



Competitive tendering versus performance-based negotiation in Swiss public transport



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ARTICLE INFO

Article history:

Received 14 January 2015

Received in revised form 20 July 2015

Accepted 9 September 2015

Keywords:

Public bus contracts

Competitive tendering

Performance-based negotiation

Cost efficiency

ABSTRACT

The purpose of this study is to assess differences in the levels of cost efficiency of bus lines operated under competitively tendered contracts and performance-based negotiated contracts. Following the revision of the Swiss railways act in 1996, regional public authorities were given the choice between two different contractual regimes to procure public passenger transport services. We directly compare the impact of competitive tendering and performance-based negotiation by applying a stochastic frontier analysis to the complete dataset of bus lines ($n = 630$) operated by the main Swiss company (Swiss Post) at the same time (in 2009) throughout the country. The overall results show that the differences in the levels of cost efficiency between the two contractual regimes are not significant. Our findings are in line with recent evidence of cost convergence between competitive tendering and performance-based negotiation, and suggest that the practice of using both contractual regimes is challenging for the operators in terms of competitive pressure. The threat of competitive tendering may have a disciplining effect on negotiation since it prevents bus companies from bargaining inadequate rents and inducing asymmetric information advantages.

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1. Introduction

In recent years, competitive tendering for the provision of public bus services has become a common mean to induce competitive pressure between public or private monopolies in passenger transportation. The idea goes back to Demsetz (1968), who argues that competition for the market is the only way to enhance efficiency when competition in the market is not possible. Many countries applying some form of competitive tendering have been so far successful. Unit costs decreased by about 20%, as compared to those of an unchallenged public monopoly (Preston, 2005). The incumbent company lost substantial market share to private operators (Augustin and Walter, 2010). Recent evidence also suggests that firms operating in regions with competitive tendering have significantly higher mean efficiency compared to other firms (Scheffler et al., 2013), and firms selected under competitive tendering exhibit higher total factor productivity (Boitani et al., 2013). On the other hand, passengers' satisfaction with trips increased only slightly relative to regions without competitive tendering (Mouwen and Rietveld, 2013). Hence, the impact of competitive tendering is still partially unclear, from both theoretical and empirical perspectives. As suggested by Armstrong and Sappington (2006), many advantages of

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competitive tendering can be obtained by yardstick competition. The success of competitive tendering depends on numerous factors (e.g. organizational features, playing rules, number of competitors, institutional setting), and careful attention must be paid to the design of crucial aspects (Nash and Wolański, 2010).

The literature is rich of studies on the efficiency of public transportation industries under different contractual regimes (tendering vs. negotiation). However, only few studies try to isolate the effects of changes in the contractual regime from other simultaneous changes or organizational differences. The results are frequently weakened due to an identification problem. To the best of our knowledge, no empirical study has examined differences in the level of cost efficiency of bus lines operated under competitively tendered contracts and bus lines operated under performance-based negotiated contracts. The current study aims at filling this gap in the literature on public transportation services by assessing the impact of competitively tendered contracts introduced for bus lines in Switzerland.

The Swiss public passenger transportation industry underwent a fundamental reform with the revision of the Railways act (EBG, 1957) and its legal ordinances in 1996. The reform rearranged the financing schemes and introduced some market mechanisms, similarly to other countries. The main purposes were to enhance productivity, to improve customer satisfaction and service quality, and to keep public transport services affordable. According to the revised act, regional public authorities were given the choice between two different contractual regimes to procure public transport services: to put lines out to tender or to rely on performance-based negotiated contracts.

During the last fifteen years, public authorities in several Swiss regions have exercised their right to put bus lines out to tender. According to Swiss authorities (Bundesversammlung, 2010), this measure is believed to have heightened efficiency and quality levels. However, despite the possibility to put bus lines in a competitive tendering process, the majority of bus lines are procured under performance-based negotiated contracts. The impact of this policy change has not yet been evaluated by means of an econometric methodology. For this purpose, we suggest the use of a total cost frontier approach, which exploits cross-sectional data from more than 500 bus lines operated by the leading bus company in Switzerland (Postbus), that provides bus line services under different contractual regimes after the reform.

As with respect to previous studies, we improve the analysis of the impact of the contractual regime on cost efficiency in many directions. First, we exclude the effects on costs stemming from institutional changes such as the privatization or corporatization process on the contractual regime. This is because we use data on bus lines operated by Postbus in 2009, a division of the public company Swiss Post, which turned into a limited liability company in 2006. According to Cambini et al. (2011), most of the efficiency gains on the way from public to private ownership occur in the intermediate stage of corporatization. Furthermore, we compare bus lines that have gone through a competitive tendering process with bus lines that have been procured on performance-based negotiation for the same company and year. Hence, we argue that all aspects not related to the type of contract are held constant. Considering bus lines is also an improvement compared to earlier studies because contract features are based on lines rather than companies. Finally, we use a relatively rich set of controls, which should limit the unobserved heterogeneity (e.g. Farsi et al., 2006; Cullmann et al., 2012).

The paper is organized as follows: Section 2 discusses the main findings of the literature on cost efficiency in public transportation industries related to contracting. Section 3 provides an overview of the reform and the institutional setting. In Section 4, we specify the model and present the econometric approach. Section 5 deals with the data. The estimation results are discussed in Section 6, together with cost-efficiency measures. We draw some conclusions in Section 7.

2. Competitive tendering versus performance-based negotiation in transportation services

The economic literature is rich of studies on cost efficiency in public transportation industries (railways, bus or ferry lines) related to different contracting regimes (tendering vs. negotiation). However, to the best of our knowledge, only few studies try to isolate the effects of changes in the contractual regime from other simultaneous changes or organizational differences that may affect the outcome of the contractual regime.

A review of successes and failures of competitive tendering worldwide is given by Hensher and Wallis (2005).¹ The authors find evidence of considerable cost savings in the short and medium term. However, they point at four main limitations of previous studies. First, the measurement of savings is inconsistent since countries have different legal backgrounds, and changes in service and quality levels and institutional restructuring are simultaneous with the introduction of the new contractual regime. Second, in most of the cases, only first round effects net of administrative costs are reported. However, costs of retendering may increase due to unreasonable low initial tender prices and a decreasing number of competitors (Wallis et al., 2010; Hensher and Stanley, 2010). Also, competitive tendering may generate administrative costs to operators and regulators (Hensher, 1988; Saussier et al., 2009; Gil and Marion, 2012; Yescombe, 2007). Third, most of the studies focus primarily on cost savings rather than on value for money. This leads to perverse incentives since external benefits are not taken into account, and companies may underestimate the true operating costs to win the race (Armstrong and Sappington, 2006). Finally, Hensher and Wallis object that competitive tendering may be exposed to regulatory capture by powerful providers. As competitive tendering fosters market concentration (Mathisen and Solvoll, 2008; Amaral et al., 2009, 2010; Yvrande-Billon, 2006), this risk becomes more severe in the long run.

¹ See also Alexandersson and Hultén (2006), Smith et al. (2010) and Merkert (2010) for competitive tendering in the railway sector; Baird and Wilmsmeier (2011) for tendering of European ferry lines.

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