

Public versus Private in Municipal Services Management

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ABSTRACT Recent years have seen Spain and many other developed countries move more and more into outsourcing public service management on the grounds that production costs are higher in the public sector than in the private. However, there is often no empirical support that this is always the case. This paper shows that the private sector is not always more economical or better managed than the public one and, to the best of our knowledge, such a study had never been made in Spain. It draws on a survey by the Spanish Court of Auditors for a sample of municipalities, which analyzes public services like drinking water supply, street lighting, street cleaning and urban solid waste collection. Only in the case of lighting is private management cheaper and more efficient, although in larger municipal populations the opposite is true.

KEYWORDS: • municipal public services • outsourcing • public management

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1 Outsourcing management of public services

Traditionally, there have been two ways of providing public services: publicly or through outsourcing, with some combined solutions ranging from purchasing materials from the private sector while employing public workers and resources, to the contractor company's performing the whole service and directly charging citizens. Public production uses public resources (basically employees and capital) and its main advantage is that the public sector maintains control over all aspects of the service in terms of quality and quantity. The problem arises when the public activity receives criticism about efficiency issues. However, this can only be confirmed through empirical studies that support or reject the widely accepted hypothesis that the cost of public production is higher than that of the private. This paper, in contrast, shows that in Spanish municipalities it is the opposite.

Outsourcing occurs when the public sector contracts the private sector to produce public goods and supply services, even when the responsibility for that service falls to the public sector. Outsourcing to private businesses is also known as privatization, taken in the wide sense of "transferring to the private sector the supply and production of services supplied by public administrations" (Rosen, 2002: 66).

What characterizes outsourcing is the opening up of a set of activities that were previously immune to any such action (Domberger & Jensen, 1997). Public administrations hand over activities, which previously had been handled monopolistically, to the competition, and the firm that puts in the best offer gets to run the service. There have been three major factors when deciding whether to outsource the supply of a public service: budget, transaction costs and political arguments.

A number of studies have been performed to ascertain whether outsourcing means a saving in public budgets, with most of them concluding that outsourcing has proved to be more efficient than public production. However, a widespread criticism leveled at the studies is that data refer to individual cases from which it is no straightforward issue to draw any general, categorical conclusion that confirms the lowest cost option in any situation and for any public service. This argument, while valid, is flawed because often one is not seeking an absolute truth which is applicable in all circumstances, but simply recording the mean differences that exist between public and private costs. Analytical meta-analysis proves highly useful here, as it covers a multitude of empirical studies using different samples and different statistical techniques with a single framework and allows general conclusions to be inferred. Hodge (1998) applies this technique to 28 international studies on between 1974 and 1994, concluding that private costs are 8-14 % lower than public ones. Another example is Domberger & Jensen (1997), who report that the most frequent saving in costs is between 10 and 20 %. On the contrary, Bel et al. (2010) conduct a meta-regression analysis of 27 econometric studies from 1965

to 2010 examining privatization for water distribution and solid waste collection services and find no systematic support for lower costs with private production.

When considering the causes behind reduction of costs, most papers cite the fact that private companies are in competition, while the public sector enjoys a monopoly situation. Traditionally, public or private ownership of the organization had been the leading explanatory variable for the difference in costs, but the evidence now is that “public versus private is of importance, but competitive versus non competitive is usually more so” (Donahue, 1991: 114). Through an examination of various empirical studies, Domberger & Rimmer (1994) conclude that the key factor in cost saving in the provision of public services lies in subjecting the service to competitive tender. In the United Kingdom, the *Local Government Act* of 1988 forced local authorities to put up for competitive tender waste collection, street cleaning, cleaning of buildings, cleaning and provision of social services meals and maintenance of council sports, leisure facilities and vehicles. These tenders covered fixed intervals and were subject to common indications throughout the land. Several papers (Szymanski & Wilkins, 1993 and Cubbin et al., 1987) report that the saving in costs deriving from the tender was around 20 %, but in many cases due to a reduction in staff costs, something that would be difficult to apply in Spain, where legislation is often less permissive (de Mesa, 2002).

Elsewhere, the existence of a sufficient number of firms in the relevant public service area is also an incentive for outsourcing, in that it reduces the risk of the public entity's ending up depending on the contractor company, after abandoning its productive structure. If few companies put in a tender, the company awarded the tender may then demand further negotiations, safe in the knowledge that the administration has limited alternatives.

Sometimes it has been claimed that one reason for the scarce competition is that the subject matter of the procurement is too large, meaning that only big firms can tender. In this respect, the OECD (1997) recommends that suitable packages are designed, dividing up some tasks and grouping together others in order to maximize the number of firms interested in the bid.

Another possible explanation for cost savings (McGuire et al., 1987; Ferris & Graddy, 1991; Nelson, 1997 and Lopez de Silanes et al., 1997) is the greater work flexibility in companies; it is not normal for administrative bureaucracy to link salary to efficient task completion.

Companies can also adapt their dimension and business volume and so, minimize the average cost of production over the long term, which is difficult to achieve in public administrations.

Several authors (Kodrzycki, 1998 and Lopez de Silanes et al., 1997) empirically show that budgetary strains (growth of public deficit and financial burden) and taxation (high tax load per inhabitant) have been the main causes behind outsourcing, due to the need to reduce costs. Others, however, (Nelson, 1997; Boyne, 1998 and Bel & Miralles, 2001) find no statistical evidence on this issue. In any case, there is no doubt that limits on indebtedness are a weighty reason to search for innovative solutions when providing public services, such as outsourcing.

In spite of the likely savings achieved through outsourcing, the transaction costs may be a problem. These include the value of the public means (work and capital) required to perform the administrative tasks regarding outsourcing. This includes the use of a large amount of productive resources, which may attenuate the gains in efficiency that outsourcing provides. The costs of negotiating, implementing, monitoring, and enforcing contracts are higher when services have outcomes that are difficult to measure and when services require asset specific investments that increase the likelihood of monopoly markets. In such cases, the contract management costs and the heightened risks of failed contracts may outweigh its potential benefits (Brown & Potoski, 2005).

Therefore, the transaction costs must be compared against the savings in order to ascertain whether, as a whole, contracting a public service generates a gain or a loss in efficiency. For example, Walsh & Davis (1993) found that costs for local authorities when preparing a tender for cleaning, waste collection, catering and vehicle and land maintenance accounted for 1,8 % of the total contract value.

Besides searching and selecting the company to be contracted, another transaction cost is the administration costs of drawing up the contract and of overseeing. This latter aspect is essential since, otherwise, the maximization of profits that guides private business would lead to diminished quality or quantity of the service provided as a way to diminish the production costs. According to Dnes (1995), for a concession to be satisfactory, the contractual design, the tendering process and service performance overseeing are essential. The *Audit Commission* (1995) concludes that the cost of overseeing rarely surpasses 3-4 %, while savings can be as high as 20 %.

Lastly, observation of real contracting experiences shows that political factors need also to be considered. Outsourcing means political parties hold less sway over staff and less influence when purchasing supplies, with the subsequent loss of pork barrel politics. Transparency in public administration reduces the possibilities of pork barrel politics and, consequently, increases the possibilities of a public body opting for outsourcing. Nevertheless, this transparency can sometimes lead to what has been called “the flight from administrative law” with the creation of public laws and bodies with less restrictive regulation. Transparency measures and

lack of party politics can generate a higher risk of pork barrel politics, since decentralized management is normally subject to lower control and accountability.

Furthermore, the trade unions have, traditionally, been against outsourcing, mainly on the grounds that abandoning internal production leads to the public workers being laid off. However, the private company will usually take on the staff of public workers for the service contracted and, moreover, will maintain their salary conditions. Therefore, union opposition to the outsourcing is meaningless most of the times.

As for the ideological factor, left-wing parties are commonly associated with public production, while right-wing parties with privatization (Picazo-Tadeo et al., 2012). However, Christoffersen & Paldam (1998), Reimer (1999), Warner & Hebdon (2001), Bel & Miralles (2001) and Bel et al. (2010) report that this assumption is not significant in regressions, thus they conclude that outsourcing obeys, above all, pragmatic considerations.

2 Outsourcing of public services and new public management

Outsourcing of public services has in recent years been performed within a wide reform of the public sector. The arrival of competition in non core activities of Public Administration is part of the set of initiatives known generally as New Public Management (NPM). Notwithstanding the absence of agreement on the definition of NPM (Ferlie et al., 1996), we can say that NPM is the process which seeks to reduce or eliminate differences between the private and public sector, replacing bureaucracy by market mechanisms and reinforcing accountability of management results.

The process has been introduced in many western countries in recent years (Hood, 1995), and, according to this author, it takes in 7 elements:

- a) A greater disaggregation in favor of business units.
- b) Greater competition between the public and private sector.
- c) Greater use by the public sector of business-style management.
- d) Fostering of discipline and austerity in the use of resources.
- e) Greater management experience.
- f) More explicit management evaluation measures.
- g) Control of public organizations according to pre-established output measures.

For a deeper consideration of the main features of NPM philosophy we follow Montesinos & Gimeno (1998):

- Deregulation. Suppression of rules (administrative law) that excessively condition agile management of public resources, substituting these for clearly stated, quantified objectives whose degree of achievement can be measured. This aspect is related to the following one.

- Decentralization. Decentralization is the assignation of more specific objectives with a more operational perspective and the capacity to carry out more effective control. Setting up smaller agencies or public entities with more flexible regulations and which are subject to market logic is the most suitable tool for carrying out decentralization.
- Customer orientation. Attention is placed on the customer, the real user, with the emphasis on total quality. As well as being customers, the citizens are “principals” in an agency relation, for democratic reasons (as the final custodians popular sovereignty) and for financial ones (as taxpayers).
- Emphasis on management responsibilities and motivation for improvements. If the above objective is to be met suitable decision systems must be established that allow assignation of responsibilities at different levels. Only with a system designed according to responsibilities can we properly talk of establishing incentives that stimulate improved management, which currently discouraged in traditional bureaucratic set-ups.
- Introduction of competition and the market. The absence of competition is seen as one of the main causes of deficiency in public services. Hence, introducing market mechanisms is a major concern in new public management, not only in the case of services that can be assumed by private initiative, but also as a reference for the pure public services.
- Methods of evaluation and management techniques. All levels of public management should be periodically evaluated: policies, systems functioning, performance of those in charge, impact of measures on citizens, efficiency in the use of resources, etc.
- Reorganization and involvement of public function in management and reforms. Civil servants must be involved in reforming public management, since they are the main inputs and the direct providers of public services.

According to OECD (1995), the sequence of the reforms proposed by NPM has been: deregulation, reduction of public expenditure and restructuring of administration systems, accompanied by changes in accounting techniques. However, the degree of introduction does vary among the countries (Lapsley, 1999).

Guthrie et al. (1999) analyze the evolution in several countries of the NPM financial axis, referred to as *New Public Financial Management* (NPFM). NPFM comprehends a series of financial reforms that are produced as a result of following NPM philosophy:

- a) Changes to the financial information systems, fostering financial reports using on accruals basis and entrusting the issue of regulations to professional accounting bodies.
- b) Development of market oriented management systems and structures for the provision of public services, with the emphasis on management of the

treasury and on contracting-out. Johnstone (2002) provides an empirical analysis of contracting-out in Australia and Great Britain.

- c) Development of financial and non-financial management indicators.
- d) Decentralization or delegation of budgets, together with the integration of financial accounting and management systems.
- e) Changes in external and internal auditing, with measurement of the efficiency and effectiveness (*value for money*) of the public services.

In the context described above, decentralization and outsourcing of services clearly occupy an important position among countries that are carrying out improvements in efficiency and economy in their public sector (Valdivieso, 2001). However, in recent years, some public services are returning to be provided in-house, because of wrong service provision of contractors and high price paid by users. For example, in 2012, 40 French municipalities took back public control of water service, including major cities such as Paris, Bordeaux and Brest. In other cases, reviews of the contracts have revealed exceptional profits, and municipalities have negotiated large rebates or price reductions with the companies, but without taking back public control. The same happened in Buenos Aires, Berlin and in many Hungarian municipalities.

Our study compares the management of four public services that municipalities have to provide according to legal requirements, regardless of their population. We show that in most cases, public management is cheaper and more efficient than private provision, which supports the idea of the benefits of remunicipalization.

3 Types of municipal public service management in Spain

Spanish government is organized into three levels: State Administration, Regional Administration and Local Government, being the last one the closest to citizens. It consists mainly of Provinces, Municipalities, and Islands (Territorial Local Authorities, whose existence is necessary or imperative).

The municipality is the basic element of the territorial organization of the State. Being the closest entity to citizens, it immediately serves as a channel for participation in public affairs. The governing body of the municipality is the City Council that comprises the Mayor and the Councilors.

Municipalities should provide a series of basic services depending on their population:

- All municipalities: public lighting, cemeteries, waste collection, public cleaning, drinking water supply, sewer system, access to urban areas, road surfacing, and food and drink control.

- Municipalities with more than 5,000 inhabitants: public parks, public libraries, market, and waste management.
- Municipalities with more than 20,000 inhabitants: civil defense, social work, fire safety, and sports facilities for public use.
- Municipalities with more than 50,000 inhabitants: urban passenger transport and environment protection.

Table 1 shows the total number of municipalities by population in December 2013.

Table 1: Number of municipalities by population

Number of inhabitants	Number of municipalities
>1,000,000	2
500,001 to 1,000,000	4
100,001 to 500,000	57
50,001 to 100,000	82
20,001 to 50,000	253
5,001 to 20,000	922
1,001 to 5,000	1,924
<1,000	4,872
Total	8,116

Under the principle of self-organization management, the municipality can choose the way public services are provided: direct or indirect management.

In **direct management**, the service is provided by the administration with its own structure and organization, either centralized or decentralized through a legal entity (for example, autonomous organizations, public companies or public foundations). By contrast, in **indirect management**, the administration is entrusted to an external entity.

Table 2 describes the main characteristics of each indirect management modality of municipal public services.

Table 2: Characteristics of indirect management modalities of municipal public services

Type of management	Description
Concession	Public administration commissions a company, normally after a public tender, to build, finance and exploit an asset for the duration of the contract. The private company is responsible for directly charging the final consumers, which are not public

	administrations, for the use of the services related to the asset. In these agreements most of the private company's income comes from the direct provision of the services.
Interested management contract	The Administration and the company share the profits of the exploitation of the service in the proportions established in the contract, which specifies the compulsory nature of the management and, especially, the responsibilities of the company. The distinction with <i>concession</i> is that the Administration collaborates in providing the service (often providing an important part of the installations) and profits are shared between the local entity and the company (which perceives remuneration for the work carried out). A further distinction lies in the fact that the risk is assumed by the local entity, so it could be understood as a kind of direct management. This type of management is seldom used.
Agreement	The local entity contracts a public or private company to provide the public service, when the entity is already providing this or a similar service. The entity maybe within or outside the territory of the local body and maybe another local body. No new legal entity is created, rather the contracted company performs the service commissioned by the Administration.
Lease contract	The local body leases out the necessary means (for example, markets, sports installations) for a private company to be able to provide the service. Unlike a commission, in which the concessionaire receives authorized rates (the concessionaire's income), the lessee performs the service in return for payment, and the municipality charges the users for the service.
Joint enterprise: companies whose capital is partially owned by the municipality.	Local Administration holds some share in the entity performing the activity, as established in the relevant articles and deeds.
Metropolitan areas	Non territorial local entities made up of municipalities with large urban concentrations and strong economic and social ties.
Supramunicipal entities	These are entities legally created by the Regional Governments within their own territories which group together several municipalities. The aim is to manage common interests of the member bodies or to provide services within their area.
Association of municipalities	Voluntary association of municipalities to jointly perform works and services.

Consortium	Entities of separate legal identity that manage public services according to the powers delegated to them by the participating administrations. In a local Consortium there may be public administrations and non-profit private entities.
Cooperation contract	This covers activities of a technical, economic and administrative cooperation between the three public administration levels (local, autonomous and central) in both local services and matters of common interest. These agreements can also be signed to collaborate in the realization of works or provisions of services to the State. The agreement is signed among public and private bodies. A company is established, with the whole capital held by public bodies, but none of them holding the majority.
Foundation	Trusts may be set up by physical or legal persons and the latter may be of a public or private character. At the same time, trusts set up by local bodies may directly or indirectly carry out commercial or industrial activities through limited liability commercial companies.
Entities receiving municipal subsidies	Municipalities may opt to foster private activity through subsidies or agreements regarding the service to be provided. This is not envisaged as indirect management, although in fact the economic consequences are similar to other types considered above. Financial support may be directed towards public or private entities (usually non-profit ones) so that they can provide specific public services.

4 Analysis of some of the compulsory municipal public services

As stated earlier, one of the main reasons to outsource municipal public services is to save costs. However, a survey conducted by the Spanish Court of Auditors for municipalities below 20,000 inhabitants shows that this does not hold for most cases. Moreover, using a set of management indicators, this survey finds more efficiency in services directly provided by public administration, compared to private provision. The sample in question was made up of 584 municipalities, 255 of which had populations below 1,000 inhabitants and 329 had between 1,000 and 20,000, which means the findings are sufficiently representative. Data refer to 2011 and the services analyzed were household drinking water supply, street lighting, street cleaning and urban solid waste collection. To the best of our knowledge, this is the first study on this issue in Spain.

4.1 Municipal water supply

This public service is one of the stages of the integral water cycle, which takes in collection, purification and distribution as well as collection and treatment of waste waters. Household supply is the most important, although there are other uses such as farming and industry, municipal use and specific groups supply.

With regard to cost, the survey sought information, in cases of direct management, on expenses relating to staff, current goods and services, financing and amortization of equipment as well as indirect costs in the provision of the service. In cases of private provision or provision by a directly dependent entity, information was sought on the cost of the provision of the service for the council.

Out of the 268 councils that provided this service in-house (or through dependent entities), 85% provided information about their direct costs, although only 15% provided their indirect costs and 25% their amortization costs. Given this deficient information, our analysis takes only direct costs, excluding amortization.

Furthermore, of the councils that outsourced the service or those who performed the service through association of municipalities or consortiums, only 34% gave information on the cost for the council. In councils where the service was provided by a supramunicipal or sub-municipal entity (entities of a territorial nature inferior to that of the council), the figures were 37% and 20% respectively. This shows the scarce knowledge municipalities have on services costs.

Table 3 shows the water service provision modes depending on municipalities' population. We distinguish direct management, concession/agreement contract, association of municipalities/consortium, supramunicipal entity or sub-municipal entity.

Table 3: Type of water service provision (%)

Population	Direct Management	Concession/ Agreement	Association of municipalities/ Consortium	Supramunicipal entity	Sub-municipal entity
1 to 1,000	61	21	10	3	5
1,001 to 5,000	47	39	11	2	1
5,001 to 20,000	21	64	12	3	0
TOTAL	48	36	11	2	3

48% of the councils directly provide water. 36% outsource the service and 11% provide it through an association of municipalities or consortium. Finally, just 5% provide the service through a supramunicipal or sub-municipal entity.

Some differences appeared when clustering by population, since 61% of the smallest municipalities provided directly the service. However, 64% of the largest councils chose to outsource the service.

The annual average cost per inhabitant was 46.83 euros for the whole sample. This figure varied significantly according to the population, being above average in either the smallest and largest municipalities. However, in municipalities between 1,000 and 5,000, the cost was 5 points below the mean, as is shown on Table 4, which details the cost per inhabitant for each population bracket.

Table 4: Average cost per inhabitant of municipal water supply (euros/inhab.)

Average cost per inhabitant	Direct Management	Concession / Agreement	Association of municipalities/ Consortium	Supramunicipal entity	Sub-municipal entity	Total
1 to 1,000	50.20	64.45	39.13	45.34	37.22	50.58
1,001 to 5,000	37.26	49.37	69.73			41.23
5,001 to 20,000	46.69	51.77	81.31			52.18
TOTAL	44.10	53.67	63.06	45.34	37.22	46.83

Cost analysis by supplier showed differences according to the population. In smaller municipalities the service was more economical through an association of municipalities or consortium, while this proved dearer in larger populations. Similarly, in smaller municipalities, outsourcing was more expensive with the cost falling for larger population municipalities.

Information on this service was also obtained for the following indicators: losses in supply; investments made by councils to maintain and improve networks and the number of employee hours devoted to provide the service.

Table 5 shows the percentages of losses in the supply of water according to the type of management. In both cases an indicator is included of the average investment made by councils in maintenance and improvement of the infrastructures needed to provide the water supply service.

Table 5: Losses in the supply of water according to type of management and average investment per inhabitant

Type of management (1)	Average losses of water supplied (%)	Average investment per inhabitant (euros/inhab.)
Direct management	20	11.55
Concession/ Agreement	26	9.76
Association of municipalities/ Consortiums	26	7.00

Supramunicipal entity	28	14.35
Sub-municipal entity	-	-
TOTAL	24	10.20

(1) Figures refer to the total amount of unregistered water, i.e. apart from leaks, breakages and failures, they include the volume of unregistered water due to estimated consumptions, measurement errors, fraud and other causes.

In terms of employees in the provision of the service, it is obtained an average of weekly hours work for staff working on providing the service by population bracket and for each of the types of management.

The average number of hours per week was 19.15 and, in general, was proportional to the number of inhabitants in all management types.

Table 6: Average weekly hours devoted to water provision

Population	Direct management	Concession/ Agreement	Association of municipalities/ Consortium	Total
1 to 1,000	9.33	8.98	1.13	9.02
1,001 to 5,000	17.94	20.86	32.83	19.72
5,001 to 20,000	33.95	32.83	31.61	32.09
TOTAL	16.17	23.77	27.14	19.15

4.2 Street lighting service

The aim of this service is to fulfil basic illumination needs in parks, gardens, streets, squares and, in general, in all the roads of communication owned by the municipality, in order to provide adequate visibility for the normal execution of municipal activities.

It is the council's responsibility to maintain and preserve public lighting installations and to bear the costs for the consumption of electricity.

Table 7 shows the percentage of councils that use each type of service.

Table 7: Type of service provision for street lighting (%)

Population bracket	Direct management	Concession/ Agreement	Association of municipalities	Supramunicipal entity	Sub-municipal entity
1 to 1,000.	88	8		1	3
1,001 to 5,000	77	20	2		1
5,001 to 20,000	80	20			
TOTAL	82	15	1	0	2

82% of councils chose direct management; 15% indirect management through concession, agreement contract or interested management; and just 3% opted for an association of municipalities, supramunicipal entities or sub-municipal entities.

The distribution percentages between direct management and through tender did not vary in the two largest population brackets, but almost 90% of the smaller municipalities opted to provide the service in-house.

An analysis was made of the costs charged under direct management. 87% provided information about costs, although amortization and indirect costs were only reported by 9% and 6% of municipalities respectively, so these latter have been excluded from the analysis. Among entities opting for indirect management through concession, agreement or interested management, 86% provided information on the cost for the council.

As for those councils where street lighting was provided through an association of municipalities, supramunicipal or sub-municipal entities, very few of them, besides being very small in number compared to the sample as a whole, provided information about the costs of the service, and they have therefore not been taken into account in the analysis. Table 8 gives a breakdown of the average costs per inhabitant for direct management and through tendering.

Table 8: Average cost per inhabitant by type of management (euros)

Average cost per inhabitant	Direct management	Concession/Agreement	Total
1 to 1,000	42.00	31.09	40.99
1,001 to 5,000	29.90	23.66	28.70
5,001 to 20,000	26.13	21.75	25.23
TOTAL	33.64	24.61	32.19

The average cost per inhabitant was 32.19 euros for the whole sample, and was lower for bigger municipalities. Direct management was more costly in all municipal brackets, though it was, nevertheless, the most common option.

The indicators analyzed in the provision of this service were the daily hours of lighting and the linear kilometres of lighting. In the case of the former, the average value for the whole sample was 10.61 hours. Average values by population and type of management were very homogenous. The relation of the number of linear kilometres of lighting with the annual hours of lighting and the current cost of providing the service was also addressed.

Table 9 shows the average cost per population bracket and type of management chosen for the provision of street lighting per kilometre and hour.

Table 9: Average cost per kilometer of lighting and hours of lighting (euros/km./h.)

Population	Direct management	Concession/ Agreement	Total
1 to 1,000	0.94	0.67	0.92
1,001 to 5,000	1.03	0.65	0.96
5,001 to 20,000	1.39	0.95	1.30
TOTAL	1.07	0.74	1.02

The average cost per kilometre and hour for the whole sample was 1.02 euros, being the cost higher as long as population increases.

Information was also gathered regarding the number of employees involved in the service and the average number of weekly hours. The average number of weekly hours was 16.01. Table 10 gives the distribution by population and types of management.

Table 10: Average number of weekly hours devoted to providing street lighting

Population	Direct management	Concession/Agreement	Total
1 to 1,000	4.28	4.50	4.29
1,001 to 5,000	14.31	11.64	13.78
5,001 to 20,000	30.66	26.28	30.06
TOTAL	16.17	15.06	16.01

The average number of hours is directly proportional to population. Regarding type of management, the average number of hours is slightly when outsourced.

4.3 Street cleaning service

The operations covered by this service are basically the removal of dirt and filth from municipal goods such as roads, squares, green areas, parks, streets, bridges and other works for general use, whose conservation and policies are the duty of the council. Other areas that require cleaning include pavements, gardens, litter bins and areas for cultural, sports and festive activities. Provision of this service is affected by urban and demographic characteristics and by equipment.

Our data suggest that there are many municipalities, especially small ones or with widely spread nuclei of population, in which the service was not provided.

Some of these nuclei were inhabited rural areas, with unpaved streets where instead of street cleaning, periodic clearing or other work was carried out according to the circumstances. A further feature of this service is the impact of

seasonal populations. In nuclei of these characteristics, the cleaning service is carried out in the periods of highest population.

Table 11 shows the percentage of councils in 2011 opting for each of the types of service provision.

Table 11: Type of service provision for street cleaning (%)

Population	Direct Management	Concession/ Agreement	Association of municipalities/ Consortium	Supramunicipal entity	Sub-municipal entity
1 to 1,000	94	2	1	1	3
1,001 to 5,000	83	9	4	1	2
5,001 to 20,000	55	43	2	0	0
TOTAL	81	14	2	1	2

More than 80% of the municipalities used direct management to provide street cleaning. In municipalities of below 1,000 inhabitants the figure was as high as 94%, following a trend for higher use of direct management in the smallest municipalities. Although used in the majority of the larger municipalities, direct management was only 12 percentage points higher than by public tender.

As regards costs of providing the service, in the cases of direct management (in which councils had to provide complete information about staff costs, current assets and services and financial costs, as well as amortizations and indirect costs when known), data were collected for 83% of the entities, although only 15% provided data on amortizations and indirect costs, so the study only took the available direct costs. Furthermore, 73% of the entities opting for another type of service provision provided data regarding the cost the provision of the service entailed for the entity.

The average cost per inhabitant was 18.01 euros. Table 12 gives the breakdown for all types of management.

Table 12: Average cost per inhabitant for street cleaning by type of service (euros/inhab.)

Population bracket	Direct management	Concession/ Agreement	Association of municipalities/ Consortium	Sub-municipal entity	Total
1 to 1,000	17.16	6.94		27.03	16.92
1,001 to 5,000	14.58	23.81	25.50		15.87
5,001 to 20,000	19.07	31.19	15.79		23.68
TOTAL	16.23	27.83	23.07	27.03	18.01

Direct management showed the lowest costs per type of service. This mode of provision, as seen earlier, is the most used. Indeed, for the two lowest population brackets, other choices were all but negligible and lacked relevance in the analysis comparing costs, as is seen in Table 13. The same was not true for municipalities between 5,001 and 20,000, where data indicate that the service was more expensive when public procurement was used than when municipal means were employed.

The management indicators analyzed were the number of cleaning days per week, the number of litter bins per 100 inhabitants, average number of specialized vehicles per inhabitant and average number of cleaning hours per week.

Table 13 shows the number of days per week the cleaning service was performed.

Table 13: Number of cleaning days per week (street cleaning service)

Population bracket	Direct management	Concession/ Agreement	Association of municipalities/ Consortium	Supramunicipal entity	Sub-municipal entity	Total
1 to 1,000	2.81	2.67	2.00	1.00	1.00	2.78
1,001 to 5,000	4.57	4.39	3.00	1.00		4.43
5,001 to 20,000	5.92	6.55	5.00			6.18
TOTAL	4.12	5.75	3.27	1.00	1.00	4.30

The average number of cleaning days per week was 4.3, which rose proportionally to population, although the behavior was fairly homogeneous for the various types of management, except when the service was carried out by a supramunicipal or smaller than council entity, where the frequency was lower.

Table 14 shows the number of litter bins per 100 inhabitants.

Table 14: Average number of litter bins per 100 inhabitants

Population bracket	Direct management	Concession/ Agreement	Association of municipalities / Consortium	Supramunicipal entity	Sub-municipal entity	Total
1 to 1,000	36.76	6.55	3.70	2.60	54.57	36.29
1,001 to 5,000	4.74	3.21	2.78	4.23	8.64	4.61
5,001 to 20,000	1.01	0.72	0.38		-	0.87
TOTAL	18.33	1.67	2.35	3.82	28.33	15.85

The average number of litter bins per 100 inhabitants falls as population increases, and the average figure is much higher with direct management compared to the other types of management.

Table 15 shows that the average number of cleaning hours per week was 21.39, which was, in general, proportional to the number of inhabitants, regardless of the type of management.

Table 15: Average number of cleaning hours per week

Population bracket	Direct management	Concession/ Agreement	Association of municipalities/ Consortium	Supramunicipal entity	Submunicipal entity	Total
1 to 1,000	11.70			2.00	4.00	11.56
1,001 to 5,000	22.65	29.02	17.12	2.50		22.85
5,001 to 20,000	32.30	36.62	32.50			33.86
TOTAL	20.00	34.15	19.68	2.25	4.00	21.39

The average number of cleaning vehicles per inhabitant for all the entities analyzed was 1.08 (see Table 16), although specialized equipment varied considerably according to population in the case of direct management. The fluctuation was less in the cases of services through Association of municipalities/Consortium and by supramunicipal entity.

Table 16: Average number of cleaning vehicles per inhabitant

Population bracket	Direct management	Concession/ Agreement	Association of municipalities/ Consortium	Supramunicipal entity	Total
1 to 1,000	0.19	3.33	1.00	1.00	0.27
1,001 to 5,000	0.78	1.47	1.33	1.00	0.86
5,001 to 20,000	2.19	3.42	1.00		2.70
TOTAL	0.76	2.85	1.25	1.00	1.08

4.4 Urban solid waste collection service

In the questionnaire, this service referred to the periodic collection and transport of households and businesses' solid waste. It did not include its treatment and elimination.

Table 17 details the provision modes for urban solid waste collection.

Table 17: Type of provision of urban solid waste collection (%)

Population bracket	Direct management	Concession/ Agreement	Association of municipalities/ Consortium	Supramunicipal entity
1 to 1,000	15	9	59	18
1,001 to 5,000	12	23	49	16
5,001 to 20,000	15	46	30	10
TOTAL	14	22	49	16

In nearly half of the councils (49%) waste collection was provided through an association of municipalities or consortiums, a figure that was ten points higher than in smaller municipalities, yet almost 20 points lower in municipalities of more than 5,000 inhabitants, which mainly outsourced the service.

Of the 14% of municipalities where the council directly provided the service, 97% did so through their own means and the remaining 3% used municipal companies.

Information on the cost of the service was obtained for 76% of the entities using their own means or using dependent companies. The cost for the councils in the cases of a concession or agreement was provided by 85% of entities, when performed by association of municipalities or consortiums the figure was 67%, and 68% in the cases of supramunicipal entities.

The average cost per inhabitant (Table 18), excluding amortization and indirect costs, due to insufficient information returned, was 48.76 euros.

Table 18: Average cost per inhabitant for urban solid waste collection by type of service (euros/inhab.)

Population bracket	Direct management	Concession/ Agreement	Association of municipalities/ Consortium	Supramunicipal entity	Total
1 to 1,000	48.19	53.65	55.72	51.90	53.59
1,001 to 5,000	40.60	55.39	40.92	48.28	45.86
5,001 to 20,000	37.54	52.33	41.35	62.18	46.97
TOTAL	42.55	53.90	47.17	50.82	48.76

The following indicators have also been analyzed regarding the provision of the urban solid waste collection service: tons per year collected, number of containers per 100 inhabitants, number of recycling points with respect to collection points and frequency of collection.

The average cost per ton collected in the municipalities was 141.91 euros. Table 19 shows the average costs per ton for each type of management of the service and by population bracket.

Table 19: Average cost per ton of waste (euros/ton)

Population bracket	Direct management	Concession/ Agreement	Association of municipalities/ Consortium	Supramunicipal entity	Total
1 to 1,000	125.58	181.82	169.82	213.89	169.75
1,001 to 5,000	110.18	149.36	128.38	145.85	135.10
5,001 to 20,000	115.53	122.50	90.44	145.24	113.79
TOTAL	117.51	140.02	142.35	174.30	141.91

Highest costs were incurred in smaller municipalities, regardless of the type of management. However, in all population brackets, supramunicipal entities was the most expensive, while direct management the cheapest.

Table 20 shows the number of containers per 100 inhabitants, with an average of 8, and a slight increase in municipalities with smaller populations.

Table 20: Average number of containers per 100 inhabitants

Population bracket	Direct management	Concession/ Agreement	Association of municipalities/ Consortium	Supramunicipal entity	Total
1 to 1,000	12	7	11	9	10
1,001 to 5,000	6	9	7	7	7
5,001 to 20,000	3	5	3	4	4
TOTAL	8	7	8	8	8

In terms of recycling points, Table 21 offers the average values for the ratio of recycling points in relation to the total number of containers.

Table 21: Percentage of recycling points in relation to the total number of containers

Population bracket	Direct management	Concession/ Agreement	Association of municipalities/ Consortium	Supramunicipal entity	Total
1 to 1,000	12	19	17	27	18
1,001 to 5,000	13	22	17	26	20
5,001 to 20,000	16	20	31	26	23
TOTAL	14	21	19	26	20

The average value was relatively homogeneous for the population brackets, although differences were observed depending on the type of provision, with recycling being fostered less when urban solid waste collection was performed by the council.

Finally, we calculated the periodicity of the service in days, which gave an average of 2.38 days (see Table 22).

Table 22: Average number of days for urban solid waste collection

Population bracket	Direct management	Concession/ Agreement	Association of municipalities/ Consortium	Supramunicipal entity	Total
1 to 1,000.	2.91	2.50	3.85	3.82	3.58
1,001 to 5,000	1.56	1.79	1.72	1.50	1.69
5,001 to 20,000	1.09	1.29	1.53	1.39	1.33
TOTAL	2.06	1.70	2.74	2.55	2.38

The greatest interval of days was in the smallest municipalities although no significant differences were observed for the form of service.

5 Conclusions

In recent years, a high quality in public services must be accomplished, as required by citizens, while keeping a rigid budgetary discipline. Accordingly, new funding methods have appeared in which private partners are involved in the provision and management of public services. Also, many countries have outsourced services for controlling their deficits and debt without trimming investments in infrastructures and public services. In this respect, the literature does not find a systematic relationship between privatization and financial aspects. Nevertheless, it seems that in small municipalities budget constraints are essential in the decision of outsourcing a service.

In fact, the debate about privatization is open and social reluctance to privatization is increasing (Hall and Lobina, 2012). For example, in Italy a nationwide referendum held on 12-13 June 2011 rejected national legislation that intended to make water service privatization and liberalization compulsory. Furthermore, urban water delivery has been recently remunicipalized in important European cities such as Paris in 2010 and Berlin in 2013, and re-municipalization is also a widespread phenomenon in Hungary. Public dissatisfaction with water prices and lack of competition under private delivery are among the main drivers of pressures for re-municipalization.

This study has focused on the differential costs of a number of public municipal services, according to whether they are provided in-house or outsourced. It draws on the survey conducted by the Spanish Court of Auditors on a sample of municipalities with data from 2011. We clustered the sample according to population.

Water service is mostly directly provided, though larger municipalities have preferred to outsource, maybe due to the greater investment requirements, especially on underground assets. Nevertheless, the cost of direct water management is always lower in most of the cases studied. It is noteworthy that in

smaller municipalities, cost saving is achieved through association of municipalities/consortium. In these small municipalities, private companies are not interested in managing the service, because the return is small compared with the investment to be made. Therefore, municipalities have to cooperate with neighbour municipalities to provide the service, which is a successful way of providing the service, as our data show.

One political implication from our analysis is that inter municipal cooperation is an optimal alternative to privatisation in small municipalities.

These latter municipalities face problems of lack of competition and high transaction costs, while at the same time they need to exploit scale economies. By cooperating, scale economies can be achieved with lower transaction costs and fewer concerns for competition, which occurs when outsourcing.

As for public lighting, public management is always preferred in all municipalities, although the per inhabitant cost is higher than when outsourced. This may be explained by the higher number of workers public administration devotes to the service.

For street cleaning, direct management was chosen by most of the municipalities in the sample, it was also more economical and better managed.

Finally, public management is used less in the collection of urban solid wastes even though the cost per inhabitant is lower than in the private sector. Important indivisible service costs mean that aggregation of various small municipalities allows savings through economies of scale. Furthermore, transactional costs stemming from the design and supervision of contracts for privatization are relatively modest. Thus, 59% of municipalities below 1,000 opt to join up with others when providing this service. Even so, public management turns out to be more economical than private.

Among the claimed advantages of public services privatization we can point out efficiency gains and cost reductions. However, our study shows that it is not true in all cases. This finding should make politicians try to provide services directly, due to savings for tax-payers. Therefore, not always claims such as “public provision is inefficient” or “private management of public services is cheaper” are right.

One limitation of our study is data availability, since we did not have access to individual data of municipalities. Should this data had been available, we could have investigated the determinants of service costs, such as population density, population dispersion, municipal board political sign, municipal economic situation, etc. In the future, we intend to obtain individualized data and, thus,

perform in a more depth the implications of the public or private provision of public services for citizens.

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