

## Output-Based Aid in Telecommunications New Models for Universal Access in Latin America

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**D**uring the 1990s many Latin American countries developed universal access programs, financed through universal service funds, to increase telecommunications access in rural and low-income areas. The mechanism most often used to allocate the funds was the minimum subsidy tender, with subsidy payments linked to predefined performance criteria (such as installation of telephones in rural areas) under an output-based aid (OBA) approach. After more than 10 years' experience, a study evaluated the performance of the universal service funds in Latin America, home to some of the first OBA programs in telecommunications. The aim was to identify lessons and best practices and help regulators define a new generation of universal access programs using OBA mechanisms.

Until the early 1990s, providing access to basic telephone service in Latin America was usually the purview of a monopolistic state-owned operator. Coverage in rural and low-income areas, by at least a pay phone, was often part of specific service obligations placed on these (usually inefficient) incumbent operators.

During the 1990s Latin America led a wave of telecommunications reform that would later spread worldwide. Privatization of state-owned fixed-line operators, along with gradual liberalization, brought effective competition and new services to the sector. But competition focused mostly on urban areas, leaving rural and low-income areas behind. In response, many countries undertaking reforms developed universal access programs that focused on increasing access to voice service in these areas. Most of these programs have been financed through universal service funds (USFs). These funds, usually financed by fees levied as a small percentage of revenue on all sector operators, are managed by the sector ministry or regulator.

The main idea behind these funds is simple: since many rural and low-income areas are unattractive to private investors, the government would use smart subsidies to create enough incentives for a private operator to serve them. The mechanism most often used to allocate the funds has been the minimum subsidy



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tender, with subsidy payments linked to predefined performance criteria (such as installation of telephones in rural areas)<sup>1</sup>—an output-based aid (OBA) approach.

After more than 10 years' experience, a group of donors and stakeholders decided to evaluate the performance of these programs through a two-year in-depth study (Stern and Townsend 2006).<sup>2</sup> The main objectives were to review the performance of telecommunications funds, calculate the investment required to close the access gaps that remained, and provide recommendations to members of Regulatel (the Latin American forum of telecommunications regulators) on developing and implementing effective, targeted, and sustainable universal access programs, including OBA programs.

<sup>1</sup> Minimum subsidy tenders are open, competitive tenders that award public subsidies for a specific project to the company requesting the smallest amount.

<sup>2</sup> The study was funded by GPOBA and the Public-Private Infrastructure Advisory Facility (PIIAF); the Economic Commission for Latin America and the Caribbean (ECLAC); the Alliance for the Information Society of the European Commission (@lis); and Regulatel. This note consists mainly of extracts from the report.

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## Fund performance

Telecommunications reform in the region produced impressive results. Between 1995 and 2004 the number of lines increased from 45 million to 365 million, and teledensity (telephone subscribers per 100 people) from 10 to 50. New services, such as mobile telephony, covered most urban and even some rural areas.

The main driver of this growth has been private investment: between 1994 and 2005 the private sector invested more than US\$116 billion in telecommunications in Latin America. Most of this investment took place during and right after privatization, as operators sought to meet pent-up demand and, in some cases, fulfill build-out obligations.

The USFs, created in 14 of the 19 countries studied, helped mobilize investment in previously unserved

areas. By the end of 2005 they had financed more than 27,000 pay phones in nearly 13,000 rural and low-income villages as well as 19,000 telecenters benefiting nearly 10 million people. The funds allocated totaled almost US\$300 million, leveraging up to four times this amount in private investment. In some cases competition among operators ended up in projects being awarded with no subsidy requested.

Despite these impressive figures, universal service funds showed some limitations, especially in more complex projects.

- ◆ *Slow disbursement.* By the end of 2005, 12 percent of the funds raised had been committed to projects (42 percent excluding countries with a disbursement ratio of 0) (table 1). Of the 14 countries with a universal service fund, 3 used or allocated

**Table 1. Disbursement ratio of universal access programs in Latin America as of December 31, 2005**

Country	Fund	Amount raised (US\$ millions)	Committed or used (US\$ millions)	Disbursement ratio (%)
Argentina	FFSU	—	n.a.	0
Bolivia	FNDR	43.5	0.0	0
Brazil	FUST	1,680.8	0.0	0
Chile	FDT	30.0	30.0	100
Colombia	FCM	448.6	166.0	37
Costa Rica <sup>a</sup>	None	n.a.	n.a.	n.a.
Cuba	None	n.a.	n.a.	n.a.
Dominican Republic	FDT	65.7	10.8	16
Ecuador	FODETEL	1.0	0.0	0
El Salvador	FINET	32.7	0.0	0
Guatemala	FONDETEL	17.9	7.8	43
Honduras	None	n.a.	n.a.	n.a.
Mexico	FCST	25.3	25.3	100
Nicaragua	FITEL	4.0	0.8	19
Panama	None	n.a.	n.a.	n.a.
Paraguay	FSU	13.0	12.5	96
Peru	FITEL	143.1	45.1	32
Uruguay	None	n.a.	n.a.	n.a.
Venezuela, R.B. de	FSU	113.2	0.0	0
<b>Total</b>		<b>2,585.0</b>	<b>298.1</b>	<b>12</b>
Excluding countries with disbursement ratio of 0		713.8	298.1	42

— Not available.

n.a. Not applicable.

a. Costa Rica created a fund in 2008 (FONATEL) but it is not yet active.

Source: Stern and Townsend 2006.

90 percent or more of their fund and 11 used or allocated 45 percent or less, including 6 that used none. Slow or zero disbursement was due to problems such as jurisdictional or legal disputes between fund administrators and other ministries (mostly regarding the scope of activities the fund could cover), diversion of the funds to uses other than those for which they were intended, and, in some cases, use of the funds as a contingency to improve fiscal balances.

- ◆ *Mixed track record on telecenters.* Projects involving telecenters and Internet access need complementary programs to ensure sustainability of the telecenters and effective use of the Internet. The most successful such projects have been those linked from the outset to specific goals, such as e-education and e-government, and those involving beneficiary communities from early on. One example is the Informatics Training Centers project in the Dominican Republic, led by the telecommunications regulator. Focused mainly on education, it signs partnership agreements with private schools and nongovernmental organizations that commit to operating a telecenter according to the regulator's rules and providing classes during part of the day.
- ◆ *Lack of sufficient backbones.* For projects to provide bandwidth-intensive applications and integrated voice-data services, the lack of sufficient domestic backbones in rural areas becomes a critical bottleneck. But the region has almost no experience with backbone projects financed through USFs. Peru's government, through its fund, is trying to develop a tender for a rural backbone project that would cover the Andean region, providing access to broadband at relatively low cost and allowing the emergence of smaller operators or more ambitious last-mile projects.
- ◆ *Top-down approach.* Traditional projects financed by USFs are supply centric and designed under a top-down approach. These projects rarely offer the flexibility required to satisfy multiple needs from different communities: as projects become more application centric, buy-in from local communities becomes essential. Leveraging local initiatives calls for OBA-based mechanisms other than minimum subsidy allocation. For example, fund administrators could assign a share of their annual collection to projects that are presented or endorsed by community leaders on a first-come, first-served basis, as long as they meet preset criteria.

- ◆ *Lagging regulation.* Since the sector reforms of the early 1990s, new trends and new technologies have emerged. Rules and regulations have not kept pace. USFs are no substitute for periodically updating sector regulations to promote investment in rural areas. The analysis showed that as long as the right regulation is put into place, part of the market could be served by private operators without public funds.

All these shortcomings stem from slow adjustment to an ever-changing environment. Most first-generation programs had clear, measurable, and achievable goals. But as projects and demand have evolved, many have failed to update their objectives and lack a cohesive strategy with consistent goals and metrics.

## Recommendations from the study

The evaluation of the universal service programs led to a range of recommendations for stakeholders, which can be grouped under three main headings.<sup>3</sup>

### Update and redefine universal access

The new generation of programs will need to take market and technology developments into account in their design and implementation and to focus on both supply-side and demand-side stimulation. They also need to sharpen their focus on improving access to and productive use of the Internet. Key success factors will be clear policy goals, cross-sector coordination, and active involvement of beneficiary communities.

Programs also need to add new objectives, including *universal geographic coverage*, allowing poor people who can afford private phones (entrepreneurs, local farmers) to get them, and *universal community access*.

### Improve the use of funds

There are many entrepreneurial activities and pilot projects across the region. But because of regulatory and financial bottlenecks, they find it hard to scale up. To support these local initiatives, the USFs need to broaden the range of mechanisms for disbursement. Possible options include financing bottom-up and demand-oriented initiatives, creating special procedures for operator-designed projects and pilots, and even giving grants on a first-come, first-served basis, through streamlined procedures, to partially cover in-

<sup>3</sup> For full results, see Stern and Townsend (2006, annex 1).

### Box 1. Performance indicators for OBA schemes

To be effective, performance indicators to trigger payments under OBA schemes in rural telecommunications should:

- Focus on the needs of users in rural and remote regions.
- Be quantifiable and calculated according to a clearly defined formula.
- Avoid creating excessive administrative and financial burdens for the operator.
- Have penalties in proportion to the cost and inconveniences suffered by users.
- Encourage the operator to improve quality and to invest.
- Take into account challenges involved in serving remote and difficult locations.

vestments. OBA schemes should be in place to ensure service delivery, with carefully designed performance indicators for triggering subsidy payments (box 1).

### Implement reforms

As noted, legal and regulatory frameworks have not kept pace with technological and market innovations. The study estimates a 10 percent market gap—that penetration could be increased by another 10 percent with the right legal and regulatory framework.

Some important bottlenecks are not directly under the control of regulators or sector ministries. Eliminating these will require strong leadership and effective coordination between ministries and between national, regional, and local governments. Key reforms include the following (not in order of priority):

- ◆ Putting in place service targets for existing operators in areas considered to be commercially viable.
- ◆ Reducing regulatory taxes and fees, especially spectrum fees in rural areas.
- ◆ Lifting restrictions on the use of certain radio spectrum bands in rural areas, deregulating voice-over-Internet protocol (VoIP), and simplifying licensing processes for rural operators.
- ◆ Facilitating interconnection and asymmetric tariffs for small and rural operators.
- ◆ Helping small and rural operators obtain rights-of-way for network facilities.
- ◆ Requiring and enforcing infrastructure sharing between telecommunications operators and electricity, gas, water, and road infrastructure providers.

### Impact and next steps

The study was presented in Lima, Peru, in November 2006, to an audience that included policy makers, regulators, and fund administrators from the 19 Regulatee countries as well as representatives from companies and governments outside the region. Published in early 2007, the study has been widely used by the region's governments in reviewing their universal access policies. It has also provided insights for the World Bank's work with countries in other regions.

### Reference

Stern, Peter A., and David N. Townsend. 2006. "New Models for Universal Access to Telecommunications Services in Latin America." <http://www.worldbank.org/gict/publications>.

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