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Strategic partnerships in local public transport

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ABSTRACT

We present a rationale for the delegation of regulatory functions in public transport to a partnership that rebalances social and commercial interests according to an agreed and predetermined objective function. This allows for the improvement of economic efficiency providing a constructive commitment to tariff and subsidy policies. Using a simple model, we determine the optimal corporate structure for such a partnership between the local government and any regulated monopoly. The government's strategic option of using its stake in the partnership to generate budget revenue from sale proceeds and/or dividends encourages the relevant authorities to increase the commercial attractiveness of the joint enterprise by setting appropriate tariffs. We show that such a strategic partnership can lead to improvements in welfare if the local cost of public funds is relatively high. These theoretical findings are then examined through the prism of suburban railway transport reform in Russia.

1. Introduction

Local authorities are traditionally viewed as having limited capacity to raise fiscal revenues but while also being subject to strong political pressure from local users, taxpayers, private firms and trade unions (Boardman & Vining, 2012). As Dementiev and Loboyko (2014) point out, in the case of suburban rail regulators are often more concerned with serving the interests of their local passengers than those of the service providers. When political factors shift the balance of bargaining power from service providers to consumers (voters), local authorities experience additional pressure on their budgets. The obvious solution – to increase tariffs from 'socially desirable' to economically optimal levels – may not be politically acceptable, and thus local authorities would prefer to extricate their tariff decisions from any political pressure. Not surprisingly, local public agents with limited financial resources seek various governance models in regulated markets, including but not limited to fully state-owned enterprises, mixed enterprises, public–private partnerships (PPPs) and regulated private firms.

Unlike many other public utilities, suburban rail services face competition from alternative modes of transportation, including public buses and private cars. This external competitive pressure also shapes the regulatory policy, affecting the choice of organisational capacity in the sector and providing local authorities with the option of abandoning services. The noticeable variety of alternative delivery models in local public transport worldwide and the flexibility that local authorities are perceived to have in designing institutional environments in their service areas mean that analysis of organisational transformation in local public transport demands intense research.

The growing number of local mixed enterprises (or institutionalised PPPs with a certain combination of public-sector and private sector joint share ownership) as well as contractual PPP arrangements (with sequential share ownership) has boosted research on the optimal choice of organisational capacity (Cruz, Marques, Marra, & Pozzi, 2014). Admittedly, this stream of literature remains mainly descriptive (Vining, Boardman, & Moore, 2014). The obvious conflict of objectives between owners makes institutional design of partnership structures fairly complicated from both a theoretical perspective and in respect of practical implementation. For instance, Moszoro (2014) considers the view that PPPs are special purpose vehicles, with the shares in equity contributed by the parties, which reflects the shareholders' voting power in managerial decisions.

In the case of regulated markets, the role of local authorities is at the least twofold: they should maximise social welfare measures as

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the regulator and provide for the returns left for stakeholders as the residual claimant in the partnership. Eventually, they delegate de facto tariff-setting responsibilities to an entity that rebalances the interests of the participants according to its share structure. Regulatory function in PPPs for the provision of transport infrastructure has been discussed by Carmona (2010). Indeed, the author points out that at the strategic level of regulatory action, there is a need to balance a multiplicity of objectives, which vary according to specific economic conditions.

Our paper lays out a positive theory of partnership design in the regulated public sector that is motivated by political considerations, yet benchmarked by social welfare maximisation criteria. In an attempt to improve social welfare and take into account society's preferences for redistribution, local authorities can delegate their regulatory functions to a more commercially oriented joint venture – an *ordinary partnership* – that values commercial profit more highly than general society does. The objective function of this intermediary will reflect the corporate structure of the partnership: $(\omega, 1-\omega)$, where ω stands for the public agent's share, and $(1-\omega)$ represents the private agent's stake. The idea here is to use the establishment of an entity with a transparent decision making structure as a commitment to future regulatory policy that balances public and commercial interests in a predictable way (Kamijo & Tomaru, 2014). In particular, by allowing the private stakeholder to generate greater revenue, local authorities will tend to reduce the use of public funds for the sake of meeting fiscal constraints.

Similar analysis of Bennett and Iossa (2006) suggests that, in the context of contracting out public service provision, the decision rights can be strategically delegated to a PPP with a distinct objective function that has a greater profit orientation and a smaller concern for social benefit than the public sector agency. The relative weight placed by the PPP on social benefits is assumed to be exogenous in their paper. Its interrelation with the shadow cost of public funds proves to be crucial for the delegation scheme to be optimal for cost-reducing and quality-enhancing innovations. The authors admit, nevertheless, that if the value of this weight can be determined precisely to fit the government's goals, the delegation would result in a first-best solution. Our model develops this idea and shows how the optimal weight in the partnership's objective function depends on its (properly chosen) share structure $(\omega, 1-\omega)$, the local cost of public funds (λ) and the regulator's concern for profits (α).

The problems with endogenous choice of regulatory arrangements in the context of local public transport in France have been thoroughly investigated in a recent paper by Gagnepain and Ivaldi (2016). They also adopt a positive approach and built a private interest theory of political regulation by assuming explicitly that local authorities, inter alia, care for the profit of the regulated firm more than a benevolent social welfare maximiser. The authors estimate a structural endogenous switching model to recover the parameters λ and α assuming that the type of regulatory contract (fixed-price or cost-plus) impacts costs but not prices and demand. On the contrary, our analysis rests on the assumption that the cost structure is unaffected by the regulatory arrangements while pricing decisions and corresponding local budget subsidies (T) crucially depend on λ and α as well as strategic considerations of the local authorities.

These strategic considerations reflect the dual role of local authorities being a price setting regulator on the one hand and residual claimant for the retained profit on the other hand. The temptation to use the partnership as a revenue 'cash cow' to finance budget needs changes its ex ante optimal share structure. From a contractual point of view such a regulatory arrangement – a *strategic partnership* – should explicitly state the dividend and/or privatisation policy principles. When designing the partnership's corporate structure, local authorities face a trade-off between their stake in the partnership (ω) and its profitability (π). Setting higher tariffs allows them to generate revenue from dividends and/or potential sale proceeds which can be used to at least partially relax their budget constraints and favour taxpayers at the expense of users. At the same time, such an increase in the commercial attractiveness of the joint enterprise implies that the government's involvement is relatively low (social concerns are moderate) and the partnership is dominated by the private agent.

Our model shows that the above-mentioned considerations increase the optimal government stake in the strategic partnership as compared to the ordinary partnership for any parameter values of λ and α. However, the first-best social outcome can only be achieved by means of strategic partnership arrangements if the local cost of public funds is high. Furthermore, the optimal corporate structure of such a partnership may not be unique. Hence, local authorities may choose between the alternatives in an attempt to minimise the net transfer from the budget $(T-\omega\pi)$ other things being equal. Remarkably, changing the government's involvement in a strategic partnership may not necessarily lead to a different regulatory policy (tariffs may remain the same), while in the case of an ordinary partnership a lower stake of the public agent always implies higher tariffs.

These theoretical findings are then examined through the prism of the suburban railway transport reform in Russia. The reform resulted in the establishment of 26 profit-oriented train operating companies in 73 service areas organised as joint ventures (Suburban Passenger Companies or PPKs) between the local authorities and regulated service providers. The corporate structures of the established partnerships, as well as tariff policies, were designed at a regional level, while subsidies were also provided by the federal centre and in many cases were out of the control of local authorities.[1] Approximately half of all PPKs were organised on a parity principle between RZD (Russian Railways JSC) and local authorities, while some regions preferred lower stakes in PPKs. Their performance also turned out to be very different. Furthermore, the process of organisational transformation has diverged dramatically across different Russian regions and has culminated in the privatisation of the public stake in the Central PPK servicing the Moscow region on the one hand, and the abandonment of commuter services in economically depressed regions on the other hand. The observable variety of PPKs' corporate structures makes our theoretical findings applicable and relevant for policy making.

The rest of the paper is structured as follows. Section 2 develops a theory of organisational choice when delegation of regulatory functions to a partnership with an optimally chosen corporate structure improves social welfare. Section 3 presents the main theoretical results that depend on whether the partnership is 'ordinary' or 'strategic'. The model's implications are further discussed and interpreted in Section 4. The experience of the organisational transformation of suburban railway transport in Russia is placed in the context of theoretical discussion in Section 5. Section 6 concludes the paper.

2. The model

Consider a simple model of a regulated monopoly (the firm) that delivers a homogenous (transportation) service at a regulated unit price $P \geq 0$ and receives a transfer payment T from the government. For the sake of model tractability, we consider linear demand function $Q = 1 - P$ with the maximum willingness to pay

[1] In some regions and service areas (like Moscow Region, Saratov Region, Krasnodar Region and some other) more than one PPK operate the routes, but this is an exception.

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