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Quality of institutions and private participation in transport infrastructure investment: Evidence from developing countries ☆

Marco Percoco *

Department of Policy Analysis and Public Management and CERTeT, Università Bocconi, Italy

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A B S T R A C T

In recent decades, owing to a series of public debt crises and constraints on government expenditure, infrastructure investment has dropped significantly in both developed and developing countries. To counterbalance this trend, Public–Private Partnerships (PPPs) schemes have been increasingly adopted. In this paper, we explore the determinants of the degree of private participation in transport infrastructure projects in a large sample of developing countries. By using a large sample of transport projects included in the World Bank Private Participation in Infrastructure Projects database, we document that greater participation by private parties in PPP contracts is associated with better institutions in terms of lower corruption, civil freedom, and a better regulatory framework.

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1. Introduction

Infrastructure provision is crucial for developing countries to keep transport costs low and possibly to enhance the attractiveness and competitiveness of their economies.

Recent decades have been extremely difficult for governments owing to strict budget constraints imposed by fiscal adjustments and policy rules that have significantly reduced the propensity to invest (Percoco, 2011). However, this long period of low investment in infrastructure has generated a situation in which the growth potential of countries has deteriorated and the size of unmet demand has increased, with subsequent negative impacts on poverty, income distribution, and economic development in general (Calderon and Servén, 2003; Percoco, 2012). To address this issue, governments have widely adopted Public–Private Partnerships (PPP), i.e. contract schemes in which private firms provide equity or services in public utilities (Grout, 2008).

According to the data reported in the World Bank Private Participation in Infrastructure database, private capital flows to infrastructure projects in developing countries grew from about US$ 20 billion in 1990 to a peak of US$ 161 billion at the end of 2008. The reasons for the popularity of PPPs can be found in a mix of exogenous conditions, i.e. severe public budget constraints, and in a changed attitude of politicians towards the provision of public services on the belief that a reasonable mix of quality and efficiency is made possible by the involvement of the private sector in sectors traditionally confined to public budget spending.

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* Address: PAM, Università Bocconi, via Rontgen 1, 20121 Milano, Italy.
E-mail address: marco.percoco@unibocconi.it

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Although PPPs now form a substantial part of the public management and finance literature (Collin and Hanson, 2000; Osborne, 2000; Teisman and Klijn, 2002; Van Ham and Koppenjan, 2001), still little is known about the influence that institutional context characteristics – like political stability, government effectiveness, regulatory quality, rule of law and control of corruption – exert on the use of PPPs. The relation between institutional variables and the use of PPPs is important for governments because if politicians have the right attitude towards them, arguably more PPP would be used in that country. However, the relation is important also for private sponsors and lenders because only when a good level of institutional quality is present in a country will they arguably be inclined to offer their services and financing to such partnerships. Whilst these assumptions seem reasonable, unfortunately also little is known about the use of different contractual forms of PPPs entailing different risk allocations between the public and the private sector in countries with institutions of different quality [1]. This latter aspect is particularly significant, and even more so in developing countries where public goods and services are even more important for the development of the economy but where the poor institutional background and the low quality of institutions can severely reduce the possibility for the private sector to act as a supplier of public goods (La Porta et al., 1998). Hammami et al. (2006) demonstrate that macroeconomic stability, past experience in PPP use, institutional quality, low corruption, and effective rule of law explain a higher use of PPP projects in a large sample of developing countries. Furthermore, Guasch et al. (2002) show that poor institutional quality, together with corruption, is the main determinant of PPPs renegotiations in Latin America countries (LACs). Corruption is also reported by de Jong et al. (2010) and Mu et al. (2008) in the case of China, and by Hirschhausen (2002) for Eastern Europe countries. These papers suggest that there exists a moral hazard problem in PPPs contract negotiation, where public administration and governments are prone to offer implicit or explicit guarantees, often consisting in future contingent liabilities. The quality and quantity of guarantees are also a function of the type of contract. Whilst it is reasonable to assume that the private sector is willing to accept the risks springing from the design, construction and management of a facility, it is also reasonable to assume that this willingness is strongly conditional on the quality of a country's institutions. If the quality of institutions is weak, the private sector is exposed to risks of creeping expropriation (Finnerty, 2007; Gatti, 2007), contract cancellation, or opportunistic renegotiation. These risks can be disruptive, particularly for larger projects based on long-term concession agreements. In sum, it seems reasonable to consider institutional quality as a determinant of the use of PPPs in developing countries.

Unfortunately, most studies are country-based and do not provide a broad cross-country analysis able to demonstrate whether differences in institutional quality and different levels of rule of law can explain the different uses of different PPP schemes. In this paper, we try to fill this gap by using a dataset from the World Bank Private Participation in Infrastructure Projects Database (PPI database) and the World Bank's Governance indicators.

We find that more structured forms of PPPs – i.e. those with high levels of private sector involvement – are positively correlated with the higher quality of institutions. In particular, we find that better institutions, especially in terms of regulatory framework and rule of law, attract private investment in infrastructure. This evidence is robust to controlling for public finance conditions.

The rest of the paper is organized as follows. Section 2 reviews the main literature available on PPPs and the role played by institutional variables in shaping the underlying contractual network of contracts between the public administration and its private counterparts. Section 3 introduces the methodology, based on an ordered logit model, and the variables used in the analysis. Section 4 presents the results of the econometric analysis. Section 5 concludes.

2. PPP schemes: a review of the literature

PPPs are contractual schemes under which public sector and private firms cooperate and share risks and profits to provide infrastructure services (Bing et al., 2005; Walton and Euritt, 1990). They can be classified into 12 types (see Appendix 1 for a full description) and grouped into 4 categories which can be ranked by increasing level of private participation and risk transfer from the public to the private sector, as shown in Table 1 (Booz&Co., undated; European Commission, 2003).

Forms of PPPs with larger private participation require careful analysis of risks by the private and public sector. For the private counterparts, risk analysis is important for deciding the mix of financial sources to be used in financing the deal, the cost of such financing (Corielli et al., 2010), and the risks to be borne by the public side. For public entities, concessions and structured forms of PPPs require identification of the risks to be transferred to the private sector and the design of incentives for the private sector to provide a satisfactory mix of service quality, efficiency, and cost saving (Grout, 2008). From this perspective, PPPs consist in the allocation of risks among parties by means of the proper design of contract agreements (Bing et al., 2005). Dewatripont and Legros (2005) argue that study of the allocation of risks cannot be separated from analysis of contracting terms between the parties. The sources of risk can be idiosyncratic (project-specific) and to a certain extent controllable by the private sector [2]. Other risks are obviously exogenous (they do not refer directly to the economic venture) and fall within the discretionary sphere of the public counterparty. Examples are political and country risk, quality of institutions (Thomsen, 2005; Guasch et al., 2002; de Jong et al., 2010), design of the legal system and of the rules protecting creditors' rights (Tung and Subramanian, 2009).

[1] For an interesting application to risk allocation in the transport sector, see Vassallo (2010).

[2] Corielli et al. (2010) demonstrate that, in project finance transactions, risk management is responsible for cost saving in terms of spread on loans used to finance the deal and an increased use of (cheaper) debt versus equity.

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