

Viewpoint

Note No. 188

June 1999

Reaching the Urban Poor with Private Infrastructure

19750

*Penelope Brook
Cowen and
Nicola Tynan*

The current approach to private participation in infrastructure can inadvertently erect barriers to improving service for low-income households in developing countries. The approach frequently involves exclusive control of a local monopoly over a long period and an obligation to provide service to all or to all who request it within the area of exclusivity. It also generally includes regulations setting uniform service and quality standards (often with high technical standards for inputs and outputs), and tariffs based on rising blocks and with an element of cross-subsidy.

Underlying the approach are assumptions that the infrastructure sectors involve a high degree of natural monopoly (so that conferring exclusivity would have little impact on potential competition); that governments not only can define appropriate service standards but can enforce them; and that below-cost tariffs for low-consuming households—social tariffs—are an effective and practical way to ease poverty.

But there are serious doubts about these assumptions. Experience in gas, power, and telecommunications suggests much potential for competition in the provision of these services. Technological innovations in service delivery—from cellular phones to condominium water and sewerage systems—are broadening the range of service delivery options, away from monolithic network standards. Analysis of how low-income households (especially those in slums and peripheries of cities) purchase infrastructure services, and of their willingness to pay for different kinds of service delivery and quality, raises questions about traditional service standards—for example, mandates that all households should have in-house water connections. Such analysis also challenges

strict definitions of affordability—for example, that a household should spend no more than 5 percent of its income on water. Increasing experience with social tariffs is bearing out theory-based concerns that the prime beneficiaries of these tariffs may not be the poorest households, and that the tariffs may create disincentives to expand services to low-income areas.

An alternative approach

Competition between large, international companies to serve existing network customers has received much attention from theorists and policymakers. Policy advisers initially focused on the potential for new entry at the “generation” end of infrastructure businesses and for competition across networks—for example, competition between power plants selling into or across a national transmission grid, or competition in long-distance calling across conventional telephone lines. Such entry can be expected to benefit all households connected to the grid, by increasing service options and reducing costs. In some industrial countries competition has spread to the retail level, with households able to choose their provider of gas, electricity, or cellular services. Again, these innovations primarily benefit consumers connected to conventional service delivery networks (cellular phones are an exception). But they may also speed new connections by reducing the costs of connections and services.

But large-scale competition between formal utilities is not the only means for improving consumers’ service options. More recently, there has been growing interest in the potential of another kind of entry to benefit low-income households: entry by nonconventional suppliers





of infrastructure services, which may not always involve connection to a formal network. Examples include small-scale electricity generation (diesel generators, household solar panels), water delivery by tankers or through low-cost piping, and access to telecommunications through prepaid wireless phones or privately owned local phone booths. The nature of service innovations varies. Sometimes a network is constructed, but more cheaply than by conventional utilities (for example, condominium water or sewerage systems might use cheaper pipes of shorter lengths that are buried less deeply than conventional networks and installed and maintained with community labor). Sometimes solutions are found that require no network of pipes or wires (local electricity generation, cellular phones) or less extensive networks (as in sewerage, where the efficient scale of treatment has fallen). And sometimes technological innovations allow payment arrangements that ease purchases by low-income households (smart cards that allow prepayment for water or power, load limiters that keep electricity consumption to affordable levels).

Technological change has also eased entry by new providers. Easier entry raises the possibility that private cooperatives, small-scale entrepreneurs, or existing utilities from other sectors and countries will start delivering infrastructure services. Many low-income consumers in the slums and peripheries of developing country cities already receive service from suppliers other than the monopoly utility. Informal provision is typically seen as necessarily inferior to service delivery through formal networks. At best, it is seen as a stopgap—a way to deliver services until the formal network reaches a neighborhood, with privately developed systems often subsequently transferred to the monopoly utility. At worst, it is seen as actively harmful (as in the delivery of dirty or stolen water—sometimes both dirty and stolen—by tanker mafias, or black market installation of unsafe electrical wiring). Government officials and policy advisers often underestimate the potential of informal provision to offer a good medium- to long-term means for

low-income households to secure services of a quality acceptable to them and at a price they are willing and able to pay.

The possibility for entry, the forms this entry might take, and the remaining public policy concerns differ across sectors and countries. But common policy questions arise. These include the possibility for small-scale providers to establish and abuse monopoly power (such as in small-scale local networks) and the implications of more varied forms of service provision for public health and safety. For example, are tanker prices for water high because costs are genuinely high, or because illegality strengthens the tanker mafia? Are costs of informal (illegal) provision raised because the high risk of expropriation causes providers to invest in relatively expensive non-network technologies and increases their cost of capital? If costs are high in part because of illegality and risk of expropriation, legalizing tankers and allowing competition will improve services for the poor.

Such policy issues raise questions about the efficacy of conventional policy solutions. For example, are regulatory systems designed for one or a small number of traditional utilities likely to be effective for dealing with abuse of local monopoly power in illegal slum settlements? Is it possible to develop effective means of tracking people's exposure to health and safety risks (unsafe drinking water, exposed wires, poorly maintained vehicles) in disaggregated and diverse delivery systems? However daunting these questions, it is important to recognize that they are not created by the decision to take non-conventional service delivery seriously. They already exist for all the communities that do not receive services from formal utilities—but with formal provision the ultimate policy goal, they are almost always swept under the rug.

Low-income households already select their preferred service on the basis of available price and quality combinations. They often choose low-quality services because they have few alternatives and face high marginal costs in switching to something better. Allowing entrants to expand the

range of price and quality options in low-income areas could improve the quality of service received without necessarily requiring consumers to spend more or to adjust their preferences. Demand-side policies, such as microcredit or community involvement, may complement and reinforce these supply-side improvements.

Designing private infrastructure projects to facilitate entry

Making private participation in infrastructure pro-poor requires rethinking the design of both transactions and supporting regulation. For example, by paying greater attention to market structure and the potential for entry before contracting with the private sector, policymakers can help open new service options for low-income households. They will need to refocus regulation on facilitating entry and monitoring quality and prices to end users. And they may need to refocus regulatory and transaction processes.

Avoid service cuts. At the least, arrangements for private participation should not cut off existing service options or reduce choices for the poor. But sometimes this can happen by accident. Contract drafters, taking earlier contracts as models, often transplant clauses that are irrelevant or poorly suited to the city or country in which they are working. Some water concessions include exclusivity arrangements that give the private operator rights to close down wells in areas not yet connected to the formal network. Far-reaching exclusivity provisions remain common in local systems for solid waste collection and gas and electricity distribution. Simply reassessing the relevance of these clauses can help make contracts for private participation more pro-poor.

Focus on outcomes. Market restructuring to allow entry—for example, in retailing—can remove a major legal barrier to service expansion, but may not be enough to encourage entry when entrants face rigid input or output standards. Technical standards for system construction (the depth of pipes beneath roads, housing construction standards that must be met before

electrical wiring is permitted) are often set at industrial country levels, leading to high start-up costs and creating a disincentive to expand network services. Easing or setting aside such standards may raise the quality of services delivered in poor areas even if these services fall short of industrial country ideals.

Best practice policy advice and many contracts for private participation have moved away from the more restrictive input standards based on international companies' existing technology toward output standards that allow greater flexibility in how services are provided. But while output standards can encourage innovation in inputs, they discourage more significant innovation by continuing to use existing forms of service—usually connection to a large network—as the standard. Policymakers should think about ways to redesign regulation to encourage improvements in the quality of service received. The focus should be on such outcomes as the basic potability of water at point of use or electric lighting for homes every day—and therefore on ultimate goals of public health and safety, and poverty alleviation through improved access to infrastructure.

Rethink interconnection. Restructuring infrastructure markets to facilitate entry and innovation may raise new issues in the areas of interconnection and bulk supply, in both pricing and logistics. Regulation focusing on interconnection issues has become routine in such sectors as telecommunications, but seldom addresses serving the poor. Allowing entry by microentrepreneurs to supply low-income neighborhoods raises additional issues for regulators. For example, water retailing by entrepreneurs who purchase water from an incumbent utility's trunk network raises questions about the availability, quality, and price of bulk water. How will the regulator monitor the quality of water distributed by multiple retailers? What role should the regulator play in encouraging rather than just enforcing agreements? Where a power supplier uses small-scale generation to serve a low-income settlement, but seeks backup from an existing utility, a range of interconnection issues may arise. What is the maximum load a



small-scale supplier can obtain from the utility? Does the availability of backup supply depend on the time of day or year? In some sectors solutions to these problems could involve explicit contractual provisions for interconnection between suppliers or for bulk supply. In others regulators may need to facilitate discussions between incumbent utilities, community groups, and alternative providers.

Untie support. Easing entry by avoiding exclusivity and supporting low-income households through, for example, land tenure initiatives and better access to microcredit should reduce the gap between service affordability and consumers' willingness to pay. But these improvements may still leave a gap. Subsidy targeting then becomes critical. Governments should avoid tying subsidies to one provider because this will deter entry by raising the relative price of alternative services. Subsidies should be targeted to low-income consumers and designed to allow consumer choice of service.

Redesign processes. Making private participation in infrastructure more pro-poor is also likely to require a refocusing of transaction and regulatory processes. For example, early in the reform policymakers might pay more attention to identifying how low-income consumers obtain infrastructure services, the scope and nature of nontraditional supply, the willingness of low-income consumers to pay for improved access to and quality of services, and institutional barriers to improved service (for example, in land tenure or access to microcredit). Strengthening property rights in illegal settlements can increase the return from investments in durable assets. The reduction in risk will give low-income households a greater incentive to switch from day-to-day purchases to longer-term sources of supply. Under monopoly provision, the slow transmission of information may leave poor consumers unaware of many lower-cost options. Informing the urban poor about supply options will increase the viability of long-term investment in new technologies once the risk of expropriation disappears. Improved access to

credit will help low-income households afford the longer-term options.

In designing regulation for a market structure that allows free entry, policymakers need to consider a more complex set of customer-to-provider relationships than with a single provider. Policymakers also need to recognize supplier and consumer variety. Regulators need to pay more attention to designing mechanisms that ensure access to the regulatory process for residents in low-income settlements (for example, through local hearings or local complaint bureaus). And they may need to institute advisory groups to solicit the views and concerns of local service suppliers and community organizations engaged in low-income communities.

Manage transition. Ideally, pro-poor approaches to private participation in infrastructure would address all the key issues affecting entry and the expansion of service options to low-income areas. In the long run this could mean never awarding blanket concessions to one supplier, thoroughly reassessing technological standards, and avoiding social tariffs. But governments may not be able to implement every desirable reform at one time. Policy sequencing then becomes critical. Some policies (allowing entry and competition, shutting down existing sources of supply, stipulating high technical standards) are difficult to change once a private sector contract is in place. Others (for example, reform of tariff structures to eliminate the service disincentives implicit in social tariffs) are more easily changed post-transaction. Incremental moves to make policies more pro-poor must ensure that the hard-to-change policies are not left until late in the process. Policymakers also need to ensure that each step not only does no harm to the poor, but also supports timely, sustainable improvements in service.

Penelope Brook Cowen (pbrook@worldbank.org), Private Participation in Infrastructure Group, and Nicola Tynan (ntyman@gmu.edu), George Mason University

Viewpoint is an open forum intended to encourage dissemination of and debate on ideas, innovations, and best practices for expanding the private sector. The views published are those of the authors and should not be attributed to the World Bank or any of its affiliated organizations. Nor do any of the conclusions represent official policy of the World Bank or of its Executive Directors or the countries they represent.

To order additional copies please call 202 458 1111 or contact Suzanne Smith, editor, Room F11K 208, The World Bank, 1818 H Street, NW, Washington, D.C. 20433, or Internet address ssmith7@worldbank.org. The series is also available on line (www.worldbank.org/html/fpd/notes/).

♻️ Printed on recycled paper.