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# **Strategies for Successful Telecommunications Regulation in Weak Governance Environments**

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Since the late 1980s, many countries have replaced state-owned telecommunications monopolies with private-led and increasingly competitive market structures. Governments have correspondingly moved away from ownership and management and focused on sector policy and regulation. In implementing this transition, however, many emerging economies have struggled to establish effective regulatory environments. In particular, slow development of regulatory agencies has often limited the benefits of reform. Regulation, moreover, is ultimately constrained by country governance, administrative experience, and human resources -- all in short supply especially in low income countries.

There is no panacea to solve the problem of unsuccessful regulation. Nevertheless, bearing in mind that the primary objective is not to have a successful agency *per se* but a well-performing sector, a number of elements of the broader regulatory framework can be crafted to enable better sector performance despite the lack of an effective full-fledged regulatory agency. This note examines the role of regulation, discusses the experience of limited success in launching new regulatory frameworks in emerging economies, and suggests sixteen measures which can result in more robust regulatory strategies.

## I Role of Regulation

The main role of regulators is to promote the interests of customers. In the transition from state monopoly to private and competitive market structures, regulation is necessary to promote the public interest for several reasons:

***Contain abuse of market power.*** The former state monopoly is likely to remain the largest operator for quite some time. Customers must be protected from abuse of this market power, typically reflected in high prices and insufficient supply to meet demand as well as in low service quality and reliability, slow repairs, slow introduction of new services, inaccurate and incontestable bills, and corrupt practices allocating scarce service. Equally important, new service providers must be protected from market power abuse by the incumbent.

***Foster competition.*** This means action on four fronts. *First*, unless all regulatory barriers to entry and competition are dismantled at the outset (few countries have been this progressive so far), someone must decide from time to time how many, under what conditions, and who are next allowed into the market. *Second*, new entrants need access to scarce resources which are initially controlled by the incumbent, among which the radio spectrum, telephone number blocks, and rights of way are the most critical. *Third*, effective development of competition hinges on new entrants being able to access the incumbent's customers as well as having the option to use parts of the incumbent's network at prices that reflect costs. This places interconnection between new and established operators at the center of the competition agenda. *Fourth*, continuous vigilance against anti-competitive behavior is needed, particularly by the incumbent (e.g. cross-ownership among operating companies, limitations on resale, conditioning of sales) but also by new entrants (e.g. may be the only provider in some localities, or overtake the incumbent in mobile services).

*Create a favorable investment climate.* As governments seek to attract foreign and domestic private investment to telecommunications (through privatization of state enterprises or issuance of new licenses) in order to improve public services, investors need to be convinced that the rules of the game under which they are investing can be relied on. In particular, they need to have confidence that their investments will be safe from *de facto* expropriation through arbitrary government intervention (e.g. low prices, new service obligations, taxes).

*Narrow development gaps.* A fully commercial approach to telecommunications will go a long way towards meeting development objectives, including extending access to rural and low-income urban areas. Some gaps in the development agenda, commonly discussed in terms of universal service goals, are likely to remain, however, calling for public sector initiatives or financing to complement or catalyze those of the private sector.

## **II Experience of Limited Success**

In response to the need for regulation, telecommunications sector reforms in many emerging economies have included regulatory arrangements that largely hinge on establishing some form of regulatory agency. These agencies are often loosely modeled on North American public utility regulatory commissions which have developed practices and procedures over decades. To expect new regulatory agencies in emerging economies to become immediately effective without a package of supporting initiatives is not realistic. Thus it is not surprising that, with few exceptions, these new regulatory agencies have been slow to get off the ground and perform poorly.

The effectiveness of regulation, moreover, is ultimately constrained by broader country governance, administrative experience, and human resources. Necessary conditions for the classical public utility model of regulation to work include: ability to undertake commitments that are stable from one government to the next; a judiciary that is impartial,

immune to government and political pressures, and whose decisions can be enforced; and a strong administrative tradition.<sup>1</sup> Substantial professional cadres are required, capable of handling complex regulatory concepts and processes. The regulatory agencies are expected to have some thirty or more engineering, accounting, pricing, legal, and administrative professional staff (more if, as is often the case in emerging economies, the regulatory agency is also responsible for managing the radio spectrum) and in practice sometimes plan to exceed 100.<sup>2</sup>

When these institutional and country features are not in place, regulatory effectiveness and, consequently, sector development can be seriously undermined. Box 1 gives examples of regulatory failures in three countries: Philippines, Argentina, and Poland.

### **III Elements of Successful Regulatory Strategies**

Measures to improve the regulatory environment may include establishing the agency with a firm foundation in law, limiting opportunity for government intervention, starting up the agencies well before privatization, ensuring financial and administrative autonomy, hiring competent staff, establishing a process for appeal, giving the agency the means to enforce its decisions, and setting clear boundaries and linkages with other institutions.<sup>3</sup>

In countries with weak governance and limited administrative and professional skills, however, a robust approach to regulation will also involve:

- reducing the need for agency decisions;
- strengthening the agency as referee;
- enhancing regulatory credibility; and
- using resources effectively.

#### **Reduce the Need for Agency Decisions**

Reform plans typically expect the regulatory agency to do too many things too soon. A more practical approach is to reduce the need for regulatory action, especially in the early years (e.g. immediately following privatization).

*Pre-package regulatory rules.* To the extent that rights and obligations of an individual operator or class of operators need to be specified, it is best to write these into licenses, contracts (e.g. for the sale of state enterprises), or laws. Technical assistance can be concentrated up-front to establish a detailed base-case regulatory environment that reduces the initial burden of decision-making on the new regulatory agency. Uganda provides a good example of this kind of approach where a moderately pro-competitive policy coupled with specification of initial regulatory rules into the licenses of the main operating companies (and other elements discussed later) adds up to a fairly robust regulatory framework (Box 2). The telecommunications law of Chile (1982) prescribes how prices of dominant operators must be revised every five years using marginal cost pricing and indexed between successive revisions. The telecommunications law of El Salvador (1997) specifies how disputes on interconnection pricing must be resolved with reference to long-run average incremental costs.

*Establish rules for interconnection.* Although one may wish to see interconnection agreements treated simply as a commercial matter to be agreed among the parties, interconnection disputes have become so common, and the impact on new entry is so important, that in practice it is very useful to have interconnection rules or guidelines that provide a framework for negotiation and eventual regulatory adjudication. This was found necessary, for example, when Mexico prepared for competition in long distance and international services in 1996. Moreover, the parties often are very unequal in terms of information, resources, and ability to cope with delays. The authorities can address this by establishing up-front default terms of interconnection (technical, price) by which all parties must abide while they negotiate or should they fail to agree. An alternative is a standard published interconnection offering made available by the dominant company to all others. In El Salvador (1997) and Guatemala (1996) the telecommunications laws set caps to

interconnection charges for two years following privatization and also define how interconnection pricing disputes among operators should be resolved by the regulator. In Uganda (1998) the license document for the second national operator included a detailed default interconnection agreement that can be imposed by the agency if negotiation of interconnection arrangements are not successful.

***Keep operator obligations reasonable.*** Imposing tough conditions on operators may seem good for the country but in practice forces regulators into untenable situations. In particular, setting stiff roll-out obligations which go substantially beyond an envelope of commercially viable investment (e.g. at the time of privatization) risks forcing the companies to undertake bad investments, leads to the operator demanding special privileges (e.g. longer exclusivity), and creates the need for renegotiation downstream.

***Focus licensing on main operators.*** Many services can be provided without license but perhaps subject to declaration for public record and statistical purposes. Class licenses can be automatically granted to any applicant that meets pre-established criteria. Competition should be used to allocate the few, if any, licenses that will be restricted in number, such as for the use of radio frequencies when demand exceeds supply. That is the case, for example, in El Salvador (Box 3). Surprisingly, however, even countries that adopt fairly pro-competitive policies from the start often write into law the requirement to license all entrants (e.g. Morocco 1997, Nepal 1997). This places an excessive burden on the regulator (and on the operators) and creates opportunity for discretion, pressure, and corruption.

***Rebalance prices early.*** Leaving it to privatized companies to rebalance prices invites difficulties for the regulator (as well as for the companies). The example of Argentina given in Box 1 illustrates how failure to rebalance before privatization, coupled to broad institutional weaknesses, resulted in six years of conflict involving the regulatory agency, regulated companies, government, opposition political parties, consumer associations, and various judicial courts. (The lesson was learnt: privatizations in the gas

and electricity sectors were preceded by rate rebalancing). The experience in Mexico was only somewhat better. Before privatization in 1990, large special taxes on telecommunications bills were converted to tariff elements, resulting in better alignment with costs. Completing the task, however, was left to the privatized operator under a timetable linked to its exclusivity period but did not progress as expected. Towards the end the operator argued, unsuccessfully, that it needed more time to rebalance prices before it could face competition in 1996. Uganda (1998) also provides an example where prices for most telecommunications services were substantially re-balanced and liberalized prior to the award of the second national operator (SNO) license, thereby contributing to the high level of investment currently taking place. (The number of telephone lines, including cellular, increased by more than 35% in the year after the SNO license was awarded in April 1998.) An alternative is not to regulate the prices of new entrants (who, in most cases, will anyhow not have market power) and give the incumbent enough freedom to adjust relative prices.

*Reduce regulation in competitive markets.* Because one of the fundamental rationales for regulation is to respond to operators with significant market power or control of scarce resources, regulators should be able to reduce or end regulation as competition develops, and permit instead general commercial rules to apply. Thus, in Canada, the telecommunications regulator can forbear from exercising its regulatory powers where it finds adequate competition. In Chile, it is the anti-monopoly commission that determines what telecommunications services are to be subject to price regulation. This trend of treating telecommunications as a tradable service, subject to general commercial and trading rules, is seen also at the regional level (notably the European Union) and in international agreements (World Trade Organization, WTO).

## **Strengthen the Agency as a Referee**

The regulator's job is facilitated when it is in a position to adjudicate between or among several influential players or constituencies rather than single-handedly facing one or two powerful stakeholder groups.

*Accelerate competition.* Opening the market quickly to new entry and competition makes the job of the regulator more manageable (it also accelerates the full benefits from reform). The question is no longer whether to have competition (the traditional arguments for exclusivity, even temporary, no longer hold<sup>4</sup>) but how fast should it be ushered in. Allowing competition in the core telephony business (rather than only in premium mobile or value-added services) creates powerful incentives for the incumbent to perform better. (For example in the Philippines only in 1993, when the government issued licenses for several new international gateways and mobile service to consortia committed to major expansion of local telephone facilities throughout the country, did PLDT accelerate investment to catch up with demand. By 1996 the number of lines in service had almost tripled countrywide to 1.8 million.) A plurality of players also provides the regulator with alternative sources of information (e.g. on costs), reduces the risk of regulatory capture by any one operator, and offsets some of the dominant operator's use of economic and political power. Opening the market is easiest in the early stages of reform (e.g. before or together with privatization), when large unmet demand allows both the incumbent and new entrants to grow, large initial productivity gains by the incumbent (e.g. following privatization) permit it to reposition itself for competition, but early enough to prevent these gains from being used to entrench unassailable dominance.

*Promote a regulatory role for customer advocates.* Very often, reform of the telecommunications sector may involve losses for fairly concentrated and influential vested interests such as monopoly owners, managers, or employees, and gains for highly dispersed customers. This situation is in fact typical where there is a high level of unmet demand for telecommunications services, and arises not only at the time of sector

restructuring but subsequently in a myriad of regulatory decisions. Thus, given that regulatory agencies in almost all countries are working not only in a context of administrative law, but also in a political environment, promoting customer associations to advocate customer interests can be an important factor in facilitating agency decisions that promote a broad public interest. The Canadian Radio-television and Telecommunications Commission is one example of an agency which for many years has arranged funding for certain customer groups that contribute in a constructive way to its proceedings.

### **Enhance Regulatory Credibility**

A third set of elements that contribute to make regulation more robust in weak governance environments focuses on enhancing credibility. Several factors are involved including adequate legislative provisions with respect to agency jurisdiction, autonomy, access to information, timeliness of appeal process, enforceability of decisions, agency member (commissioner) term of office, and inability to remove members except for cause. But additional measures are also in order.

*Adopt transparent regulatory processes.* Transparency in decision-making enhances the credibility of agencies and the legitimacy of decisions. This in turn makes it more difficult for decisions to be overturned in an arbitrary way, and increases investor confidence. One important element of transparency is public consultation on major regulatory issues, which helps educate the regulatory authority and interested parties on the facts of an issue and the merits of alternative decisions. The use of consultative papers has the advantages of administrative simplicity, broad reach, and quick rendering of decisions. For example, the Telecommunications Regulatory Authority of India adopted this approach by issuing in 1997 and 1998 consultative papers on prices, numbering plan, service quality, interconnection register, and process to determine license fees, and solicited comments from interested parties. Current consultative papers are posted in the Internet ([http:// www.trai.gov.in](http://www.trai.gov.in)).

*Harness public support.* The sustainability of regulatory agencies will eventually depend in an important way on public trust in, and support of, the agency. Thus the agency will be seen to be addressing issues that are important for customers rather than only arbitrating on highly technical issues. How this can be done will vary from country to country, but examples could include: billing accuracy and practices, reviewing an operator's terms and conditions of service (including customer redress in the event of faults), quality of service, geographic coverage, and access by non-subscribers to communal facilities.

*Lock in regulatory principles in international commitments.* Governments can take steps that formally commit them beyond the boundaries of their own legal environments to apply the rules of the game. Countries that subscribe to the WTO agreement of 1997 on basic telecommunications entered a binding international commitment to implement specific reform plans, abide by a common set of regulatory principles and practices, and recognize the WTO as an instance of intergovernmental appeal. Sovereign loans and credits from multilateral development organizations such as the World Bank (e.g. for sector adjustment or technical assistance related to reform) involve formal government obligations that can be tailored to reduce regulatory risk (e.g. failure of the government to abide by the pricing rule established in the license).

### **Use Resources Effectively**

A fourth line of action is for regulatory agencies to adopt approaches that use limited resources effectively. The required skills vary considerably, as the focus of regulatory action addresses relationships between operators and government (e.g. licensing), relationships among operators (e.g. interconnection), and relationships between operators and consumers (e.g. prices, complaints), and the balance among these changes over time. Relying mainly on internal skills is unlikely to be the best way to obtain (and dispose of) in a timely manner the wide range of skills that are needed.

***Outsource regulatory functions.*** There is considerable potential for contracting out. In Argentina, for example, a private contractor monitors use of the radio spectrum on behalf of the regulatory agency. The regulatory agency charges annual radio license fees of about \$100m, of which one-third is kept by the contractor as payment for his services. Other regulatory functions that would be suitable for outsourcing include monitoring compliance with performance commitments in operating licenses, interconnection rules, and tariff rules (e.g. contracted out to audit firms), handling customer complaints (e.g. contracted out to consumer associations), and resolving disputes among operators and with the regulator (discussed below). Final decisions (e.g. applying penalties to violators) could remain in the hands of the regulator.

***Adopt alternative dispute resolution.*** Disputes and conflicts increasingly arise between incumbent operators and new entrants, between new entrants themselves, and between operators and regulators. The regulatory, administrative, and judicial resources to deal with these disputes may be quickly overwhelmed by the complexity and rising number of cases. A broad range of alternative dispute avoidance and resolution methods, including negotiation, mediation, and arbitration, may be applied in the telecommunications sector. The telecommunications law in El Salvador prescribes in considerable detail the processes to be followed in all regulatory decision-making and in resolving disputes with recourse to external experts (Box 3). This holds some promise in terms of reducing delays and costs to all parties. The draft memorandum of understanding prepared by the International Forum on Dispute Resolution in Telecommunications seeks to develop an industry standard of broad applicability.<sup>5</sup>

***Put the operators to work.*** In most countries, the greatest concentration of telecommunications sector knowledge is in the operating companies. This information asymmetry places the regulator at a disadvantage, but it is possible to turn the tables on the regulated companies and put them to work for the regulator. For example, in Chile the telecommunications law establishes that every five years the regulated companies (not the regulator) will prepare detailed proposals for revising prices along the lines prescribed in

the law. The regulator reviews the proposals with the help of consultants retained specifically for this purpose, as well as by subjecting the proposals to comments by other interested parties. Once the regulator is satisfied that a proposal consistent with the law and current best practice is in hand, he approves it and it remains in force for five years.

*Consider multi-sectoral agencies.* Many emerging economies cannot afford the financial and human resource costs of having separate regulatory agencies for each sector. Given that regulation of network industries (such as electricity, gas, water, and transportation) have much in common (but also important differences), a multi-sectoral agency can be considered. Such an agency can afford a better core staff versed in generic regulatory processes, finance, law, and administration than would be the case of each sector agency separately (but sector-specific teams would still be required). And it is less likely that a multi-sectoral agency will be captured by any one operating company or controlled by an individual sector ministry. Examples include the US public utility commissions which typically regulate electricity, gas, local telecommunications, and sometimes water, at the state level, but not inter-state telecommunications, radio spectrum, broadcasting, or posts. A multi-sectoral agency, however, does necessarily imply a single agency for all infrastructure or public utility sectors. Care must be taken to avoid an overcrowded portfolio of responsibilities and undue concentration of power, and to take account of different stages of reform and market development in various sectors. Examples of multi-sectoral communications regulatory agencies with limited scope are the Canadian Radio-television Telecommunications Commission, and the Uganda Communications Commission which is responsible for radio spectrum management and posts as well as telecommunications.

*Create regional capacity.* Some countries, among which some kind of federalization of government functions occurs, may share a regulatory agency or technical secretariat thereof. The five countries of the Organization of Eastern Caribbean States are working towards a common telecommunications law as well as a single telecommunications regulatory agency, much like they have a common Central Bank and

Civil Aviation Authority. Where this is politically not feasible, an alternative is for the regulatory agency of one country to provide regulatory services to other countries under contract or as part of a regional economic cooperation agreement (e.g. South Africa Development Community). Yet another possibility is to establish core teams of regulatory expertise in regional centers to support a range of countries on demand (e.g. proposed in the Africa Connection program currently underway). In addition to sharing the regulatory load, all these arrangements facilitate learning among countries and may result in a degree of regulatory uniformity that facilitates commercial aggregation of small markets into more viable larger units.

#### **IV Conclusion**

Although the sixteen elements of regulatory strategy proposed above have been classified in terms of their primary purpose, several of them contribute to more than one, as shown in Chart 1. For example, pre-packaging regulatory rules into licenses and attaching default interconnection agreements reduces the need for agency decisions, but also helps the agency to utilize its limited resources effectively and, perhaps most importantly, contributes to credibility of regulatory policy .

In spite of the important role of telecommunications regulation in promoting customer interests and fostering competition, experience teaches us that regulatory agencies will often encounter resource shortages and face multiple challenges from vested interests, coupled with lobbying and dissemination of misinformation. Although there is no universal prescription to assure the successful launch of new telecommunications regulatory frameworks, which are especially vulnerable in many emerging economies, the elements outlined in this paper can go a long way towards increasing the chances of successful outcomes.

These elements are being tried, usually a few at a time, in several countries as we write. It will be some time before we can draw firm conclusions on their effectiveness.

Nonetheless, given the limited chances of success of more narrowly defined solutions in countries with weak governance, we suggest all these elements be considered systematically when designing regulatory arrangements in countries now embarking in sector reforms.

Box 1**Examples of Regulatory Failure**

Philippines. Friendly ties with the government in 1978-83 allowed PLDT, the Philippines' dominant telephone company, to increase prices, borrow heavily, limit investment in local facilities, take over other companies, and channel resulting high profits to the accounts of controlling shareholders. Subsequently, unmet demand built up fast to 790,000 outstanding applications in 1992 (compared with only 660,000 lines in service) as PLDT, in the wake of economic slowdown and government changes, further curtailed investment while successfully challenging attempts by other firms to enter the market.<sup>6</sup> Regulatory failure, including chronic price distortions, absence of effective rate of return regulation that might have created incentives for investment in local facilities, and continued protection of PLDT's *de facto* monopoly, resulted in the worst possible public policy outcome: exclusive rights for a service that was not provided at all in many locations, and inadequately in most others. This happened despite the sector being almost entirely privately owned, equipped with a regulatory agency closely modeled on public utility commissions in the United States, and international assistance from 1985 to establish and improve the agency.

Argentina. In 1991, as compensation for renegeing on license provisions that allowed the newly privatized telecommunications companies in Argentina to index their prices to inflation, the government agreed to rebalance telephone prices so as to render local service profitable. It took over six years, however, to reach a final decision on rebalancing. All this time the competitiveness of business users continued to suffer from long distance prices that were up to 50 times cost and international prices some four times those in neighboring countries. These distortions also created artificial incentives for the use of foreign call-back and calling card services that may have siphoned off about one-fourth of Argentina's international telephone revenues.<sup>7</sup>

Poland. Failure to sort out interconnection with the state operator in Poland meant that of some 200 independent local telephone service licenses issued since 1990, only about twelve were in use in 1996. Licensees cited the main impediments as unfavorable terms for sharing revenues with the dominant state operator, limited access to its network, slow negotiation of interconnection agreements, and a prohibition on setting up their own transmission facilities.

Box 2**Uganda: Elements of a Robust Regulatory Strategy**

Uganda provides an example of establishing a regulatory framework, including creating a regulatory agency, in which sector performance does not depend critically during the early years on the expertise and effectiveness of the agency.

One key aspect of this approach is to introduce immediately some competition in all services by authorizing a second national operator (SNO) to provide local, cellular, domestic long distance and international telephone services both supplementing and competing with Uganda Telecommunications Ltd (UTL), the state monopoly being privatized. This approach creates market incentives for improved customer service, gives the Uganda Communications Commission plural sources of information from operators, and reduces the risk of capture of the Commission by a single operator.

Before inviting bids, considerable work went into preparing licenses for both companies that specified in advance important elements of the regulatory regime. This reduces regulatory uncertainty for the investors, reduces the Commission's burden of establishing a new regulatory regime from a zero base, and serves the public interest by specifically addressing regulatory issues that often become problems elsewhere:

**Network roll-out.** The bid evaluation criteria for the second national operator license included both license bid price and network roll-out. The winning bid proposed to build 89,000 lines over five years (well in excess of the 50,000 minimum required) and which is now included in its obligations (UTL currently operates about 50,000 lines). Regulatory intervention will be limited to monitoring compliance and establishing approaches to service provision in unserved areas.

**Price Control.** The licenses specify the details of a price-cap type price regulation which is to continue while the duopoly on basic services (five years) is in effect. No further regulatory decisions on prices will be needed during this period.

**Interconnection.** Both licensees are required to negotiate interconnection agreements. Pending agreement, either licensee can request from the other the immediate application of prices and terms of a default interconnect agreement that is appended to the license.

**Monopolistic practices.** The licensees cannot unduly condition the provision of telephone service on purchase of terminal equipment, and cross-ownership between both companies is not allowed.

**Resale.** The licensees are obligated to provide basic exchange service for resale for public pay telephone service.

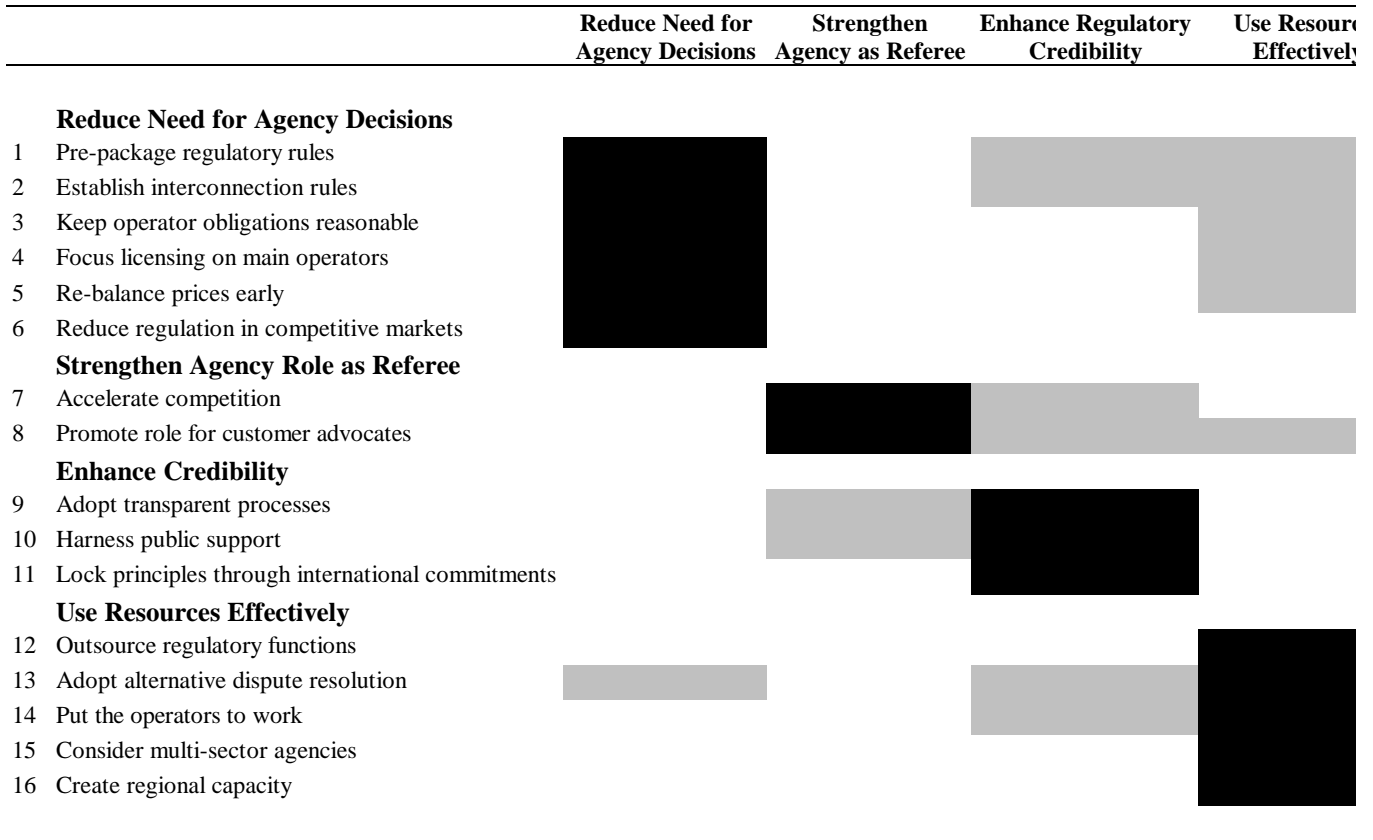
Box 3**El Salvador: Focus on Essential Facilities and Regulatory Process**

A very progressive telecommunications sector restructuring agenda in El Salvador was ushered in by legislation in 1996 and 1997. Licenses are required for using the radio spectrum but not for operating networks or services. Operators are free to establish prices and conditions of the services they provide to end users as well as to each other. Operators, however, are obligated to grant each other access to essential services on a non-discriminatory basis. Essential services are defined by law and comprise interconnection, signaling, caller identification, billing data, number portability, and directory databases. The regulator is informed of the terms of access, monitors for fairness and compliance with the law, and resolves if the parties fail to agree. The law prescribes in detail the process to be followed by the regulatory agency in all decision-making. The terms of interconnection are to be agreed among the parties, but the law prescribes how disputes would be settled by the regulator with participation of qualified external experts and with reference to long-run average incremental costs. The regulator also administers the radio spectrum and the numbering system (including codes for customer selection of carriers), on demand or using auctions when demand exceeds available capacity.

The former state monopoly was split into a wireline and a mobile company, each with international access, successfully sold in 1998 to consortia including major foreign operators. By end 1998 there were also more than 100 other smaller companies in operation offering a wide range of services. El Salvador has about six million inhabitants, US\$ 2,000 GDP per capita, and 350,000 telephone lines.

Chart 1

**Individual Measures Serve Multiple Purposes**



## End Notes

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<sup>1</sup> Levy, Brian and Pablo T. Spiller (eds.), Regulations, Institutions, and Commitment: Comparative Studies in Telecommunications, Cambridge University Press, Cambridge, England, 1996.

<sup>2</sup> Nulty, Timothy E. and Eric Schneidewinde, 'Regulatory Policy for Telecommunications', in Wellenius, Björn, Peter Stern, Timothy E. Nulty, and Richard D. Stern (eds.), Restructuring and Managing the Telecommunications Sector, World Bank, Washington, DC, 1989.

<sup>3</sup> See, for example, Wellenius, Björn, 'Regulating the Telecommunications Sector', in Manzetti, Luigi (ed.), Regulation in Post-Privatization Environments: The Latin American Experience, forthcoming.

<sup>4</sup> Smith, Peter, 'Subscribing to Monopoly: The Telecom Monopolist's Lexicon - Revisited', World Bank Viewpoint Note No 53, September 1995; Noll, Roger G., 'Telecommunications Reform in Developing Countries', [ref?].

<sup>5</sup> The International Forum on Dispute Resolution is based in Geneva, Switzerland, and comprises an informal group of lawyers and regulatory specialists for diverse countries. It seeks to establish an internationally accepted voluntary standardized set of rules and processes for dealing with regulatory conflicts. Interested parties are encouraged to contact Richard Hill at rhill@batnet.com.

<sup>6</sup> Hadi Saleh Esfahani, 'The Political Economy of the Telecommunications Sector in the Philippines', in Levy and Spiller, *op. cit.*, and Yearbook of Statistics, Telecommunications Services, 1986-1995, International Telecommunication Union, Geneva, 1997.

<sup>7</sup> Artana, Daniel, Fernando Navajas, and Santiago Urbizondo, 'Contractual Adaptation in Regulated Utilities: A Few Observations from Argentina', mimeo, Fundacion de Investigaciones Economicas Lationamericanas, Buenos Aires, Argentina, April 1998.

<sup>8</sup> Smith, Peter, 'What the Transformation of Telecommunications Markets Means for Regulation', World Bank Viewpoint Note No 121, June 1997.