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The impact of alternative governance forms of regional public rail transport on transaction costs. Case evidence from Germany and Switzerland

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ABSTRACT

This article addresses transaction costs of different governance forms in regional public rail transport by comparing Germany's competitive contract awarding model with Switzerland's direct contract awarding model. We propose a concept of transaction costs with four dimensions, namely the awarding procedure, the institutional framework, provision of system services, and the impact of learning and innovation. We then identify drivers and amounts of transaction costs in both governance forms. In Germany's competitive model, public transport authorities (PTAs) must guarantee effective competition using different instruments, whereas transaction costs are lowered by clear definition and allocation of responsibilities. In Switzerland's cooperative model, costly competition surrogates serve to overcome information asymmetries. An informal and trusting culture of cooperation prevents high transaction costs. Factors such as complexity of different kinds or unforeseen behaviour of PTAs increase transaction costs in any model. Summing up, our results illustrate that transaction costs are no legitimate argument against competition if the high amounts of subsidies are taken into account. Introducing competition for the market in Switzerland's regional public rail transport, however, would be challenging and trigger high one-time reform costs since it would relate to a radical 'cultural change'.

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1. Introduction

In most European countries' regional public transport (RPT)¹ authorities mandate transport operating companies (TOCs) as contracting partners to provide RPT services. Two distinctive governance forms apply: The competitive tendering model, i.e., competition for the market, and the cooperative model with direct awarding procedures. Today, efficient use of the large volumes of public funds devoted to RPT is a major policy concern. Moreover, a

substantial increase of demand for RPT is expected in many places. Therefore, optimal governance of RPT in terms of cost efficiency, quality, innovation, and customer orientation on the one hand and transaction costs on the other hand are of superior interest. Our study's primary focus is on transaction costs. Although choice of optimal RPT governance forms has been widely discussed in the literature, [van de Velde and Beck \(2010\)](#), [Wallis, Bray, and Webster \(2010\)](#), and others state that more knowledge on transaction costs is needed to compare costs and benefits. In the political debate transaction costs are occasionally brought forward as an argument against competitive tendering ([Hanstein, 2014](#); [SBB, 2014](#)). We believe that a better understanding of transaction costs may be supportive of improving and advancing RPT governance. To the best of our knowledge, no detailed and comprehensive study about transaction costs in different RPT governance forms exists to this day. We therefore try to shed a first, preliminary light on the

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¹ According to the legal definitions in Germany and Switzerland, RPT is passenger transportation within a region with distances on average no longer than 50 km or travel time no longer than 1 h. Although we use the term "RPT", we only consider railway transport and leave out bus transport (unless explicitly stated).

following research questions: *What types or dimensions of transaction costs emerge within the two governance forms—competitive vs. cooperative model—for PTAs, TOCs, and possibly other stakeholders? What is, exemplarily, the quantitative amount of these transaction costs? Which transaction costs depend at all on the governance form, and which transaction costs are attributed to factors other than the governance form? What are the relevant drivers fostering these transaction costs?* We analyse these questions using a comparative case study approach exploring a couple of cases from Germany (competitive model) and Switzerland (cooperative model).

2. Theory

2.1. Competitive tendering vs. direct awarding

PTAs use *competitive tendering* to enhance cost efficiency given a certain level of output and service quality (Augustin & Walter, 2010; Lalive & Schmutzler, 2011). Condition *sine qua non* is a functioning bidding market (Kain, 2006; Koller, 2012; Laffont & Tirole, 1993) to keep the market contestable. Entry barriers need to be low (Beck, 2011), and tendering has to take place regularly (Hensher & Wallis, 2005). Important barriers of entry are, e.g., the allocation of revenue risks, complexity, high transaction costs, and competitive advantages of the incumbent (Augustin & Walter, 2010; Beck, 2011; Boitani & Cambini, 2006; Gross, 2009). There is, however, a trade-off between low entry barriers and economies of scale, scope, and density (Augustin & Walter, 2010). Moreover, to provide system services, PTAs must find a solution to overcome the free rider problem arising in a competitive environment (Gross, 2009; Kern, 2014). In other words, there is a trade-off between efficiency of subsystems (through competition) and efficiency of the entire system (through integration) (Finger, Laperrouza, Holterman, Brand-Weiner, & Bert, 2012). Transaction costs are occasionally mentioned as a disadvantage of competitive tendering, primarily in first-round tenders (Bajari, McMillan, & Tadelis, 2008; Lalive & Schmutzler, 2011; Wallis et al., 2010). Laffont and Tirole (1993) summarise generally: “Organizing auctions, however, is costly. Procurers incur the «processing cost» of writing requests for proposals and reading the proposals, making sure that the language and terms of the proposals are unambiguous. Potential suppliers also spend substantial amounts of time preparing contracts [...]. To this must be added the lengthy assessment of subjective attributes of bids [...]. Certainly such transaction costs exist with a single potential supplier, but they tend to grow with the number of bidders” (p. 307). Another source of transaction costs are unforeseen ex post negotiations (Hensher & Stanley, 2008; Mees, 2007), service disruption, or even bankruptcy of TOCs (Alexandersson & Hultén, 2006).

Direct awarding with negotiations is more flexible and eases dealing with high complexity. Long-time collaboration between PTA and TOC enables professional exchange, fosters mutual trust and thereby efficiency and transparency. On the other hand, mutual trust is a premise to exploit the advantages of negotiations as well as of incentive contracts (Bajari et al., 2008; Hensher & Stanley, 2008) and can substitute for detailed contracts and costly lawsuit in case of a conflict (Hensher & Stanley, 2010). Therefore, mutual trust lowers transaction costs (Merkert & Hensher, 2013; Parker & Hartley, 2003). To achieve efficiency goals with direct awarding, however, it is important to use incentive contracts (Bajari et al., 2008) since information asymmetry and bargaining power of incumbents remain (Lalive & Schmutzler, 2011). In addition, if awarding occurs very regularly, TOCs have barely an incentive to decrease costs because profits are skimmed and losses result in higher compensation (Finger & Holterman, 2013). Incentive contracts may be more suitable than competitive tendering to achieve

‘soft goals’ like service quality (Hensher & Wallis, 2005); and they may bear less transaction costs (Bajari et al., 2008; Hensher & Wallis, 2005). Direct awarding, however, can lead to high transaction costs, e.g., if complex and data intensive incentive schemes are used (Hensher & Wallis, 2005; Koller, 2012).

With both models having their particular advantages and disadvantages, Hensher and Stanley (2008) and Wallis et al. (2010) propose supplementing direct awarding with a credible threat of tendering in case of unsatisfactory results. Another suggestion is to begin with competitive tendering and then turn to direct awarding in subsequent rounds (van de Velde & Beck, 2010).

2.1.1. Empirical evidence

Studies often focus on the effect of competitive tendering on cost efficiency, service level (Hensher & Wallis, 2005; Koller, 2012; Lalive & Schmutzler, 2008, 2011; Pollitt & Smith, 2002), or service quality (Beck, Ladewig, & Kühn, 2007; Koller, 2012). There is a consensus that competitive tendering has led to lower compensation per train kilometre, to higher service levels, and higher quality. For Germany’s rail RPT, Lalive and Schmutzler (2011) as well as mofair and Netzwerk Privatbahnen (2009) quantify the savings in compensation payments per train kilometre to 26%. Some studies, in contrast, reveal cost increases, although it is difficult to elicit the reasons for this result (Boitani & Cambini, 2006; Hensher et al., 2007; Kain, 2006; Nash & Wolański, 2010). Others report indeed lower costs after first-round tenders but rising costs in follow-up tenders (Hensher & Stanley, 2008; Hensher & Wallis, 2005). Wallis et al. (2010) conclude from a study of bus services in Adelaide, South Australia, that direct awarding with negotiations and incentive contracts is preferred to re-tendering when the incumbent already operates on an efficient level. In this case, re-tendering does not increase efficiency but still leads to high transaction costs.

A comparative study between the competitive model and the cooperative model with a focus on the forms, underlying activities, drivers, and amounts of transaction costs is according to our knowledge not existing. In the following chapter, after outlining some general theoretical results, we refer to studies that deal with transaction cost in RPT. These studies provide meaningful insight; Owing to their different focuses, they do not, however, treat transaction costs in the comprehensive way as we do in the present article.

2.2. Transaction cost economics and principal-agent theory

Transaction cost economics (TCE) focuses primarily on the alignment of transactions to governance forms as well as on how to deal with ex-post risk in contractual relationships such as bilateral dependencies, unknown quality, or opportunism. Transaction costs are compared with efficiency effects to choose the adequate governance form (Coase, 1937, 1960; Williamson, 1996). Usually, three characteristics of transactions determine the level of transaction costs: Uncertainty, frequency, and asset specificity, whereas asset specificity is rated the most important. Governance forms are optimally chosen depending on the peculiarity of those characteristics as well as the institutional, social, and technological environment (Mizutani & Uranishi, 2012; Williamson, 1996). Let’s state an example in the current context, assuming a large, technically and operationally complex RPT network. Usually, only few TOCs are able to operate such a network and no or only weak intensity of competition on the bidding stage in a competitive tender can be expected. PTAs therefore have to decide whether to directly negotiate with the incumbent or to split up the network into several sub-networks and thereby resigning on potential scale economies.

It has often been argued that modern information and communication technology (ICT) will minimise the importance of

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