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The potential role of economic cost models in the regulation of telecommunications in developing countries

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Abstract

What is the *efficient* cost of providing telecommunications services to a certain area or type of customer? As developing countries build up their capacity to regulate infrastructure monopolies, cost models are likely to prove increasingly important in answering this question, but without *information* no real answer can be given. In this paper, we will introduce cost models and establish their applicability when different degrees of information are available to the regulator. Reliable and detailed information is generally a scarce good in developing countries, and we establish here the minimum information requirements that a regulator needs to implement a cost proxy model approach, showing that this ‘data constraint’ need not be that binding. © 2002 Elsevier Science B.V. All rights reserved.

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1. Introduction

Worldwide privatization of the telecommunications industry and the introduction of competition in the sector, altogether with the ever-increasing rate of

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technological advance in telecommunications, raise new and critical challenges for regulation. For matters of pricing, universal service obligation (regulation required to boost industry growth in areas not currently served or to maintain provision to areas in danger of losing it) and the like, one of the key questions to be answered is: ‘What is the *efficient*¹ cost of providing the service to a certain area or type of customer?’

As developing countries move forward with their efforts to build up their capacity to regulate their privatized infrastructure monopolies, cost models are likely to prove increasingly important for several reasons. Firstly, an independent ability for regulators to assess costs can remove information asymmetries from the process of crafting efficient regulation. Secondly, independent cost estimates can increase transparency and may be helpful in reducing the risks of corruption that may exist in designing or reviewing pricing and subsidy policies. Finally, cost models may help in the development of infrastructure buildout policy by identifying cost differences across regions of the country.

Costs models deliver a handful of benefits to a regulator willing to apply them, but they also ask for something in advance: *information*. Without this vital element no answer can be given to the question posed above. In the remainder of this paper we will introduce cost models and establish their applicability when different degrees of information are available to the regulator. We accomplish the latter by running the model with different sets of actual data from Argentina’s second largest city and comparing the results.

The paper is organized as follows. Section 2 deals with the proper definition of costs and their measurement. Section 3 presents the FCC model for cost assessment in detail, while Section 4 discusses the data required to implement it. Section 5 concludes.

2. Costs and their measurement: a digression

2.1. Which costs are we talking about?

The regulator must decide on the relevant definition of costs to be considered in cost models when answering the question in the first paragraph of this paper. Firstly, a distinction should be made between economic and accounting costs. Economic cost is about *opportunity cost*, i.e. the reward the factors of production involved in the provision of the service would obtain in their best alternative use. As stated in Atkinson et al. (1997) firms make decisions based on prices and economic costs; in particular, in dynamic, competitive markets like telecommunications, firms base their decisions on the relationship between prices and *forward-looking economic costs*, so this is the relevant definition of economic costs to be

¹ Firms should not be paid for their inefficiencies.

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