Does Regulation and Institutional Design Matter for Infrastructure Sector Performance?

Luis A. Andrés, José Luis Guasch and Stephane Straub

1 Introduction

During the 1990s, as part of structural reform in infrastructure industries more than US$750 billion was invested in 2,500 private infrastructure projects in developing economies. Nearly half went to the Latin American region, mainly through the divestiture of public assets in telecommunications and electricity sectors and transport concessions. Six countries – Argentina, Brazil, Chile, Colombia, Mexico and Peru – absorbed more than 90 per cent of private investment. Overall, the region was the most important beneficiary of the huge flow of private investments for infrastructure worldwide with private investment finance peaking at around US$130 billion in 1997. Since then, investors’ appetites have waned, public support for privatization has decreased, and the role of public investment in the provision of infrastructure services has gained momentum again.\(^1\) While the increase of public investment is welcomed, given the magnitude of infrastructure needs in the region – roughly 4 to 6 per cent of gross domestic product (GDP) per year to catch up or keep up with countries that once trailed it, such as China and Korea – and the fiscal limitations of the public sector, private sector financing for infrastructure will always be important in Latin America.

Whereas in Latin American countries, state-owned enterprises continue to account for more than 10 per cent of gross domestic product, 20 per cent of investment, and about 5 per cent of formal employment (Kikeri, 1999); however, the infrastructure sector has changed dramatically. Specifically, while at the beginning of the 1990s only 3 per cent, 3 per cent and almost 0 per cent of the subscribers of fixed telecommunications, electricity and water distribution, respectively, were in private hands, by 2003 these ratios were 86 per cent, 60 per cent and 11 per cent. Furthermore, the setting of a regulatory

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framework has accompanied the increase of private sector participation in infrastructure.

There is strong evidence supporting the generally positive economic results of these policies. Examples include Boardman and Vining (1989) and Megginson, Nash, and van Randenborgh (1994) (see Megginson and Netter, 2001, and Chong and Lopez-de-Silanes, 2003, for more recent reviews). Yet, public perceptions of the outcome are less positive. Chong and Lopez-de-Silanes (2003) have, among others, summarized and addressed the most frequent cited criticisms.

In the case of Latin American countries (LACs) and for the infrastructure sector, apart from case studies, there is little empirical literature analysing the impact determinants. Most of it has focused on all sectors and on the performance of financial indicators (see Megginson, Nash, and van Randenborgh, 1994). Recently Andres, Guasch, Haven and Foster (2008) have evaluated the impact of private-sector participation on output, efficiency, labour productivity, quality, coverage and prices, using a large cross-country data set for Latin America. The impact of competition has been analysed in Andres, Guasch, Haven and Foster (2008), the issue of renegotiation of concessions in Guasch (2006), Guasch, Laffont and Straub (2003 and 2004), and finally the profitability of private infrastructure firms in Sirtaine, Pinglo, Guasch, and Foster (2005).

However, little work that has focused on the determinants of sectors’ performance and most particularly on the impact of regulation on those outcomes. Even though the theory suggests that regulation matters, there is a shortage of empirical work analysing this issue. Some exceptions are Wallsten (2001), Jamasb (2005), Cubbin and Stern (2005) and Stern and Cubbin (2004).

The objective of this chapter is to add to that scarce literature, testing the impact of regulation from three different angles: (a) on the alignment of costs with tariffs – firms and profitability, (b) on reducing/deterring opportunistic renegotiation, and (c) its effects on productivity, quality of service, coverage and prices. This is discussed in Sections 2, 3 and 4 respectively.

For this, we used an extensive data set of about 1000 concessions granted in Latin America from the late 1980s to the early 2000s, compiled by Guasch (2003).

2 Testing the impact of regulation on aligning costs with tariffs and firms’ profitability

Unlike normal competitive business sectors, the profitability of concessions is not simply a reflection of market conditions and managerial competence, but is to a considerable extent determined – or at least circumscribed – by regulatory decisions. Infrastructure companies operate mostly under a monopoly regime and are thus subject to regulation of tariffs. Thus, the