



Transport pricing and Public-Private Partnerships in theory: Issues and Suggestions

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A B S T R A C T

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This chapter offers a theoretical examination of the following questions: what are the issues that arise when Social Marginal Cost Pricing is to be incorporated in Public-Private Partnerships (PPPs); and how may these issues be dealt with?

We first briefly discuss Public-Private Partnerships in transport: what are the defining characteristics and what are the main types that exist in the different modes of transport? Next we consider the economics of Public-Private Partnerships, in particular from the viewpoint of incentives. Subsequently we identify and examine the issues that arise when Social Marginal Cost Pricing is to be incorporated in PPPs as a regulation with regard to pricing in the transport sector. Lastly, we investigate the possibilities of resolving these issues.

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1. Introduction

Public-Private Partnerships (PPPs) have become a much favoured way of introducing private capital into transport projects whilst maintaining an element of public interest. This chapter considers the potential conflicts that might arise between the freedom of the private operator within a PPP and other elements of the public sector's transport policy. Specifically it tackles the question of the problems that might arise when the public sector wishes to implement Social Marginal Cost Pricing (SMCP) as a form of transport pricing, which might appear to limit the freedom of the private interest to maximise its value from the PPP according to the contract. In this chapter we demonstrate theoretically the potential inconsistencies between such policies and suggest ways in which they may be overcome.

In Section 2 we begin with a discussion on Public-Private Partnerships in transport: their defining characteristics and the main types that exist in the different modes of transport. In Section 3 we consider the performance drivers that are important within PPP-contracts: the elements within the PPP-contract that produce 'value-for-money' and how they do this. After a brief introduction to Social Marginal Cost Pricing, this informs an analysis of potential problems that may arise when trying to incorporate SMCP within a PPP-contract in Section 4. Section 5 examines possible solutions to the issues identified in Section 4. Section 6 presents our main conclusions.

2. Public-Private Partnerships in Transport

Public-Private Partnerships in the transport sector encompass many different kinds of contracts: BOT (Build-Operate-Transfer), BOO (Build-Own-Operate), DBFMO (Design-Build-Finance-Maintain-Operate), concessions, etc. These different contract types share several features:

- Public responsibility is retained. This distinguishes PPP from privatisation, in which public responsibilities are transferred to the private sector. However, similar to privatisation, a commercial private party is given an opportunity to deliver a 'public service' and is allowed to make a profit doing so.
- Multiple tasks are integrated in one contract. Whereas in more traditional forms of procurement there is a separate contract for e.g. the design, the construction, the maintenance, the operation, etc. of a certain asset, in case of PPP several of these tasks are integrated in one contract.
- Along with the integration of multiple tasks, there is a substantial transfer of risks to the private party. For example the risks of cost overruns, delays in construction, the scale of operational and maintenance expenditures, etc. may be devolved upon the private party. This distinguishes PPP from more traditional forms of procurement, in which most of the risks are usually borne by the public party. In the PPP-contract risks are allocated between the public and private party, and this will also determine e.g. ownership of the asset, liability, restrictions in operation for the private party, etc.

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PPP-contracts can however differ according to the following characteristics:

- Scope of tasks. PPP-contracts can vary in accordance to the tasks they encompass. PPPs may involve an investment in a new asset (Greenfield) or the rehabilitation of an existing asset (Brownfield). The contract will usually cover the design, construction and maintenance, and often also the operation/exploitation of the asset.
- Payment for the transfer of the asset. When responsibility and/or ownership is transferred from the private party to the government at the end of the contract period, contracts may, or may not, stipulate a payment for the residual value of the asset.
- Revenue Generation. Many PPP-projects get their revenues directly from exploitation (user payments by way of e.g. toll, charges, or ticketing). However PPP-projects may also be funded indirectly through public funding that is performance based (e.g. shadow toll, availability payments). Combinations of direct payments by users and performance based public payments also exist.

This last point especially will be important later in this chapter: PPP-contract types exist in which revenues are **not** generated directly from exploitation, but instead are generated through performance based payments paid by the government (see box below).

The SoPC (Standardisation of PFI Contracts) by HM Treasury of the UK, and the standard DBFM contract of Rijkswaterstaat (Highways Agency) of The Netherlands each describe a payment mechanism based on availability. The one in the Rijkswaterstaat standard DBFM contract works as follows. From the moment the road is operational until the end of the contract period, the private operator receives an availability payment every quarter of a year. This availability payment is a fixed payment of which a reduction is subtracted depending on whether lanes of the road can be (fully) used or not during the reporting period. The following conditions can apply: a lane needs to be closed, a lane needs to be narrowed, or the speed is limited for a lane. For each of these categories a fee applies which also depends on whether the closure, narrowing or reduction of speed causes much inconvenience to road users. This latter is determined by the traffic intensities for different moments for each day in the week. When a lane is closed during a point in time that traffic is normally very intensive the fee is high, when the speed on a lane is only reduced at a point in time that there is little traffic, the fee is low. These fees are multiplied by the number of hours this condition holds. In this way the total amount of reduction to the fixed amount is calculated for the period. In addition to the reduction due to diminished operation of lanes, the payment may also be reduced because of a failure from the part of the operator that leads to a traffic accident or a hazardous situation, or an observed non-conformity to the contract (e.g. in the reporting demands). (Source: Rijkswaterstaat (March 2006): DBFM Basis Overeenkomst, version 1.1; and Treasury (March 2007): Standardisation of PFI Contracts, Version 4)

The different contract types can also be tied to different sections of the transport sector. Concessions in which revenues are generated through exploitation are especially prevalent in public transport services (urban public transit and railway operations), ports and airports. All the different types of PPPs (toll concessions, BOT, BOO,

DBFMO, etc.) are used for road and railway infrastructure. PPPs with performance based payment mechanisms are also frequently applied in road and railway infrastructure, especially in North-West Europe. PPPs for inland waterway infrastructure – i.e. canals, locks or dams – do not currently exist. However the situation would be in important ways similar to road and railway infrastructure, so the same contract types could be applied.

3. Performance drivers within PPP-contracts

The key economic characteristic of the relationship between public and private parties in a PPP is the extreme degree of ‘asset specificity’ (Williamson, 1975, 1985). The possibilities to generate revenues in ways other than designated in the contract are non-existent, or very limited. In the case of an investment in transport infrastructure it will moreover not be possible to relocate the asset, and generate revenues elsewhere. Once the private party has made the initial investment it is therefore in a highly vulnerable position since it cannot employ the investment in other ways than specified in order to generate an adequate return. Because of this level of asset specificity, the private party may be subject to so-called hold-up situations: other parties (the government, suppliers, users) may try to obtain the benefits the private party hoped to derive from the investment by abandoning the agreement or withholding crucial inputs after the investment has been made.

This large level of asset specificity also confers on the private party, a ‘temporary monopoly’. There is only one party that can exploit, operate and manage the asset at a time; there will be no competitors to do the same tasks for the same asset. Moreover, when the private party generates its revenues from exploitation, it will want to reduce any risk of competing initiatives that reduce the possibilities of generating sufficient revenues. Typical of the ‘temporary monopoly’ that is extended in the case of PPP, is that it is almost entirely regulated upfront through the PPP-contract. Therefore there is very little room for adjustments and ‘ad hoc regulation’ (as is usual in the regulation of monopolies in e.g. network industries) during the course of the contract.² The government will hence also be in a vulnerable position in a PPP: it retains ultimate responsibility, but it ceases to have direct control over the substantial tasks and responsibilities it has delegated to a private party that now holds a temporary monopoly. When the provision of infrastructure or transport services is deemed inadequate or when policy objectives in these areas change, the contracting government will, on the one hand be answerable to the general public for these matters, but on the other hand be tied to a long term agreement to a private party.

In a PPP-contract there is thus a delicate balance to be found between the interests of the contracting government and those of the contracted private party. Both parties will need assurances: the government wants to have certainty that the private party is ‘up to the job’ and does what is required to deliver adequate services, and the private party needs to be confident that the government will abide by the contract and let it generate sufficient returns on its investment.

Achieving this balance between the interests of the public party and the private party is however complicated by the asymmetry of information that exists between both parties. The private party (‘the agent’) has information on its skills, effort and input, that the public party (‘the principal’) does not have. This information asymmetry can lead to both ex ante inefficiencies and ex post inefficiencies. Ex ante inefficiencies can

² In practice it is however possible to make some adjustments and renegotiate specific terms during the course of the contract.

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