Article:
Veeneman, W and Smith, A (2016) Report Workshop 2: Effective institutional design, regulatory frameworks and contract strategies. Research in Transportation Economics, 59. pp. 60-64. ISSN: 0739-8859

https://doi.org/10.1016/j.retrec.2016.10.003

Report Workshop 2: Effective institutional design, regulatory frameworks and contract strategies

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Abstract

This paper describes the progress of world-wide research on institutional design, , both on the level of the regulatory regime as well as on the level of the governance of the relation between authority and operator of public transport services. Tendering has found its way into regulatory frameworks and has become a mainstay of governance. A first conclusion is that tendering has become mature, with consequences for existing and new implementations, with refined and contextual lessons coming from research. A second conclusion shows that governance design should intelligently balance including power and control oriented elements with empathic and cooperation oriented elements. A first framework for the analysis of this balance is provided in this paper.

Keywords:

Public transport, tendering, governance, regulatory frameworks

L92, L980

1. Introduction

This workshop examined the interface between authority and operator, their respective roles and responsibilities and the governance tools used to develop a fruitful interaction. The workshop looked at both regulatory regimes and the governance of the relation between authority and operator, from public operators, through licensing, direct award, yardstick competition, competitive tendering, open markets and mixed models. It continued and developed the themes emerging from Workshop 5 in Thredbo 13 in Oxford, UK. These might be summarized as follows:

- Specifying concessions that are attractive to potential bidders
- Providing adequate data to all bidders
- Retaining risks that the operator cannot control
- Ensuring that bidders can acquire the assets they need, if necessary by leasing them to the operator themselves

The following countries were represented in the Workshop, which had 30 participants and 18 papers:

- Australia, Brazil, Chili, Ecuador, Finland, Germany, Japan, Mexico, Netherlands, New Zealand, Norway, Russia, Singapore, Sweden, Switzerland, United Kingdom, and many more.

In section 2 below we review the contribution of the papers presented at the workshop, before discussing policy recommendations and areas for future research.

2. Overview of the papers presented

In total 18 papers were presented and discussed, in four blocks of closely related papers:

1. Cases of country and modal experiences, mostly with transitions to a new regulatory or governance model
2. Formal evaluations of efficiency, productivity and welfare when changing governance for rail and bus services
3. Specific aspects and evaluations of governance, risks, transactions costs and governance failures leading to legal action
4. Comparative governance analysis and evaluative frameworks

The key results from these papers are summarised below.

2.1 Cases of country and modal experiences, transitions

Based on experience from contract re-negotiations of Transantiago (in 2012 and 2013) **Errazuriz and Hutt** address the question of how to achieve the right balance between public and private sector participation. A key finding is that the decision on public versus private involvement depends on the both the income level of a country (its stage of development) and also political factors. For example, in richer countries funding exists to provide services; thus political factors determine how much public and how much private (for example, the UK chooses a higher proportion of private sector participation than Germany). On the other hand emerging countries might see increased use of private sector companies, where the need for funds to invest in public transport offers good investment opportunities for the private sector.

San Goh, Swee and Low describe the move towards greater state ownership of assets and risk in Singapore's rail and bus sectors. It was noted that the two main drivers of these changes have been the desire to improve services whilst maintaining financial sustainability for operators and at the same time by taking ownership of assets (and reducing entry barriers) increase contestability (which in time would be expected to lead to improved efficiency). Another key factor is that the Public Transport Authority looked carefully at the reforms undertaken in other countries before designing its policy approach. It is perhaps too soon to tell what the impacts of these reforms will be however.

Antitila used a mix of survey based research (with PTAs, companies and bus manufacturers) and quantitative research on the impact of competitive tendering to study the regulatory reform of Finnish bus services in 2013/14. It was found that in urban areas, most interest was in middle-sized tenders, with smaller and larger tenders only generating around 2 bids per tender. In rural areas there was competition only for small tenders (1-2 buses). Apart from one totally new company, in general interest only came from local bidders. This was explained by the fact that there were too many tenders being let at once and also because of lack of familiarity with the new tendering

approach. In general operators preferred gross cost contracts and having a range of different sizes of tender packages was also helpful in stimulating competition.

In his first paper **Veeneman** surveyed PTAs in the Netherlands. In an effort to gather the key lessons of an already mature tendering market, he asked what key changes they had made to their approach when moving from one round of tenders to the next. It was found that there had been a trend towards fewer, larger contracts and importantly to combining rail and bus services in one tender in some cases. It was also noted that the bidding process tends to focus on existing services – and once the winning bidder is announced the winner then discusses with the PTA how to develop future services. It was also noted that changes in technology (e.g. dial a ride, car and ride share) meant that PTAs were reluctant to commit to long franchises. A model of developing the contract to reflect the degree of maturity was highlighted; where a gross contract is optimal initially to ensure delivery, with a subsequent move to net cost or other incentive contracts (over time these would also need to evolve to resolve their weaknesses). [note I could not find your paper in the pack so this is just based on my notes]

Finally in this section, **Preston** took a look back at passenger rail franchising policy in Britain since its inception in the 1990s. He concludes that rail services may be less amenable to contracting out, due to instability in service requirements (rail passenger numbers have more than doubled since the mid-1990s), high sunk costs and technological issues relating to rolling stock, train control and electrification. There have been substantive issues in letting franchises and then enforcing delivery, particularly for inter-city services. He also notes that the Competition and Markets Authority (CMA) is advocating open-access competition at least for inter-city services; partly because of the failures of rail franchising in Britain.

2.2 Formal evaluations of efficiency, productivity and welfare when changing governance: rail

Smith, Benedetto and Nash explored the extent to which regulatory reforms in railways in Europe had impacted on costs (via the expected mechanisms of regulation of the infrastructure manager and enabling stronger competition). They extracted the regulatory reform aspects of the IBM Rail Liberalisation Index to generate a rail regulation index that was included in a cost function model. They find that strong economic regulation, combined with vertical separation, tends to reduce costs (whereas strong regulation in a more integrated environment is less effective in terms of cost reduction). They also note that strong regulation can overcome some of the negative consequences of vertical separation at high traffic density levels noted by Mizutani et. al. (2015).

Mizutani studied the impact of yardstick regulation on rail operator productivity in Japan. Overall their paper finds that yardstick regulation (applied only to large railways but not smaller ones) does not appear to have led to improved productivity performance or average cost reduction. However the authors do find some differences in TFP trends for different activities (train services versus track activities within the vertically integrated companies). A key factor affecting Japanese railways and some markets in particular has been falling passenger-km over the period of the study.

Finally in this sub-section, **Dementiev** develops a model to determine the optimal corporate structure of a partnership between a public body and a private (monopoly) operator. A number of such partnerships emerged in Russian railways in recent years. Based on the theoretical model the paper finds that social welfare can be improved by local authorities delegating fare setting and

subsidy decisions to partnerships with a particular corporate structure. It was found that the potential proceeds from selling the publicly-owned stake in the partnership could create a useful dynamic that leads to more business-oriented decisions.

2.3 Formal evaluations of efficiency, productivity and welfare when changing governance: bus

Sakai studies the impact of different contractual approaches for Japan's publicly-owned bus sector. It was noted that the sector was under considerable pressure resulting in operating deficits. The reforms have involved the contracting out of a sub-set of the service operations to private firms (though only operators in that region are allowed to bid). The impact of these reforms are studied econometrically based on a translog cost function. It was found that the policy had led to lower costs (with the reduction being higher where there is a higher proportion of contracting)

In a study of Swedish public transport **Vigren** compares the efficiency of 21 PTAs in 2013 (282 contracts). Costs increased substantially during the previous decade; thus the paper explores the impact of different contractual approaches on cost efficiency and what factors affect efficiency using a stochastic frontier model. Where direct awards are used cost efficiency is found to be lower although on a weighted average basis there was little evidence of much variation between the PTAs in efficiency performance. Interestingly high density operations were associated with low efficiency; which the author postulates might be due to the need to provide for peak services. Measures to even out the peak through pricing might be advantageous from a cost efficiency perspective.

Finally in this sub-section, **Svendsen, Hervik and Odeck** consider how the organisation of tendering (internal or external) impacts on technical efficiency. The study uses Data Envelopment Analysis (DEA) and second stage regression modelling to reach its findings. It is found that having less competitive tendering increases technical efficiency (an unexpected finding); it is also found that outsourcing the competitive tendering process leads to higher technical efficiency. The period studied was 2006-2013.

2.4 Specific aspects and evaluations of governance, risks, transactions costs and governance failures leading to legal action

Hensher, Mulley and Ho quantify the trade-offs that might be made between bid price and the disruption associated with changing to a new operator. Based on this information it is possible for evaluation committees (in principle) to adjust bids to take account of this factor, though the extent of the adjustment depends on the risk aversion of the committee. It was noted that in the sample studied only 44% of evaluation committees took account of reputation in their tender award decision.

Wegelin and Arx compare the transaction costs of different regional rail governance models, focusing on a comparison between competitive tendering in Germany and the direct award approach in Switzerland. They show that transaction costs should not be used as an argument against the introduction of competition. Factors determining transaction costs include having professional PTAs and trusting relationships (reduce transaction costs) whereas complexity increases transaction costs. They suggest that the German model, where transaction costs are manageable, is a useful starting point for application in Switzerland though they suggest several modifications.

Hensher, Ho and Knowles develop a choice experiment to understand the preference of operators (mainly bus operators in Australia) for different types of contract. They aim to address a gap in the literature with regard to the influence of risk preferences on contract choice. They show that knowing operator preferences towards different types of performance based contracts (and their different elements) should help in the formulation of an optimal contract design.

Finally in this sub-section **Camén and Fellesson** study 321 court judgements relating to procurement appeals in Sweden between 2007 and 2015. It is found that unfulfilled requirements is by far the most common reason for appeals. The next most common reason relates to challenges to the bid evaluation model used. Overall it is found that operators lose more often than they win, with this trend becoming even more prevalent in recent years. It is argued that tender authorities need to be careful when specifying requirements in contracts to reduce the number of appeals (successful or not). Smaller companies, facing bankruptcy, may appeal despite the low chance of success.

2.5 Comparative governance analysis and evaluative frameworks

Hirschhorn and Veeneman develop a framework for mapping institutional roles and designing reforms which is tested through two cases (Sao Paulo and Amsterdam). One finding from analysing the case studies is that governance of public transport systems needs to include institutions that (i) represent fragmented stakeholders; (ii) secure public values such as safety; (iii) coordinate service aspects over concessions, layers of government / jurisdictions (e.g. relating to ticketing, information, connections, construction works); and (iv) provide service resources (infrastructure; vehicles). Future developments in the framework need to consider, inter alia, addressing the multi-layered character of governance.

In his second paper **Veeneman** develops a framework to analyse the coordination between rail network providers and train service operators. Resulting from European legislation and adopted in other places in the world, network providers and service operators have been separated, so called unbundling. This allows for more competition, as access for other train service operators can now be indiscriminatory. Earlier research has shown that the reduced coordination between these to entities can reduce the quality of decision making on disruption management and on investment decisions spanning rails and trains. A possible answer could be bringing the two together again under one management. Veeneman proposes a framework to analyse the (potential for) coordination between the two that looks at a wider set of coordinative mechanisms, including and beyond hierarchical management. This would allow for both a more mature analysis of coordination in more competition driven markets as well as a wider set possible coordinative tools when confronted with the downsides of unbundling.

Finally, in this sub-section, **Pedro and Macário** review public transport contracts from across the world with a view to providing guidance on appropriate contractual approaches for BRT systems. They note that public transport is in a "phase of continuous and accelerated change throughout the world". Key issues highlighted include division of responsibilities between national and local authorities, financial organisation, operator relationships with PTAs and the benefits of using competitive pressures alongside or instead of regulation. The paper notes the general trend towards

tendering and privatisation. They argue that further research is needed to ensure successful contracts in future reforms.

3. Discussion and policy recommendations

At the beginning of the workshop the following questions were posed. The first question looked at the variety of models of governance we are presented with, both regulatory and contracting elements. The workshop showed a variety of models with tendering still being one major topic of research and an attractive option allowing the integration of government control and private competition. The most striking feature of the discussion is the maturity of tendering. To some extent it seems that research has a hard time keeping up, as standard evaluations pre and post introduction of tendering are not catered to the tuning that has been going on. The Singapore Land Transport Authority showed in their presentations how fine-tuned their introduction of tendering was. For Santiago de Chile it was clear that in their third iteration of improving the contracts it was necessary to further improve the effectiveness of the tendering regime. In Norway the discovery was that municipalities working together in a single transport authority were more efficient in providing public transport services than municipalities working by themselves. In Finland, tendering was seen as mature enough to introduce it at once in the whole country. In Australia, a detailed look was given to the preferences of accessors of bids, looking beyond the expectation that awarding systems trigger purely objective evaluations. In Japan, competition is limited to local operating companies, with an expected negative effect on efficiency. However, the long-term relation created trust and commitment, which provided a positive effect, especially useful in a situation where assets remain in the hands of the authorities. The discussion showed examples of functioning governance refraining from competition in Australia, Netherlands, Japan, Switzerland and Russia. Both in Japan and the Netherlands the benchmarking effect of tendering was made clear on concessions that were not tendered out.

In the discussion it became also clear that objectivity in evaluating bids is needed, but there also should be a place for subjectivity. Some aspects of the bidding company are hard to objectively compare a priori the awarding of the concession. The rigid European focus on objectivity seems to disable the inclusion of those aspects, even though they can be prime predictors of the performance of the operators. Swedish research showed that in the European context operators often appeal against that rewarding system, but more so because of mapping the requirements to their or other operator's bids. Also in Russia, the the leasing of facilities was contested in court. The research presented in the course of the workshop indicated the potential importance of including recognition of transition costs in the evaluation process itself.

Tendering is maturing in a process focussing more and more on detailed design choices. This is a process that research should be following. Research should be following this lead by understanding the detailed effect of specific design elements of a tendering procedure or context. A key discussion point in that context was also the cultural differences that drive the potential effect of tendering. In Australia operators do not tend to go to court against authorities, in Sweden it is normal. In Switzerland public support for public transport is undisputed, which is not the case in Germany. In Japan and Switzerland, the focus is very much on the long-term, including long-term relations with operators. In the UK, Netherlands and Scandinavian countries the planning boundary is given by the length of the concession, looking no further than 10 years ahead. In Japan, the importance of

maintaining government owned assets in a good condition is recognised naturally even by the private operators, whereas in Australia running down these assets at the end of a concession needs to be contractually prevented. In the Netherlands, town and country planning and public transport planning go hand in hand, in Brazil, this is far less so.

In addition, tendering seems to have reached a saturation point. The benefits in terms of efficiency quickly materialise after the transition to tendering, but after that the gains of the governance model level off and it also shows its quirks. In the comparative studies from Australia, Switzerland and Russia, other governance forms showed relative good performance and specific advantages over tendering. A Swedish example shows that tendered concessions actually showed lower technical efficiency. Tendering for a long time has been seen as a governance form that effectively could combine government demands and competition between private operators. It has delivered on that, but has not been the panacea that might have been expected. New Zealand is still planning its selective tendering approach, where the benefits should be harvested by tendering poorly performing operators, while the long-term relationship can be fostered with operators that are doing relatively well. In general it could be said that the efficiency benefits of tendering may be particularly felt where performance is lagging (which may well be in the first round of tendering); whereas models more based on partnership are more appropriate when performance is sound.

Another discussion point has been the ownership of assets, both in tendering and non-tendering environments. Capital is generally cheaper for governmental agencies, which makes their investments in assets cheaper. In addition, substantial risks related to these investments for private parties can be highly consequential, in effect threatening the continuity of the company. For government agencies this is less true. As stated earlier, differences exist between countries, not just institutionally but also culturally, in the way in which the interaction between the operator and the authorities play out. A key example was the difference between Japanese and Australian operators in the way they looked at maintaining vehicles at the end of concession, one being driven by pride and honour, the other by contractual agreements.

4. Recommendations for future research

In terms of future research, the workshop would point at four distinct ways forward. First of all, it has become clear what the value of tendering is: it (potentially) provides an improvement of efficiency, not only for tendered concessions, but also for concessions that can be benchmarked against the tendered concessions. Consequently, the line of research that looks at ex post analysis of tendering needs to focus on understanding the factors that ensure that the expected benefits of tendering are indeed captured (and if not, why not). As tendering becomes more mature, research can aim at more detailed design choices that have the potential to improve tendering towards and beyond improved efficiency. The examples we saw that pointed the way was the research on the possible biases of evaluators and the effect of cooperative or unitary authorities. This is a first way forward.

A second way forward is the clever use of competitive tendering in a wider context. New Zealand is showing the way in terms of institutionalising the combination of tendering and direct awards. Other

countries like Netherlands, Australia and Japan have stumbled in the effectiveness of mixed forms. Research could move towards evaluating the effect

The introduction of tendering is a combined set of changes in the governance; it includes a new distribution of tasks between public and private sector, governments drawing up explicit requirements, operators being explicit in their bids, competition between operators along a predesigned awarding system, contracts based on the explicit bids of the operators with specific incentives, and a concession management approach defining the relation between the operator and the authority in the concession period. A third way forward is to deconstruct these elements of tendering and understand their respective effects on the behaviour of operator and authority to get a more fundamental understanding of different governance elements on the performance. Tendering is just a very specific combination of these elements, which can be researched separately to design fundamentally innovative governance forms.

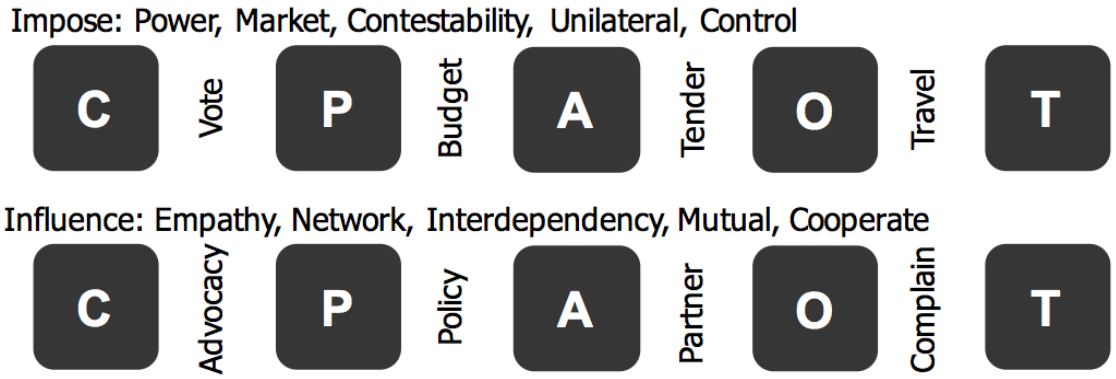

Figure 1 Imposing and influencing governance modes in the chain of interactions between key decision-makers in public transport (C is citizen, P is politics, A is authority, O is operator, T is traveller)

Finally, all governance models, including tendering, institutionalise the relation between the principal (the authority) and the agent (the operator) in two distinct modes. On the one hand, the principal is trying to impose its will on the agent, where the competitive tendering between the operators is driving out those that don't comply. The principal is focusing on controlling the agent. On the other hand, the principal needs to understand and work with the agent. The principal has to formulate requirements that are realistic, otherwise no bids will come in. During the concession period, principal and agent have to work together in partnership to provide the best service to the traveller. These two modes, unilateral imposing and multilateral influencing, are also recognizable in the other relations in the decision-making chain in public transport, from voting citizens through prioritizing politicians, planning agencies, service supplying operators, and service demanding travellers (see figure 1). How to balance the two modes in an institutionalisation of all the interactions between the decision-makers mentioned could be an important research question, in law between citizens and politics, in procedures between politics and authorities, in contracts between authorities and operators, and in charters between operators and travellers.

References

Mizutani, F, Smith, A.S.J., Nash, C.A. and Uranishi, S (2014), Comparing the Costs of Vertical Separation, Integration, and Intermediate Organisational Structures in European and East Asian Railways, *Journal of Transport Economics and Policy* (Fast Track Articles December 2014).

List workshop papers

- Andreas Vigren. Cost Efficiency in Tendered Swedish Bus Contracts
- Andrei Dementiev. Strategic partnership: a theory and evidence from suburban railway transport in Russia
- Andrew Smith, Valerio Benedetto and Chris Nash. The impact of economic regulation on the efficiency of European railway systems
- Carolina Camén and Makus Fellesson. Appeals against public procurement processes: an empirical study of complainants' arguments and court decisions
- David Hensher and Chinh Ho. Efficient Contracting and Incentive Agreements between Regulators and Public Transport Operators
- David Hensher, Corinne Mulley and Chinh Ho, Disruption costs in Contract Transitions
- Fabio Hirschhorn and Wijnand Veeneman. A New Framework of Tasks and Roles for Public Transport Governance and a Comparison between São Paulo and Amsterdam Metropolitan Regions – part 1
- Gloria Hutt and Pedro Pablo Errazuriz. How much public? How much private? In search of the balance that benefits users
- Goh Puay San, Swee Alison, Joo Hui Low and Wai Yan Leong. Transition to Government Contracting Model
- Hilde Johanne Svendsen, Arild Hervik and James Odeck. Does outsourcing of tendering processes in public transit enhance technical efficiency?
- Hiroki Sakai. Evaluating progressive contractual arrangement in Japanese publicly-owned bus sector
- John Preston. Deja Vu All Over Again? Rail Franchising in Britain.
- Jun Mizutani and Munekatsu Usami. Yardstick regulation and the operators' productivity of railway industry in Japan
- Marisa Pedro and Rosário Macário. Guidelines for BRT Contracts
- Philipp Wegelin and Widar von Arx. The impact of alternative governance forms of regional public transport on transaction costs. Case evidence from Germany and Switzerland
- Tero Anttila. A Big Bang in A Lazy Market: the Regulatory Reform of Finnish Bus Services in 2013-2014
- Wijnand Veeneman. Coordinative organizational mechanisms in railway operation and planning: a conceptual framework
- Wijnand Veeneman. Developments in Public Transport Governance in the Netherlands; Recent Developments

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