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Practitioner Paper

Governing the Complexity: Solid Waste Services in the Metropolitan Area of Barcelona

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ABSTRACT *In most European countries, local governments must provide waste collection, transportation and treatment services. However, the form of production for delivering the service chosen by local governments differs from one city to another. The decision on how to provide the service has usually been approached in a simple way, by either public or private production. However, solid waste services are becoming increasingly complex, and governing this complexity has become a challenge for governments and practitioners. Here we discuss the case of the metropolitan area of Barcelona, where a new and ad hoc intergovernmental agency has been created to manage the complexity. Since this metropolitan area includes a huge geographical agglomeration around Barcelona, this becomes a complex management system that makes this case study of great interest.*

Introduction

Although the municipalities are obliged to provide waste collection, transportation and treatment services, this does not mean that local councils must deliver these services on their own. Contracting out these services to private companies or joining with inter-municipal agencies are quite common practices in Spain. Given that the first two services (collection and transportation) are compulsory for all municipalities and the third (treatment) is only required in those with more than 5,000 inhabitants, it is interesting to analyse this particular management variety. For these reasons, we focus our attention not only on the decision undertaken regarding the

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form of production of these services, but also on the coordination between municipal and inter-municipal agencies in waste collection, transportation and treatment in the metropolitan area of Barcelona.

The Metropolitan Environment Agency of Barcelona

First, it is necessary to introduce the main inter-municipal agency that plays an important role in these services: the Metropolitan Environment Agency of Barcelona (EMMA). This inter-municipal agency was created by the Catalan parliament in 1987 (Act 7/1987). EMMA serves 33 cities which cover almost 600 square km and include more than 3 million people (approximately 5,200 inhabitants per square km). Most of the cities are densely populated: only 11 (one-third) have a population lower than 20,000 inhabitants.

Concerning the governance of EMMA, there is a council to which members are appointed by the cities' inhabitants. Barcelona, the largest city, appoints 11 representatives. Each city with more than 100,000 inhabitants appoints three representatives, and each of the other cities appoints two. The representatives of the cities elect the president of the council. The agency has a strong political influence, and it is not independent of the political power and processes in the metropolitan area of Barcelona.

The 7/1987 Act attributes to EMMA competences in hydraulic infrastructures and provision of water, the treatment of sewage and the treatment of urban waste. Focusing on solid waste, EMMA is in charge of developing the general planning of waste services in its territorial jurisdiction, and its main task is the general waste treatment service. This is provided even when the municipality is not served by EMMA for the delivery of basic services of waste collection and transportation. If the municipality undertakes this first stage on its own but decides not to treat the waste by itself, it can use EMMA treatment services. In this situation, the municipality or the firm holding the local collection and transportation concession delivers the waste to the treatment plant indicated by the metropolitan agency, usually the nearest to the city. There is a private firm contracted by this agency that is in charge of basic recycling services when municipalities also delegate them to EMMA. In that case, municipalities do not need to care for any stage of the chain.

To deal with these responsibilities the agency obtains its resources from the Metropolitan Urban Waste Environment Tax (TMTR) and from the sale of recycled components. With this income the agency covers the overall management of the municipal waste treatment system. The tax is charged to households through the water bill.¹

Management Complexity

As Table 1 shows, there is great complexity in the management of these services in the metropolitan area of Barcelona. On the one hand, it is

Table 1. Management chosen by municipality and type of service (2006)

Municipalities	(1) Disposal <i>Collection and transportation</i>	(2) Paper- cardboard <i>Collection and transportation</i>	(3) Glass <i>Collection and transportation</i>	(4) Paper- Cardboard <i>Treatment</i>	(5) Glass <i>Treatment</i>
Badalona	M	M	EMMA	EMMA	EMMA
Badia del Vallès	M	EMMA	EMMA	EMMA	EMMA
Barberà del Vallès	M	EMMA	M	M	EMMA
Barcelona	M	M	M	M	EMMA
Begues	M	EMMA	EMMA	EMMA	EMMA
Castellbisbal	M	M	EMMA	EMMA	EMMA
Castelldefels	M	M	M	EMMA	EMMA
Cerdanyola del Vallès	M	EMMA	EMMA	EMMA	EMMA
Cornellà de Llobregat	M	M	EMMA	EMMA	EMMA
El Papiol	M	EMMA	EMMA	EMMA	EMMA
El Prat de Llobregat	M	M	EMMA	EMMA	EMMA
Esplugues de Llobregat	M	M	EMMA	EMMA	EMMA
Gavà	M	M	EMMA	EMMA	EMMA
L'Hospitalet de Llobregat	M	EMMA	EMMA	EMMA	EMMA
Molins de Rei	M	M	EMMA	EMMA	EMMA
Montcada i Reixac	M	EMMA	EMMA	EMMA	EMMA
Montgat	M	M	EMMA	M	EMMA
Pallejà	M	M	M	EMMA	EMMA
Ripollet	M	EMMA	EMMA	M	EMMA
Sant Adrià del Besòs	M	EMMA	EMMA	EMMA	EMMA
Sant Andreu de la Barca	M	EMMA	M	EMMA	EMMA
Sant Boi de Llobregat	M	M	EMMA	EMMA	EMMA
Sant Climent Llobregat	M	EMMA	EMMA	EMMA	EMMA
Sant Cugat del Vallès	M	M	EMMA	M	EMMA
Sant Feliu de Llobregat	M	M	M	M	EMMA
Sant Joan Despí	M	M	EMMA	EMMA	EMMA
Sant Just Desvern	M	EMMA	EMMA	EMMA	EMMA
Sant Vicenç dels Horts	M	EMMA	M	EMMA	EMMA
Santa Coloma Cervelló	M	EMMA	EMMA	EMMA	EMMA
Santa Coloma Gramanet	M	EMMA	M	EMMA	EMMA
Tiana	M	M	M	M	EMMA
Torrelles de Llobregat	M	EMMA	EMMA	EMMA	EMMA
Viladecans	M	M	M	EMMA	EMMA

Source: Table constructed using the *Environmental Metropolitan Data Report*, 2004.

obvious that no municipality undertakes all services on its own. This is because glass recycling is always carried out by the metropolitan agency (column 5). On the other hand, again we do not find any municipality delegating all services. That is because local governments always undertake the collection and transportation of waste disposal (column 1), either by governmental production or through contracting out to private firms.

The management differences arise firstly in the collection and transportation of the waste that is to be recycled (columns 2 and 3), and secondly in the treatment of paper and cardboard (column 4). In these cases, we do not distinguish any clear pattern based on municipal or inter-municipal

management, though in the treatment services we should point out that the metropolitan agency is in charge of the service in most of the municipalities of the area. In fact, we see that in spite of the high level of complexity that exists in the management of waste services, local management (direct or through contract) in the collection and transportation services is more common than in the treatment services. This is especially interesting if we take into account the geographical characteristics of the metropolitan area of Barcelona. In this area, the cities are so close to each other that in some cases it is not possible to distinguish city borders, so that local administrative authorities become the only practical difference between two adjacent cities.

Contracting Out Collection and Transportation Services for Waste Disposal

In order to deliver these services, most municipalities have contracted out to private firms. In fact, only two cities (Sant Boi de Llobregat and Gavà) have created a public firm to deliver these services. Therefore, privatisation has been the preferred strategy chosen by municipalities. Contracts have been concentrated mainly into three private companies (FCC, CESPÀ, and Urbaser). However, in many cases (one-third of the cities) there are small local private companies or unions of companies that also deliver the service managing a small share of the market. All these companies are in charge of collection and transportation for waste disposal, and firms transport waste to the plant indicated by EMMA.

If these services are delegated to EMMA, it also uses a concession given to a private temporary joint venture for collection and transportation services to the plant. Regarding this, we elaborate further in the next section.

Recycling Collection and Transportation

Collection of different components of domestic waste requires help from the public, sorting the items and using appropriate containers (glass, paper/cardboard, light packaging and organic matter). These containers are located in the streets or at special drop-off points. There are also door-to-door collections, emergency areas, and finally specialised waste storage depots.

Concerning collection at drop-off points and transportation of materials for recycling, for this service some municipalities use the same firm that is in charge of disposal. In the case of paper and cardboard, EMMA provides the service in half the municipalities. For this purpose, the service is contracted to a private temporary joint venture 'Santos Jorge-Renus AG&CO.K.G.'. In the case of glass, EMMA provides the service in two-thirds of the cities, and the firm in charge is Selectivas, which is also a temporary joint venture.

Concluding Remarks

The information provided clearly shows that compulsory municipal responsibility, together with free management decisions, have favoured a very complex distribution of management strategies in urban waste service provision in the metropolitan area of Barcelona. Municipalities in the area studied produce at municipal level collection and transportation of waste disposal, while most of the municipalities cooperate in recycling collection and transportation. Inter-municipal cooperation is particularly important for treatment services.

Distribution of tasks between municipalities – usually of large populations – and EMMA is consistent with empirical results on scale economies. Studies focusing on waste disposal have found that scale economies disappear above the 20,000–50,000 population range (Stevens, 1978; Bel, 2006); hence the frequently large populations of the municipalities within this area are consistent with the municipal scale for disposal services. On the other hand, the multi-product characteristic of the solid waste service observed in Callan and Thomas' (2001) study of collection and transportation services in Massachusetts results in important economies of scale for recycling. In addition, extensive cooperation in treatment has allowed economies of scale and innovation related to treatment facilities.

Given the growing complexity in the waste service, cooperation between municipal authorities and the inter-municipal agency is necessary to achieve the greatest efficiency in the provision of these services. In the case of the metropolitan area Barcelona, governing this complexity has required the creation of a new public agency intended to coordinate efforts and to reduce transactions costs. Obviously, the inter-municipal agency EMMA and all municipalities must play an active role in facing this challenge.

Note

1 There are two exceptions to the general rule: Sant Andreu de la Barca (24,863 inhabitants) and Barberà del Vallès (27,827 inhabitants) decided not to charge this fee to their households and paid directly from the budget. This is also the case in Begues, which must pay for the use of the Vall d'en Joan landfill, located in the municipality.

References

- Bel, G. (2006) Un análisis de los gastos municipales por el servicio de residuos sólidos urbanos (An analysis of the municipal costs of solid waste collection), *Revista de Economía Aplicada*, 14(41), pp.5–32.
- Callan, S.J. & Thomas, J.M. (2001) Economies of scale and scope: a cost analysis of municipal solid waste services, *Land Economics*, 77(4), pp.548–560.
- Stevens, B.J. (1978) Scale, market structure, and the cost of refuse collection, *Review of Economics and Statistics*, 60(3), pp.438–448.