Costs in Swedish Public Transport

An analysis of cost drivers and cost efficiency in public transport contracts

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Abstract

During the last seven years, the total cost for Swedish public transport provision has increased by over 30 percent in real terms according to figures from the government agency Transport Analysis. A similar pattern is found if considering a longer time span. Part of the cost increase can be attributed to an increased supply, and part is due to price increases on input factors that are measured by an industry index produced by the public transport industry. The fact that about half of the costs in Swedish public transport are covered by public funds calls for responsibility in how these funds are used, and this means that information about cost drivers and cost efficiency is necessary. The lack of information about these factors in the Swedish public transport sector is the main motivation for the two papers included in this thesis.

In this cover essay, the developments over the last decades in Swedish public transport are described, and there is a focus on the last ten years with the Doubling Project and the market in 2012. As mentioned, the costs as a whole, as well as per unit costs such as cost per vehicle kilometer, have increased in real terms since 2007. Even though parts of the cost increase can be attributed to an increased supply or the price of input factors, this development might be problematic for at least two reasons. First, the ambition of the industry to double the number of travelers by the year 2020 seems to have resulted in a supply increase around year 2010 and a similar increase in the number of boardings. However, the cost per vehicle kilometer and cost per boarding have both increased since then, which can bring into question whether the supply increases have been made at the right places and to the proper extent to have the desired effect on travel. Second, it is not clear whether a price increase for input factors can be viewed as an "acceptable" explanation for the cost increase. To the extent that the Public Transport Authority (PTA) or operator can affect the price of input factors such as buses (detailed or environmental requirements, etc.) or labor (demands on take-over of previous staff), an endogenous relationship is possible, which could disguise these potentially cost-driving factors as general price increases. At the end of this essay, a discussion about the lack of publicly available data highlights the non-compliance with EU regulations related to this. More data resources, perhaps with open access, would enable more comparisons between contractual forms, PTAs, and operators, which would provide examples of good and poor solutions and concepts in the industry and would have the potential to ensure better use of public funds.

Below is a summary over the two papers included in this licentiate thesis.

Paper I - "Costs for Swedish Public Transport Authorities" - uses contract-level data for the year 2012 and econometric methodology to investigate how contract factors affect costs for bus contracts. A theoretical framework is established to show some of the cost mechanisms that are at work in the
two most popular contractual forms in Sweden, and the paper provides some insights into what results to expect from the empirical analysis. The most important results from the econometric analysis are that higher population density and a contract being operated by a publicly owned (municipal or county council) operator are both associated with having higher costs. Also, no statistically significant differences could be found when using incentive payments in the contracts.

Papper II - “Cost Efficiency in Swedish Public Transport” - has a similar perspective as Paper I, but it uses stochastic frontier analysis to focus on cost efficiency and differences across PTAs. Data for the year 2013 are used, along with other data sources, to derive a cost frontier from which some of the deviations from this can be attributed to cost inefficiencies. The results are similar to those of Paper I, namely that cost efficiency is lower in high-density areas and in contracts that are directly awarded to a publicly owned operator. When comparing the cost efficiency of the PTAs (or counties), most exhibit small differences. The difference between the 1st and 15th-ranked county is only about 8 percent. The difference is somewhat larger when turning to the third and second least efficient counties of Stockholm and Skåne. The least efficient county of Västmanland is about 30 less cost efficient than the 1st-ranked county.