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Urban bus contractual regimes in small- and medium-sized municipalities: Competitive tendering or negotiation?

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ABSTRACT

EU Regulation 1370/2007 promotes competitive tendering as the main mechanism for awarding the provision of urban bus services. However, small concessions can be awarded by means of a negotiated procedure. This paper seeks to evaluate the performance of urban bus operators in small- and medium-sized municipalities according to their prevailing contractual regimes. Three types of procurement procedure are analyzed: competitive tendering, negotiated contracts and contracts negotiated indirectly with the interurban bus provider. A translog stochastic cost frontier is conducted using a panel dataset (312 observations) over a nine-year period from 2007 to 2015 for the municipalities of the Barcelona province. In line with recent empirical evidence, we find no cost differences between the three contractual procedures. However, cost inefficiencies emerge in relation to the size of the municipality: the smaller the municipality, the greater the inefficiencies. As for ownership, there are no performance differences between private and other forms of delivery. Economies of density are no longer apparent at annual provisions above 300,000 vehicle-kilometers or in municipalities with more than 50,000 inhabitants. Therefore, the non-tendering option, as provided for under European Regulations for small concessions, gives the same results as that found for competitive tendering and indirectly negotiated procedures.

1. Introduction

In recent decades, small- and medium-sized municipal governments in Europe have created or extended their urban bus networks. While such services were already operational in cities, demands to satisfy the right to mobility have meant that urban transport systems have been established in the municipalities. The bus service is typically provided by private companies, financed with risk and venture capital or under a lightly regulated scheme, or by local public companies. In most cases, local private and public bus companies have enjoyed monopolist protection. However, local authorities have begun to introduce competition by awarding urban bus system concessions in line with EU policy initiated in the 1990s and, more specifically, with Regulation 1370/2007 of the European Parliament and of the Council on public passenger transport services by rail and by road. These reforms seek, among other objectives, to improve performance and lower the taxes paid by citizens.

The purpose of Regulation 1370/2007 is to establish competitive tendering as the main procedure in awarding a concession. However, it recognizes two main exceptions that will permit the direct awarding of a public service contract: the first concerns in-house provisions (by public firms) and, the second concerns contracts that fall beneath certain thresholds as a means for supporting small- and medium-sized firms. Contracts below these thresholds allow the two parties to enter into negotiations, resulting in a negotiated award procedure rather than an obligation to tender. This regulation allows a contract to be awarded directly if its value is estimated at less than 1 million euros or if it involves the annual provision of less than 300,000 km of public passenger transport services. In the case of a contract directly awarded to a small- or medium-sized enterprise operating no more than 23 vehicles, these volume thresholds are raised to either an average annual value estimated at less than 2 million euros or less than 600,000 km of public passenger transport services per year. Thus, each municipal government needs to determine which approach is most feasible and which is most likely to maximize total welfare.

To date, much attention has been paid in the literature to large municipalities and the system of ownership of such urban bus systems, and the introduction of competition. In the European Union, 41% of the total population lives in cities, while 31% lives in suburbs or towns. Indeed, in

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Germany and Italy, a higher proportion of their respective populations live in towns or suburbs than live in cities. Moreover, depending on the country, specific municipal circumstances can have a different impact on cost efficiency. For small municipalities, organizing a tender procedure represents a huge mobilization of resources for a specific period of time. Tendering is, undoubtedly, time-consuming and expensive for all parties, while alternative procedures, such as negotiations, can bypass these costs.

The aim of this paper is to further the analysis of the effects of the contractual regime on urban bus services, taking into consideration the size of the municipality. More specifically, we first compare the cost-efficiency performance of urban bus systems according to the size of the municipality. And second, we analyze the impact of the contractual regime on this efficiency, that is, depending on whether the municipality organizes a tender procedure, negotiates directly with the interurban bus provider or negotiates with other bus companies. The recent literature has tended to focus its attention on regional bus contractual regimes as opposed to local regimes.

This paper is organized in five sections. First, we review the empirical evidence reported to date on local bus cost analyses. Second, we describe the local bus sector in the Barcelona province. Next, we present the main elements in our empirical strategy: model and data. Then we report our empirical results and discuss their implications. Finally, we conclude.

2. Literature review

In recent decades many countries have initiated the private delivery of bus transportation systems, above all in the wake of the far-reaching privatization and deregulation reform in this sector implemented in the United Kingdom in the 1980s. Privatization has typically resulted in cost savings and greater efficiency compared to the situation under the ex-ante public monopolist provider, for example, in the UK (Savage, 1993; White, 1997), New Zealand and Chile (Lee and Rivasplata, 2001), and Switzerland (Filippini and Prioni, 2003). Local governments have not, in general, reversed privatization or contracted back in order to address the lack of competition, insufficient cost savings, or concerns about service quality (Hefetz and Warner, 2004). However, governments with lower levels of monitoring are more likely to bring services back in-house, even though urban bus systems are not a difficult service to meter.

The public-private ownership debate has found itself overtaken by the debate centered on competition. Public choice theory claims that a competitive mechanism for public services may well exist and, indeed, the need to capture the benefits of this competition has underpinned arguments for outsourcing public services. Yet, in practice, public service markets often lack sufficient competition, to the point that when competition in the market is not feasible, governments have to create it for these markets (Demsetz, 1968). In urban bus systems, a local public service that can be classified somewhere between a monopolistic and a low competitive system (Girth et al., 2012), competition has been introduced by means of competitive tendering. Until the end of the 1990s, the evidence provided by stochastic frontier studies in favor of private sector delivery needed to be weighed against the fact that almost none of them controls for the degree of competition (De Borger et al., 2002). Replacing inefficient monopoly operators with private concessionaires by means of competitive tendering procedures should bring about this efficiency gain. For example, Roy and Yvrande-Billon (2007) find that private operators selected by such procedures are more efficient than public operators. Likewise, a *trans*-European study finds that public firms are less productive than their private counterparts, and firms selected by means of competitive tendering are more productive still (Boitani et al., 2013). However, in the second round of the tendering process (some years after the first), an increase in gross costs is reported in most countries. Moreover, the simple threat of privatization may well encourage the managers of public firms to improve performance (Albalate et al., 2012).

A small number of bidders and the concentration of the bus market are characteristics described in Sweden (Alexandersson et al., 1998), France (Yvrande-Billon, 2006) and Norway (Mathisen and Solvoll, 2008), among others. This situation is paralleled in Italy, where the incumbent operator tends to win the majority of tender processes, and the tender procedures designed by the regulator, moreover, seem to favor the incumbent (Boitani and Cambini, 2006). One exception here is Germany, where an incumbent renewal rate of 74% and an average of more than five bidders per tender is achieved (Beck and Walter, 2013). In regional bus services, there is evidence that cost savings in subsequent tender rounds are not achieved (Mouwen and van Ommeren, 2016).

Roy and Yvrande-Billon (2007) find only marginal gains in technical efficiency resulting from regulatory changes that involve a shift to delegated management and high-powered incentive regulatory contracts. A cost efficiency comparison between competitive tendering and performance-based contracts, undertaken by Filippini et al. (2015) on a Swiss regional bus firm, finds no differences between the two contractual forms. The same conclusion is drawn by Hensher (2015) when comparing Australian metropolitan bus concessions. This study compares concessions without monopolist public firms and mature environments in which regulator-concessionaires have evolved and been consolidated. Wallis et al. (2010), in a study of bus contract renewal in Adelaide, conclude that better outcomes can be achieved with periodic competitive tendering that incorporates elements of performance-based negotiation, or with negotiation combined with threats of competitive tendering, than with systematic and automatic competitive tendering schemes.

Procurement is not cost free; the social choice approach recognizes the importance of both transaction cost theory and social communicative theory (Sager, 2001). Local governments are public organizations that recognize the potential of market solutions and the need for debate to respond to diversity and to resolve conflicts. Local governments tend to place greater trust in their vendors' faithfulness and honesty when the latter have known reputations prior to the relationship, have established strong community ties, and perform their tasks well (Lamothe and Lamothe, 2012). Putting a principal-agent relation out to tender, in a process that attracts few bidders, involves complex contracts and high transaction costs, may not be the best solution if compared to negotiated performance-based contracts (Hensher and Stanley, 2008). Hensher and Wallis (2005) express a concern that tendering is open to regulatory capture by powerful monopolist bus providers. Bel and Rosell (2016) describe the situation prevailing in Barcelona, where although new entrants may bid for a lower subsidy, the tender procurement points associated with a firm's experience or improvements in the technical offer ensure the incumbent obtains more points and renews their concession. In short, the gains from competitive tendering are generally illusory or overstated (Hensher, 2014).

Small town governments are more closely affected by fiscal constraints and political considerations than are large city governments (Bel and Fageda, 2009). Likewise, small municipalities tend to privatize more than their larger counterparts do. As low transaction costs are positively associated with privatization, economies of scale become constant or even revert to decreasing returns to scale as companies grow in size (Jørgensen et al., 1997; Matas and Raymond, 1998). On regional and urban services, Avenali et al. (2016) report economies of scale up to 4 million vehicle-kilometers. This is an important outcome for the management of local bus systems, since it implies that in large cities the service can be fragmented between different firms without foregoing any of the potential benefits from economies of scale while small municipality's concessions can be merged.

Here, we seek to contribute to the literature by analyzing the impact of contractual procedures on urban bus service efficiency. More specifically, the exceptions provided for under European tendering regulations provide us with a unique opportunity to analyze the bus operator efficiency associated with the different contractual procedures adopted in small- and medium-sized municipalities. Our study shows that permitting municipalities to forego the tendering of small concessions and allowing direct negotiation with the bus service provider (as under EU Regulation