



Price elasticity of demand for broadband: Evidence from Latin America and the Caribbean



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ABSTRACT

In this study the authors analyze fixed broadband retail prices in Latin America and the Caribbean (LAC), and provide estimates about the effect of price changes on broadband adoption. The analysis is based on a survey of plans and tariffs conducted by the authors during Q2 2010. Their results suggest that fixed broadband services in LAC are generally expensive and of poor quality when benchmarked against Organisation for Economic Co-operation and Development (OECD) countries, although there is significant variance between markets in the region. In order to isolate the effect of prices on broadband adoption they use an instrumental-variable approach. Their findings show that broadband demand is relatively elastic to price in LAC but not in the OECD. They estimate that an average price reduction of 10% would result in an increase of almost 22% in the penetration rate in LAC, equivalent to almost 8.5 million additional broadband connections. Several policy implications result from these findings. First, national broadband policies in LAC should pay a closer attention to a deficit of competition in fixed broadband services, as households and firms face high prices for poor quality services, thus deterring adoption. Second, while their findings generally suggest that price reductions could significantly increase penetration, they elasticity estimates reveal that price effects might not be sufficient to achieve the penetration goals set in national broadband plans. This validates the need for complementary policy strategies that affect other determinants of broadband demand. The example of Brazil is used to illustrate this finding.

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1. Introduction

National initiatives to promote the development of broadband have flourished in Latin America and the Caribbean (LAC) since 2008. These initiatives contemplate ambitious targets to increase broadband adoption in the region, which lag considerably in comparison to OECD countries (Jordan, Galperin, & Peres, 2011). While national broadband plans vary significantly in scale and policy instruments, most seek to achieve significant reductions in retail prices in order to spur demand by households and firms. Estimating the own-price elasticity for broadband demand is therefore critical for setting realistic penetration targets, and more broadly for the efficient allocation of resources in national broadband plans.

There is a considerable literature about the determinants of broadband diffusion across countries (Chinn & Fairlie, 2010; Močnik & Širec, 2010; Wallsten, 2005), and yet few of these studies take retail prices into account. This omission is due in part to lack of comparable data, as regulators in developing countries often do not track ISP prices systematically. Furthermore, most of the existing literature fails to address the potential endogeneity between broadband prices and adoption, which results in biased estimates about the relationship between retail tariffs and broadband penetration.

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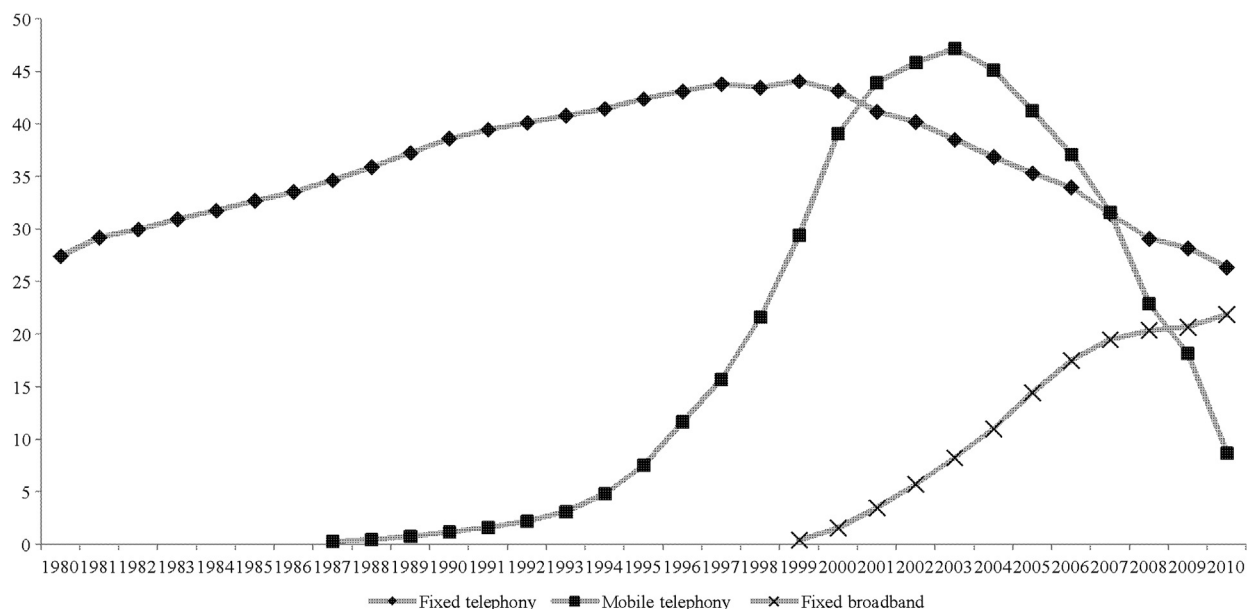


Fig. 1. Access gap between OECD and Latin America and the Caribbean, by type of service, 1980–2010 (in percentage points).

Source: ITU, World Telecommunications Indicators Database, 2011.

In this study the authors analyze fixed broadband retail prices in LAC, both within the region and benchmarked against OECD countries, and provide estimates about the effect of price variations on broadband adoption. The analysis is based on a survey of plans and tariffs conducted by the authors during Q2 2010, which covered 323 service plans offered by 54 operators in 23 countries in the region.² Their results suggest that fixed broadband services in LAC are generally expensive and of poor quality when benchmarked against OECD countries, although there is significant variance between markets in the region. In order to isolate the effect of prices on broadband adoption they use an instrumental-variable approach to estimate broadband demand across countries. Their findings show that broadband demand is relatively elastic to price in LAC but not in the OECD. They estimate that an average price reduction of 10% would result in an increase of almost 22% in the penetration rate in LAC, equivalent to almost 8.5 million additional broadband connections.

Several policy implications result from these findings. First, national broadband policies should pay a closer attention to a deficit of competition in fixed broadband services, as households and firms in LAC face high prices for poor quality services, thus deterring adoption. Second, while their findings generally suggest that price reductions could significantly increase penetration, their elasticity estimates reveal that price effects might not be sufficient to achieve the penetration goals set in national broadband plans. This validates the need for complementary policy strategies that affect other determinants of broadband demand, in particular equipment affordability, digital literacy and availability of relevant applications and content.

The paper is organized as follows. In [Section 2](#) they provide background statistics about broadband adoption and price/quality levels in LAC. In [Section 3](#) the econometric model is described and results are discussed. [Section 4](#) discusses the policy implications of the findings and demonstrates how results can be applied to the case of Brazil, the largest broadband market in the region. [Section 5](#) provides brief concluding remarks.

2. Catching up to a moving target

Broadband adoption has grown exponentially in LAC over the last decade, with fixed broadband subscriptions growing at a compound annual growth rate of 76% between 2000 and 2010 ([ECLAC, 2011](#)). Despite such strong market performance the region still lags significantly in broadband adoption when compared to OECD countries. As [Fig. 1](#) shows this broadband adoption gap has been relatively stable over the past years, while adoption gaps for other services (in particular mobile telephony) have decreased significantly in the same period. Market expansion in LAC has slowed in recent years, with annual growth below 20% for 2010, prompting policymakers to adopt a more proactive approach towards broadband deployment.

² Mobile broadband services are not included in the analysis for two main reasons: first, because of the inconclusive evidence about whether fixed and mobile broadband are complements or substitutes (see [OFCOM, 2010a](#)); and second, because of the difficulties in comparing quality levels between fixed and mobile access services (see [OFCOM, 2010b](#)).

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