
La Constancia	1923	Espejo	200,000

Source: prepared by author with data from: *Estadística de la Contribución de utilidades de la Riqueza Mobiliaria* (1905, 1910, and 1915); *Anuario Técnico e Industrial de España* (1913), *Anuario Financiero y de Sociedades Anónimas de España* (1922–1970); *Anuario Financiero de Bilbao* (1930–1934).

capacity to adapt to markets that were not very expansive, possessed little economic dynamism, and were unattractive to large companies, but which demanded the provision of the service: small rural towns, isolated enclaves, etc. These companies played a significant role, since they facilitated the installation of a residential water supply in locations that would otherwise have taken many years to adopt this public service.

Small-sized companies began to spring up in small and medium-sized towns, thanks to the gap left by the large companies, which were more interested in focusing on larger markets with greater growth potential. These small companies emerged essentially at two times: in the early stages of the sector, between 1860 and 1890, especially in large towns but linked to the supply of a neighbourhood or a small area of the city; and in the early years of the twentieth century, once the potential of the business had been recognised and it had been observed that the large companies were not very interested in the small markets far removed from their radius of activity. In Table 6.3, companies with low levels of capital have been included. Their low investment capacity soon forced them to transfer their concession rights to other firms that could afford the costs of the first installations. These small businessmen were of little importance, and disappeared quickly, but the significance they had as precursors and forerunners of the water business should be emphasised. While their attempts were mostly in vain due to the high investments required for the supplies, they were pioneers who marked a clear path forward in the implementation of the service.

Before 1890, the best examples were the companies that appeared in Barcelona; numerous companies were registered in the *Registro Mercantil*, some with a capital of just 5,000 pesetas (Matés-Barco 2019a). These initiatives were a faithful reflection of the attempts by many small entrepreneurs to enter the water business, but also of their limited reach. Of course, this situation was repeated in other places in Spain with similar characteristics; companies with limited capital emerged in small communities, with few pretensions from local investors and a minuscule and shaky profile. Frustrated actions such as *La Aurora* (1846) in Madrid, which could not even come up with the guarantee bond, led to state intervention with the creation of the *Canal de Isabel II*. A similar situation can be seen in Valencia with the creation of *Aguas de Bufilla* (1848), and in La Coruña, with initiatives such as those of *Jean Bouchard* (1860) and *Luis Petit* (1863). The absence of large companies in this first stage can be attributed to the poverty of the Spanish economy, which was not able to take on the necessary investments for the acquisition of new technologies. Everything seems to indicate that the economic backwardness meant that the markets were very small, and that, since there were no large urban and industrial concentrations with sufficient demand to attract this type of service, it became very challenging to set up these companies (González-Ruiz 2013; Garrido-González 2015).

The cooperation and merging of many of these small and medium-sized companies would have provided a smoother entry into the water business, but the transaction costs involved in these agreements made that solution difficult to

Table 6.3 Small Water Supply Companies (1933)

<i>Company</i>	<i>Year founded</i>	<i>Municipality</i>	<i>Nominal capital (ptas.)</i>
Aguas de Aldaya	1909	Aldaya	190,000
Aguas Potables de Ripollet-Sardañola	1917	Barcelona	180,000
Aguas Potables de Palamós	1903	Palamós	157,600
Aguas de los Molinos	1923	Los Molinos	150,000
Aguas de Villafranca	1924	Villafranca del Penedés	150,000
La Crevillentina	1903	Crevillente	100,000
La Esperanza	1913	Segorbe	100,000
Hidráulica San Pascual	1914	Yecla	100,000
Agua Potable de Seo de Urgel	1918	Seo de Urgel	100,000
Aguas de San Pedro de Ribas	1924	San Pedro de Ribas	100,000
Citi, Aguas Subterráneas	1927	Valencia	100,000
Aguas de San Vicente de Castellet	1914	San Vicente de Castellet	90,000
Hidráulica Carpense	1923	El Carpio	90,000
Aguas de las Hortichuelas	1925	Berja	90,000
La Abastecedora	1927	Angulo	90,000
Aguas de Valmaseda	1898	Valmaseda	75,000
Aguas de Cangas de Onís	1913	Cangas de Onís	75,000
Aguas de Urduliz	1926	Urduliz	75,000
El Llano	1926	San Sebastián de Gomera	75,000
San Juan	1917	Lobosillo	50,000
Riegos de Moró	1926	Villafamés	50,000
Aguas Potables de Caudé	1927	Zaragoza	50,000
Sondeos y Explotaciones	1904	Las Palmas	47,500
Aguas Potables de Zamora	1868	Mazarrón	45,000
Los Cartagenos	1896	Cartagena	40,000
Aguas Potables de Santa Catalina del Monte	1887	Murcia	30,000
La Antisequía	1894	Elche	30,000
Aguas Potables de Callús	1925	Callús	30,000
Aguas Potables de Aspe	1927	Aspe	25,000
Aguas Potables de Guisona	1910	Guisona	20,500
Aguas Potables de Cáceres	1899	Cáceres	20,000
El Progreso de Cieza	1914	Cieza	2,000
El Carranchalet	1894	San Vicente de Raspeig	1,000

Source: prepared by author with data from: *Estadística de la Contribución de utilidades de la Riqueza Mobiliaria* (1905, 1910, and 1915); *Anuario Técnico e Industrial de España* (1913), *Anuario Financiero y de Sociedades Anónimas de España* (1922–1970); *Anuario Financiero de Bilbao* (1930–1934).

achieve. In addition, the inexperience of the entrepreneurs was compounded by the uncertainty inherent in the lack of knowledge of the business and the primitivism of the cooperative spirit. Large foreign investors or entrepreneurs more willing to invest ended up with many of these concessions. This process, which

was repeated in several cities – Barcelona, Cádiz, Seville, Jerez, La Coruña, and Alicante – is a significant example of the trend that prevailed in the early stages of the sector (Mirás 2004). When entrepreneurs discovered that it was actually possible to set up a profitable and stable business – during the final decades of the nineteenth century and the first decades of the twentieth century – and that the organisational technique of the *administrative concession* respected private management, nothing prevented Spanish developers from entering the sector to the full extent of their abilities. In any case, the dynamism of large cities like Barcelona continued to exert a very powerful draw on all types of companies, and it was common for the number of companies to continue to grow despite the presence of the largest company in the sector. The two small companies that emerged well into the twentieth century – *Aguas Potables de Barcelona* (1924) and *Aigües de Catalunya* (1927) – are clear examples.

In the large cities, and especially in the late nineteenth century, small companies did not have great potential for the future. These markets were very much in demand by the large companies, which quickly asserted themselves. Moreover, the pace of demand was growing very rapidly in these cities and small companies could not cope with the large investments that were needed in a very short time period. It was logical, therefore, that their role was merely anecdotal, as they were simply trailblazers without sufficient capacity to satisfy the market.

From 1900 onwards, however, the tables seem to have turned and there was a new flowering of small businesses, especially in smaller towns, which were unappetising markets for large firms. In these places, once the business was established, it does not seem that the future was particularly dark for small companies. During this period, companies emerged that settled in second- and third-tier towns: *Aguas Potables de Cieza*, *Aguas Potables de Tobarra* in Hellín, *Augusto Burgos* in Moguer, *Ramón Gorasabel* in Toro, *Aguas Potables de Talavera de la Reina*, etc. Even in the *Anuario* of 1930, for example, there were companies of this size that had been managing the water business for many years: *La Crevillentina* (1903), *Aguas de Denia* (1870), *La Antisequía* (1894), *Aguas de San Vicente de Castellet* (1914), *Aguas de Villafranca* (1914), *Aguas Potables de Barbastro* (1905), *La Fraternidad* (1900), *Aguas de Lugo* (1905), etc. In the end, these companies survived if there was no competition, otherwise they were doomed to vanish or be absorbed by a larger company.

In short, faced with the continuous failed attempts of other initiatives or of the municipal authorities themselves, in the late nineteenth century new companies began to emerge to deal with the problem of water supply. These were small companies promoted by some local leaders, which issued shares at a very low nominal value (25 or 50 pesetas), in order to attract small savers, and which included terms such as “cooperative” or “popular” in their company name as an expression of their local and family nature. In general, the small size of the companies was combined with a limited capacity for medium-term growth as they supplied small population bases. The progressive interventionism that was exercised on the sector limited its potential even more, to the point that the

only alternative that remained was to accept municipalisation, although in this respect they were not too different from other larger companies.

Risk and Uncertainty in the Water Business

Water utilities can be considered a low-risk, stable business and when well-managed they attracted the investment of the small saver. But if the differences between short-, medium-, and long-term risks are analysed in detail, it can be seen that the establishment of this type of company was not easy. The case studies show that these companies faced the type of risk existing in any business, which was generally related to the unforeseen events that occurred during the installation of the service (Knight 1921).

On the other hand, companies were often faced with low demand and serious difficulties in attracting new subscribers. The plight that the pioneering companies in the sector encountered when establishing themselves in a city was not uncommon. Theirs was a completely new service that the public was not used to paying for, and there was clear resistance from the neighbours to paying a fee. The introduction of new hygiene practices facilitated the extension of the water supply service, but the public was very slow to adopt them. Technical obstacles also generated uncertainty in this business; for example, there were often problems in finding sufficient water flows and the large capital investment required for the initial installation was challenging. However, once the business had been established in a city for some time, demand tended to increase, which ensured medium- and long-term profits. In other words, once consolidated, companies were usually able to survive and found no major impediments to managing the water supply over a long period of time (González & Núñez 2008, p. 300).

To limit the effects of possible risks, companies employed a variety of techniques. In the 1870s and 1880s, small companies often coped by limiting their initial investments as much as possible and practising a very slow growth policy. On many occasions this strategy was a failure because other more dynamic companies with deeper pockets ended up absorbing them and dominating the market. For their part, the larger firms, in addition to the strong economic backing they enjoyed, tended to make large bond issues in order to obtain resources and attract investors seeking a secure income and as a means of reducing risk (Núñez & Segreto 1994).

Once these problems had been solved, the operating risks over the medium-term were small, except for the so-called “institutional risk”, i.e. a change of attitude on the part of the public authorities which could make it very challenging for companies to operate, and which in the end proved to be insurmountable. A good example is the interventionist policies practiced from about 1924, which regulated the water supply service with tariff controls and the obligation to extend the supply to the entire population (Fernández 2007, p. 299; Mirás 2003, p. 41; Núñez 2004, p. 210).

On the other hand, there was a group of companies that lagged behind or had difficulties in offering a certain level of profitability in the short term. Slow growth in demand in some areas, supply difficulties, and the lack of knowledge

of the sector may have been the causes of their weak performance. In turn, the rise in industrial wages would help explain why the profit margins were low and the level of investment fell until the start of the twentieth century. Making these companies profitable involved a medium- to long-term approach since it was difficult for demand to grow immediately and automatically. It was necessary to break old habits and outdated supply models and to overcome the inertia and resistance among the population, goals that could not be achieved in months or even a few years.

The data available from some companies in their early stages – even if they are from the first years of the twentieth century – show slow but positive growth; only after several years – a decade or more – do the advantages of economies of scale begin to appear. A detailed analysis reveals an interesting fact: once the initial years had passed – with the attraction generated by a completely new product and the reactivation of the demand that came about starting in 1917–1918 – water supply was seen as a fairly profitable business from 1920 onwards. The enormous number of companies that were founded during these years is another good example of what has been said. The shallowness of the crisis of the early 1930s must be mentioned. Profits did not collapse during the Republic (Tafunell 1996, p. 40), as might be assumed. In fact, the supply of water was a very stable business once it had been consolidated, due to the inelasticity of demand and the existing monopoly on supply. An example of this is *Aguas de Arteta* (1893), which despite its rocky start, was earning profits in 1930 and paying a dividend of 9.5%.

In this context, one can understand why some companies diversified their business activities and attempted to make the supply of drinking water compatible with other undertakings. This strategy was prompted by the uncertainty that existed in the early stages of the sector, when it was not clear whether selling water to households would be profitable. For this reason, the interest in the production and distribution of electrical energy was combined with the digging of wells for irrigation.

To sum up, there was an initial period, 1900–1917, in which water supply companies established and stabilised themselves. Then came the years of maximum expansion and the highest levels of profit, between 1918 and 1936. From a more general perspective, Tafunell (1996) speaks of another major disruption that occurred during the years of the First World War. From 1915 to 1918, there was an explosion in profits, which to a large extent was to be rolled back by inflation.

The growth of the sector in the 1920s shows that there was no lag between investment and profits. Moreover, the rise in investment was significantly stronger than the rise in profits. A hypothetical explanation for such a peculiar phenomenon may be that the sensational investment boom of those years was financed in part by profits accumulated during the First World War (Tafunell 1996, pp. 46–47). After the hiatus of the Spanish Civil War, between 1940 and 1955, almost all companies experienced a downward trend in profitability, which led to the municipalisation of many of them. From that moment on, the surviving companies experienced a clear recovery in their performance,

thanks to Spain's economic development and increased demand. This sparked a strategy of business takeovers led mainly by *Aigües de Barcelona*, which over these forty years had become the representative figure of the private sector: "He who resists, wins".

Conclusions

Private water supply companies played an important role in the late nineteenth and early twentieth centuries. Their establishment in the different regions coincided with the urban and industrial map existing in those years in Spain. The relationship between regions with strong urban or industrial growth and the establishment of drinking water supply companies is evident.

Catalonia, Andalusia, Valencia, and Murcia were the regions with the highest concentration of companies, both in terms of the number of companies and the amount of capital invested. The majority of their employees were located in three areas: Barcelona, Alicante, and Valencia, which accounted for the largest number of companies, while in Andalusia they were more spread out due to the region's urban structure. The most industrialised areas, such as Catalonia, which experienced strong demographic growth, received a large proportion of the investment initiative. A similar story played out in Basque Country, although to a lesser extent, given that the scale of the investment in Barcelona frustrates any attempt at comparison.

Andalusia represented a region with strong urban roots and a great need for water, and this was one of the important areas where a significant number of companies took root. Above all, they were seeking the demographic market offered by the agro-towns and the mining areas, both very important in this zone. This region did not cling to a model in which private enterprise predominated and by 1950 the existence of municipalised services was already detected. The localities that still had private water companies at that time were small and rather inconsequential. On other occasions, the municipalised service and the concession to a private company coexisted in the same city, which over time ended up being absorbed by the municipality.

Overall, the capital invested in Catalonia and Andalusia stands out from that disbursed in other areas of the country. The Valencia region benefitted from its dual nature, on the one hand as an enclave of important agricultural cities, and on the other, for being the third most industrialised region of the country. In addition, the coordination of the domestic water supply with the search for water for irrigation played an important role in the development of this sector in this area of the Mediterranean.

In the rest of the regions – Aragon, Asturias, Balearic Islands, Extremadura, and La Rioja – the entrepreneurial initiatives were characterized by being small entities that emerged between 1870 and 1900, that is, in the early stages of the sector. All of them began with minimal capital, had the attraction of belonging to a virtually uncharted sector, and were the result of the dynamism of small entrepreneurs willing to embark on projects that were novel in the late nineteenth century.

The business of supplying drinking water had its own characteristics that distinguished it from other economic activities: a regulated sector, a natural monopoly, and the establishment of tariffs by the town councils. These particularities determined the way in which the private water companies operated in the late nineteenth and early twentieth centuries. For example, the companies were faced with excessive market control and displayed a certain diffidence in the face of competition. As time went by, the predominance of large companies was the rule. At the same time, small companies gradually disappeared, sometimes because of the successive takeover processes they underwent and, on other occasions, because of the municipalisation policies of local councils.

Small-, medium-, and large-sized companies were the result of the investment actions of foreign companies in Spain, but we cannot ignore the role played by a good number of entrepreneurs, developers, and local community leaders who saw the water business as an important market niche. Despite the economic crises and political ups and downs, some of these companies have endured over time, a fact that shows that they had relatively secure profitability and stability.

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