Viewpoint

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Mitigating Regulatory Risk in Telecommunications

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In the transition from state-owned monopolies to privately led and increasingly competitive market structures in telecommunications, poor performance of regulatory agencies limits the benefits of reform, especially in countries with a tradition of weak governance. Bearing in mind that the main objective is not a successful agency but a well-performing sector, this Note proposes measures for establishing a regulatory framework that enables better sector performance even when an effective, full-fledged regulatory agency is lacking. These measures reduce the need for agency decisions, enhance the credibility of regulation, and generate maximum impact from scarce professional and financial resources by using them effectively. Although each of the measures has a primary purpose, several contribute to more than one (table 1).

TABLE 1 REGULATORY STRATEGY CHECKLIST: PRIMARY (●) AND SECONDARY (●) BENEFITS

Measure	Reduce need for agency decisions	Enhance regulatory credibility	Use resources effectively
Accelerate competition	●	●	●
Prepackage regulatory rules	●	●	●
Establish rules for interconnection	●	●	●
Keep operators' obligations reasonable	●		●
Focus licensing on the main operators	●		●
Rebalance prices early	●		●
Reduce regulation as competition develops	●		
Adopt transparent processes		●	
Harness public support		●	
Lock in principles through international commitments		●	
Outsource regulatory functions			●
Adopt alternative dispute resolution	●	●	●
Put the operators to work		●	●
Consider multisectoral agencies			●
Create regional capacity			●

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BOX 1 ROLE OF REGULATION IN THE TRANSITION TO A COMPETITIVE MARKET

In the transition from state monopoly to private and competitive market structures, regulation is needed to promote the public interest for several reasons.

Containing abuse of market power. **The former state monopoly is likely to remain the largest operator for some time. Customers should be protected from abuse of this market power, typically reflected in high prices, insufficient supply, poor service quality and reliability, slow repairs, slow introduction of new services, inaccurate and incontestable bills, and corrupt practices in allocating scarce service. New service providers must also be protected.**

Fostering competition. **This means action on four fronts:**

- **Unless all regulatory barriers to entry and competition are dismantled at the outset, someone must decide from time to time how many operators can enter the market, who can enter the market, and under what conditions.**
- **New entrants need access to scarce resources initially controlled by the incumbent—most critical, the radio spectrum, telephone number blocks, and rights of way.**
- **Developing effective competition hinges on new entrants' ability to access the incumbent's customers and to use parts of the incumbent's network at prices that reflect costs. Thus interconnection between new and established operators is at the heart of the competition agenda.**
- **Constant vigilance is needed against anticompetitive behavior, particularly by the incumbent (cross-ownership among operating companies, limitations on resale, conditioning of sales) but also by fast-growing new entrants.**

Creating a favorable investment climate. **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 be confident that their investments will be safe from de facto expropriation through arbitrary changes in prices, taxes, and service obligations.**

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

Regulatory strategy

Most new regulatory arrangements hinge on a regulatory agency loosely modeled on North American public utility commissions that have developed procedures and credibility over decades. To work well, this model of regulation requires certain conditions: a strong administrative tradition, the ability to undertake commitments that endure from one government to the next, and a judiciary that is impartial, immune to government and political pressures, and able to make enforceable decisions (Levy and Spiller 1996). It also requires substantial professional cadres, capable of handling complex regulatory concepts and processes. Telecommunications regulatory agencies generally need thirty or more professional engineering, accounting, pricing, legal, and administrative staff (more if, as is often the case in emerging economies, the regulatory agency also manages the radio spectrum) and sometimes plan on more than 100 (Nulty and Schneidewinde 1989).

When these institutional and country features are not in place, regulatory effectiveness, and therefore sector development, can be seriously undermined (box 1). In the Philippines, for example, friendly ties with the government in 1978–83 allowed the Philippines Long Distance Telephone Company (PLDT), the country's dominant telephone company, to raise prices, borrow heavily, limit investment in local facilities, take over other companies, and channel high profits to the accounts of controlling shareholders. By 1992, in the wake of changes in the government, an economic slowdown, and efforts by PLDT to thwart new entries in the market, outstanding applications for service exceeded telephones. Regulatory failures played a big part, including large price distortions, the absence of effective rate-of-return regulation that might have created incentives for extending local service, and continued protection of PLDT's de facto monopoly. These failures resulted in the worst possible outcome: exclusive rights for a service provided not at all in some areas and inadequately in most others. Yet the sector was privately owned and equipped with a reg-

BOX 2 UGANDA'S PREPACKAGED RULES

Network rollout. **The bid evaluation criteria for the second national operator license included both license bid price and network rollout. The winning bidder proposed to build 89,000 lines over five years (more than the 50,000 required), a goal now included in its obligations. Regulatory intervention will be limited to monitoring compliance and establishing approaches to providing service in unserved areas.**

Price control. **The licenses specify a price cap–type price regulation, which will continue for the five years the duopoly in basic services 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 the prices and terms of a default interconnection agreement appended to the licenses.**

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

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

ulatory agency modeled on public utility commissions in the United States.

The general steps in setting up effective regulation include establishing an agency with a firm foundation in law, limiting opportunity for government intervention, starting up the agency 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 links with other institutions (see, for example, Wellenius forthcoming). But in countries with weak governance and limited administrative and professional skills, the regulatory strategy should also focus on:

- Reducing the need for agency decisions.
- Enhancing regulatory credibility.
- Using resources effectively by outsourcing some regulatory tasks and pooling sector knowledge.

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 after privatization. This can be done in seven main ways.

Accelerate competition

Opening the market quickly to new entry and competition not only accelerates the full benefits from reform but also makes the job of the regulator more manageable. The question is no longer whether to have competition—the traditional arguments for exclusivity, even temporary exclusivity, no longer hold (Smith 1995; Noll 1998). Instead, it is how fast competition should be ushered in. Allowing competition in the core telephony business creates powerful incentives for the incumbent to perform better. PLDT accelerated investment to catch up with demand only after the Philippine government issued licenses in 1993 for mobile service and for several new international gateways to consortia committed to significantly expanding local telephone facilities in regions throughout the country. By 1996 the number of lines in service had almost tripled, to 1.8 million.

The regulator's job is eased when it can adjudicate among several influential players or constituencies. Multiple players provide the regulator with alternative sources of information on sector issues, reduce the risk of regulatory capture by any one operator, and offset some of the dominant operator's economic and political power.

Opening the market to new entry is easiest early in reform—before or at the same time as privatization—when large unmet demand allows both the incumbent and new entrants to grow. Large initial productivity gains by the incumbent following privatization will allow it to reposition itself for competition, but opening the market

early enough can prevent it from using these gains to entrench its dominant position.

Prepackage regulatory rules

If rights and obligations of an operator or class of operators need to be specified, it is best to write these into licenses, contracts (such as for the sale of state enterprises), or laws. Then technical assistance (from multilateral or bilateral agencies, for example) can be concentrated up front to establish a detailed base-case regulatory environment.

Uganda provides a good example of this strategy (box 2). There, a moderately pro-competitive policy and specification of initial regulatory rules in the licenses of the main operating companies (along with other elements, discussed later) add up to a fairly robust regulatory framework. A key part of the strategy was to immediately introduce some competition in all services by authorizing a second national operator to provide local, cellular, domestic long-distance, and international telephone services alongside Uganda Telecommunications Ltd. (UTL), the state monopoly being privatized. Before bids were invited for the second license, licenses were prepared for both companies specifying in advance important elements of the regulatory regime. This reduced regulatory uncertainty for the investors, eased the regulatory commission's burden of establishing a new regulatory regime from scratch, and served the public interest by addressing regulatory issues that often become problems elsewhere.

There are many other cases of prepackaged rules. The 1982 telecommunications law of Chile, for example, requires dominant operators' prices to be revised every five years using marginal cost pricing and to be indexed between revisions.

Establish rules for interconnection

Ideally, interconnection agreements could be treated simply as a commercial matter to be agreed between the parties. But interconnection disputes have become so common, and the impact on new entry is so important, that it is useful to have interconnection rules or guidelines that provide a framework for negotiation and eventual regulatory adjudication—as Mexico found when it prepared for competition in long-distance and international services in 1996. Moreover, the parties often have unequal resources, negotiating power, and ability to cope with delays.

The authorities can address these issues by establishing up-front default terms of interconnection (both price and technical) by which all parties must abide while they negotiate or if they fail to agree. Alternatively, the dominant company could be required to publish a standard interconnection offering. Guatemala's 1996 telecommunications law sets caps on interconnection charges for two years following privatization and specifies how the regulator should resolve interconnection pricing disputes between operators. And in Uganda the license for the second national operator includes a detailed default interconnection agreement.

Keep operators' obligations reasonable

Imposing tough obligations on operators may seem good for the country, but it can force regulators into untenable situations. In particular, setting stiff rollout obligations, with investments that go far beyond what is commercially viable at the time of privatization, risks forcing companies to undertake bad investments, leads operators to demand special privileges (such as longer exclusivity), and creates a need for renegotiation later.

Focus licensing on the main operators

Many services can be provided without license, perhaps subject only to declaration for the public record and for statistical purposes. Class licenses can be automatically granted to any applicant meeting set criteria. Bidding should be used to allocate any licenses that will be restricted in number, such as for the use of radio frequencies when demand exceeds supply.

That was the strategy used by El Salvador in restructuring its telecommunications sector in 1997. Licenses are required for using the radio spectrum but not for operating networks or services. Network operators are free to establish prices and conditions for the services they provide to end users as well as to each other, but must grant access to essential services on a nondiscriminatory basis. Defined by law, essential services are interconnection, signaling, caller identification, billing data, number portability, and directory databases.

The regulator in El Salvador is informed of the terms of access, monitors fairness and compliance with the law, and resolves disputes if parties fail to agree. The law prescribes in detail the process for the regulatory agency to follow in all decision-making. While the terms of interconnection are to be agreed among the parties, disputes are to be settled by the regulator, with the aid of qualified external experts and based on 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—for spectrum—using auctions when demand exceeds available capacity.

Surprisingly, even countries that adopt fairly pro-competitive policies from the start often write into law a requirement to license all entrants. This places an excessive burden on the regulator—and 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. In Argentina, for example, failure to rebalance before privatization, coupled with broad institutional weaknesses, led to years of conflict involving the regulatory agency, regulated companies, the government, opposition parties, consumer associations, and various judicial courts. In 1991, after adoption of a currency board system made local currency price indexing for inflation illegal, the government agreed to rebalance telephone prices to make local service profitable—as compensation for reneging on license provisions allowing newly privatized telecommunications companies to index their prices to inflation. But it took more than six years to reach a final decision on the rebalancing. Meanwhile, business users faced long-distance prices that were up to fifty times cost, and international prices some four times those in neighboring countries. These distortions created artificial incentives to use foreign callback and calling card services, which may have siphoned off about a fourth of Argentina's international telephone revenues (Artana, Navajas, and Urbizondo 1998). (The lesson was learned: privatizations in gas and electricity were preceded by rate rebalancing.)

The experience in Mexico was only somewhat better. Before privatization in 1990 large taxes on telecommunications bills were converted to tariff elements, improving alignment with costs. The task was left to the privatized operator to complete under a timetable linked to its exclusivity period, but progress on rebalancing and investment was slower than expected. Near the end of the period the operator argued, unsuccessfully, for more time to rebalance prices before it faced competition in 1996. By contrast, in Uganda in 1998, prices for most telecommunications services were substantially rebalanced and liberalized before the award of the second national operator's license, contributing to the high level of investment today. The number of telephone lines, including cellular, increased by more than 48 percent in the year after the license was awarded in April 1998.

Since new entrants will often have little market power, an alternative is to leave prices unregulated and allow price competition to lead to rate rebalancing by the incumbent.

Reduce regulation as competition develops

Because a fundamental rationale for regulation is to respond to operators that have significant market power or control scarce resources, regulators should be able to reduce or end regulation

as competition develops, and instead permit general commercial rules to apply. Thus in Canada the telecommunications regulator is required to forbear exercising its regulatory powers where it finds markets to be sufficiently competitive for regulation to be unnecessary (for example, most wireless and long-distance services of all carriers, including the main telephone companies). In Chile the antimonopoly commission 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 also seen at the regional level—notably in the European Union—and under the World Trade Organization (WTO).

Enhance regulatory credibility

Enhancing credibility can also do much to strengthen regulation in an environment of weak governance. Critical steps include ensuring adequate legislative provisions on agency jurisdiction, autonomy, access to information, timeliness of the appeal process, enforceability of decisions, staggered terms of office for commissioners, and inability to remove commissioners except for cause. But other measures are also in order.

Adopt open regulatory processes

Transparency in decisionmaking enhances the credibility of agencies and the legitimacy of decisions. This in turn helps ensure that decisions will not be overturned arbitrarily, increasing investor confidence. Public consultation on major regulatory issues adds to transparency by educating the regulatory authority and interested parties about the facts of an issue and the merits of alternative solutions. Using consultative papers has several advantages: administrative simplicity, broad reach, and quick decisions. The Telecommunications Regulatory Authority of India adopted this approach, issuing consultative papers in 1997 and 1998 (for example, on prices, service quality, the numbering plan, and the process for determining the license fees) and soliciting comments from interested parties. When a minister attempted to block the regulator's tariff rebalancing order in 1999, public outcry followed and the government supported the regulator.

Harness public support

The sustainability of a regulatory agency will eventually depend on public trust and support. Thus the agency needs to be seen as addressing issues important for customers, not just arbitrating on highly technical matters. Although the issues valued by customers will vary from country to country, they could include billing accuracy and practices, operators' terms and conditions of service (including customer redress), quality of service, geographic coverage, and access by nonsubscribers to communal facilities, such as pay phones and telecenters.

Often, telecommunications reform involves losses for concentrated and influential vested interests—such as monopoly owners, managers, or employees—and gains for highly dispersed customers. This outcome is typical where there is large unmet demand for services, and occurs not only at the time of sector restructuring but also later, in a myriad of regulatory decisions. Since regulatory agencies in almost all countries operate in a political environment, strengthening customer associations to advocate customer interests can help facilitate agency decisions that promote a broad public interest. The Canadian Radio-television and Telecommunications Commission for many years has arranged funding for customer groups that contribute to its proceedings.

Undertake 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 subscribed to the 1997 WTO agreement on basic telecommunications entered a binding international commitment to implement specific reforms, apply a common set of regulatory principles and practices, and recognize the WTO as an avenue for intergovernmental appeal. Sovereign loans and credits from

multilateral development organizations such as the World Bank involve formal government obligations that can be tailored to reduce regulatory risk, such as the risk that the government will fail to abide by the pricing rule established in the license.

Use resources effectively

The skills required by a regulatory agency vary widely as the focus of regulatory action shifts from relationships between operators and government (licensing) to relationships between operators (interconnection) to relationships between operators and consumers (prices, complaints). Relying mainly on internal skills is unlikely to be the best way to obtain (and dispose of) the wide range of skills needed in a timely way. There are a number of other options.

Outsource regulatory functions

Many regulatory functions can be contracted out. Audit firms can monitor compliance with performance commitments in operating licenses, interconnection rules, and tariff rules. In Argentina a private contractor monitors use of the radio spectrum on behalf of the regulatory agency, keeping part of the annual license fees as payment for its services. And external experts can resolve disputes among operators and with the regulator, leaving final decisions (such as applying penalties) in the hands of the regulator.

Adopt alternative dispute resolution

Disputes and conflicts increasingly arise between incumbent operators and new entrants, between new entrants, and between operators and regulators. Regulatory, administrative, and judicial resources may be quickly overwhelmed by the number and complexity of cases. A broad range of alternative dispute avoidance and resolution methods can be used in the telecommunications sector, including negotiation, mediation, and arbitration. These methods can be presented in the telecommunications law, the licenses, or contracts of sale.

There is a risk, however, that alternative dispute resolution procedures will be used to delay or sideline difficult decisions that the regulators do not want to face. The incumbent operator may have incentives to let the process drag on. To avoid this, the dispute resolution process should include:

- Firm deadlines for completing the process.
- Authority to empower the arbitrator or mediator to obtain information, schedule meetings, and recommend a decision if the process fails.
- Regulatory or other sanctions for noncompliance.

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 by putting the regulated companies to work for the regulator. The Chilean telecommunications law requires the regulated companies—not the regulator—to prepare detailed proposals every five years for revising prices along the lines prescribed in the law. The regulator reviews the proposals with the help of consultants and solicits comments from other interested parties. Once satisfied that a proposal is consistent with the law and current best practice, the regulator approves it, and the proposal remains in force for five years.

Consider multisectoral agencies

Many emerging economies cannot afford the financial and human resource costs of a separate regulatory agency for each sector. Since network industries—gas, water, electricity, transportation—have much in common (but also important differences), a multisectoral agency can be considered. Such an agency could afford a better core staff versed in generic regulatory processes, finance, law, and administration than each sector agency could separately (though sector-specific teams would still be required). And a multisectoral agency is less likely to be captured by any one operating company or controlled by any one sector ministry. U.S. public utility commissions

typically regulate gas, electricity, local telecommunications, and sometimes water at the state level, but not mail, broadcasting, interstate telecommunications, or radio spectrum.

A multisectoral agency does not 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 differences in the reform and market development stage of sectors. Furthermore, if regulatory agencies are to be merged or restructured, it is vitally important to maintain credibility and effectiveness during the transition period. Examples of multisectoral communications regulatory agencies with limited scope are the Canadian Radio-television and Telecommunications Commission and the Uganda Communications Commission, which is responsible for mail and radio spectrum management as well as telecommunications.

Create regional capacity

Countries that have some federalization of government functions among them could share a regulatory agency or technical secretariat. The five countries of the Organization of Eastern Caribbean States are working toward a common telecommunications law and a single telecommunications regulatory agency much like their common Central Bank and Civil Aviation Authority. Where a shared agency is politically infeasible, the regulatory agency of one country could provide regulatory services to other countries under contract or as part of a regional economic cooperation agreement such as the Southern African Development Community. Another possibility is to establish core teams of regulatory experts in regional centers to support countries on demand, as proposed in the Africa Connection program and endorsed in 1999 by the Organization of African Unity. Besides sharing the regulatory load, all these arrangements aid learning across countries and could result in a degree of regulatory uniformity allowing commercial aggregation of small markets into larger, more viable ones.

Conclusion

There is no universal prescription that can guarantee success in launching new telecommunications regulatory frameworks, especially in economies with weak governance. But the elements outlined in this Note can do much to increase the chances of success even in these environments. These elements are being tried, usually a few at a time, in several countries. It will be some time before we can draw firm conclusions on their effectiveness. Nonetheless, given the limited chances of success for more narrowly defined solutions in countries with weak governance, all these elements should be systematically considered when designing regulatory arrangements in countries now embarking on sector reforms.

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