

# Chapter 24

## Regulating Communication Services in Developing Countries

Ben A. Petrazzini

### 1.0 Introduction

Telecom services have experienced the heavy hand of regulation for quite sometime. But, regulation in past decades was quite different from that which has begun to unfold in recent years due to sweeping reforms in the sector. This chapter looks at recent transformations in the sector and its impact on telecom regulation. In doing so the piece concentrates on the particular challenges that developing countries face in the transition from traditional state-owned monopolies to more open, competitive, and privatised markets.

The transformation in the telecom service market has been so profound that in some developed nations a debate has emerged as to whether there is any need at all for an industry-specific regulator. In developing countries, this chapter argues, the situation is quite different and the need for a telecom regulator during this transition period is essential. Yet, the mandates of today's telecom regulators in developing countries are somewhat different from those of the recent past. Although some of the core goals of regulatory activity – such as the pursuit of universal services – are still vital to their functions, new ones, mainly related to the rise of competition in domestic markets, have come into play.

For decades, the pursuit of universal service seemed in direct conflict with competition. Haunted by the fear of social inequality, due to a skewed distribution of services, and rejoiced by the political and economic benefits it provided, governments in developing countries eagerly embraced state-owned telecom monopolies to fulfil universal service obligations. Growing evidence from both developed and developing countries, however, shows that, contrary to what was expected, competitive markets can go further than monopoly arrangements in the achievement of higher network penetration. A brief summary of the impact of liberalisation in various aspects of the market – network penetration, prices, quality of services, employment, etc. – is presented in the second section of the chapter.

Although competition and increased private participation are policy choices that regulators can use to effectively fulfil most social and economic goals, an open/privatised market can also dramatically increase the demand for regulatory intervention and stretch regulatory resources in developing countries to their limits. Section 3.0 examines the challenges that regulators face in competitive markets, such as interconnection, structural

and accounting separations, number portability, and the like. The final section highlights some of the institutional requirements that most regulators in developing nations would have to tackle to effectively intervene in the market. Issues related to the institutional design of the agency, transparency, autonomy, and the more concrete matters of finances and human resources are included in this analysis.

## **2.0 The Paradoxes of the Regulatory Mandate**

Industry-specific telecom regulation should not be taken for granted. Some countries have decided that there is no need for such an institution (e.g., New Zealand). Others are following the same path and will soon do away with their telecom regulatory authority (Australia). And, finally, others have been involved in a heated debate as to whether their telecom regulatory agency should be abolished or not (USA). In all of these cases, the functions of telecom regulators are to be absorbed by competition commissions or the like. Regulatory actions are based on industry and/or consumer complaints guided and supported by the rights and obligations set in competition laws and exercised through the judicial system of the country.

Although the fashion of questioning telecom regulators seems to be taking hold among some groups in the advanced and mature telecom markets of industrialised nations, the opposite trend is on the rise among developing countries. That is, there is a growing belief that telecom markets require a strong, independent, well-staffed, and sufficiently funded industry-specific telecom regulator. The reasons for this are simple. First, in most developing countries, there are no competition laws or similar legal instruments, nor is there a tradition to exercise such legislation. Second, there are no competition commissions. And, although there are some consumer defence institutions, they are ill-suited to deal with issues that go beyond consumer complaints. Third, the judicial system in almost every country is not prepared – due to knowledge and resource constraints – to deal with the complexity and dynamism of telecom-related controversies.<sup>1</sup> Fourth, due to the very same deficiencies of the judicial system, a telecom regulator is necessary to set proper market conditions for the rise of competition.<sup>2</sup> Finally, the aim of attracting private capital (local and foreign) to long-term ventures in the telecom sector will be hampered in the absence of an autonomous, professional regulator enforcing a clear and well-defined regulatory framework that offers companies a buffer against market volatility.<sup>3</sup>

Assuming that telecom-specific regulators are necessary in developing countries, then, what are the main goals and mandates that will guide the actions of regulators? In general, there are three dominant mandates that guide the operations of telecom regulatory agencies in their daily operations. The first and more traditional one, is to serve social goals – such as the fulfilment of universal services obligations. The second is aimed at controlling telecom service provision due to its strategic role in the defence and economy of the nation. The third, and most recent one, calls for the regulator to play a key role in stimulating and assuring fair and balanced competition in the domestic communications market.

Although most regulatory agencies around the world engage all three roles, the relative weight of each differs according to the degree of economic development and the particular political system of each nation. In industrialised countries, liberalised markets have press regulators to concentrate on stimulating and fine tuning competition and

achieving significant improvement in the quality and sophistication of services. In developing nations, however, regulatory agencies are still heavily involved in the pursuit of more general socio-economic goals, such as expansion of basic services, the building of a national telecom infrastructure, and the control of the industry “in the national interest.”

This latter mandate of control and monitoring is based on the fact that most governments in developing countries see telecom as vital to national interest and national security. These concerns seem largely anachronistic to developed nations where telecom and information services have become a commodity. In developing nations, however, most communication services and networks – including value-added telecom facilities such as the Internet – are still treated as special cases of national interest.<sup>4</sup>

Social mandates, on the other hand, have been largely concentrated in the fulfilment of universal service obligations (USO). It has been assumed until recently that meeting USO requires the subsidy of network deployment and tariffs among rural and residential urban users. This is basically a redistributive regulatory function that many argue is increasingly in contradiction with promoting competition in the market.<sup>5</sup>

As a promoter of competition, the regulator’s main function is to ensure that incumbent carriers do not abuse their market power by setting discriminatory and predatory pricing, unreasonable terms of interconnection, unfair revenue-sharing arrangements, and so forth.

Therefore, modern regulatory agencies generally find themselves needing to achieve often contradictory welfare, national interest, and market goals.<sup>6</sup> On the one hand, they are supposed to protect the interests of consumers from whom they derive the legitimacy of their existence. On the other hand, they must respond to the interests of the government to which they directly owe functioning and often financing. Furthermore, they must develop a good working relationship with the industry which they are supposed to regulate and from which they derive the information required to adequately perform regulatory tasks. Finally, they must be receptive to the needs and interests of large business users upon whom much of the economic health of the country depends, but whose requirements often clash either with industry, government, or residential consumers.

The management of this complex web of often contradictory interests was a more workable task in the past when the regulator’s main function was to shield state-owned monopolies from the entry of other operators. The rise of closed markets and protectionist, passive regulation was cemented by the notion that universal service was achievable only under monopoly conditions.

But, are monopoly markets the most appropriate means of achieving important social telecom goals, such as universal service? There is a growing amount of evidence that calls into question this well grounded assumption and suggests that open competitive markets might provide a better environment to achieve the main socio-economic mandate that the regulator carries. The following section looks at recent evidence of the impact of market liberalisation in developing nations on some of the main regulatory goals: the fulfilment of USO, reduction of prices, improvement in the quality of services, and the protection of employment and revenue stream of the public telephone operator (PTO).

### 3.0 Using Market Structure to Achieve Regulatory Goals

Although the world of telecom seems to be inexorably moving towards open markets, the premise that competition provides adequate incentives to achieve rapid development of telecom services and infrastructure is far from being widely accepted among governments around the world. A recent survey carried out by the Organization for Economic Cooperation and Development (OECD) among member countries, for example, found that the objective of meeting universal service obligations was the most common reason cited for justifying the maintenance of monopoly provisions (see OECD 1995b). From these survey results, one can easily deduce that the resistance in most developing countries to telecom liberalisation is quite similar if not stronger.

Evidence in recent years has shown that telecom competition in both developed and developing countries has not only brought down prices of services, but has also achieved higher network penetration rates than closed markets. Competition in basic wireline services has been recently launched in a small number of developing countries; evidence of its effects are sparse. Cellular services, instead, have experienced higher degrees of competition for a more extended period of time. Statistical analysis of the performance of competitive and non-competitive markets in twenty-six developing economies shows that open markets have experienced a much higher level of service penetration than closed ones (for more details, see Petrazzini and Clark 1996).

Increased participation of private capital, in various forms of privatisation, seems also to provide better conditions for a rapid increase of network penetration. A comparison of privatised and non-privatised systems among least developed nations in the Pacific basin and Africa shows that those under private ownership have achieved a much faster tele-density growth than their state-owned counterparts. In Latin America, privatised companies have also performed better than state-owned ones, installing two times more main lines than their publicly owned counterparts (ITU 1995a, and Petrazzini and Clark 1996). In these cases, however, it is not clear whether the drive for increased network penetration is due to privatisation or due to the threat of competition that most of these privatised companies face in the near future. The nature of ownership (i.e., private or public) does not seem to indicate a clear relation with improved performance in the same manner as does competition.<sup>7</sup>

The fact that telecom competition boosts network penetration rather than hindering universal service comes as a surprise to many industry observers who for years had argued that the opposite was true. What does not surprise anybody is the fact that competition drives prices down; in some cases, dramatically. In Chile, for example, after competition was introduced in domestic long distance and international services, tariffs dropped as much 70 percent. The impact of competitive markets on prices is even more evident when one compares a competitive market like Chile with a monopoly one like neighbouring Argentina. The price per minute for a call to the US is seven times lower in Chile than in Argentina.<sup>8</sup>

If price cuts are clearly associated with competition, the impact of open markets on the quality of services is less obvious. Initial evidence in developing nations does not provide a solid basis to argue that liberalisation brings improvement or deterioration in the quality of services. Outcomes have been mixed, with service quality improving and deteriorating evenly in both competitive and monopoly markets. The same is true for markets that have privatised compared with those that remain under state ownership.<sup>9</sup>

Regulators in many developing countries have been reluctant to introduce competition in basic services, assuming that an open market would lead to high unemployment in the sector and the likely bankruptcy of PTOs. The available evidence in this regard shows that jobs are not lost as expected, and, in fact, the opposite seems to be true. Competition reduces the number of employees in the incumbent carrier, but expands the size of the market, and, with it, the number of jobs available in the sector. In Asia and Latin America, while competitive markets have seen the number of employees in the sector go up, monopoly markets (be they private or public) have experienced, on average, a reduction of their work-force. Competitive markets show also that former monopoly carriers face limited revenue losses in the early stages of liberalisation, and benefit from increasing profits after the second or third year of post-liberalisation operation. Furthermore, all retained a significant share of the market despite the rise of competition (Petrazzini and Clark 1996).

If developing country regulators decide to use competition as an integral tool to achieve socio-economic regulatory goals, they would need to face a number of rather complex and challenging matters that are uniquely engendered by the opening of telecom markets.

#### **4.0 Regulatory Challenges in Competitive Markets**

Telecom services is a rather peculiar industry. It is a commercial service, but one which is somewhat different from other services in the sense that service supply is governed not only by commercial, but also by social welfare, concerns. It is also a networked service, and therefore network externalities and economies of scale come into play. Finally, service provision has been under monopoly control everywhere for almost a century, providing substantial market power to the incumbent operator.

Due to these and other related factors, the entry of competitors raises issues that are generally not encountered in other sectors of the economy. Interconnection and number portability, for example, are unique to the telecom sector. Providing adequate regulatory solutions to these matters present regulators with unprecedented and challenging tasks.<sup>10</sup>

Although regulating a competitive telecom market encompasses a wide variety of issues and tasks, regulatory activities in the early stages of competition would be heavily involved in preventing the incumbent from using its market position to crowd competitors out of the market.

Probably one of the most significant challenges in this regard is the achievement of adequate interconnection terms and conditions for new entrants.<sup>11</sup> In early stages of competition new entrants lack backbone networks of their own and face serious network bottlenecks to access customer premises with their own lines. For these, and a variety of other related reasons, second operators have to interconnect to the public switched telephone network (PSTN) if they are to provide services and survive in the market. The incumbent operator, would naturally try to block and make entry of competitors difficult, if not impossible. Interconnection, and the conditions under which it is granted – in terms of prices, points of interconnection, routing of competitors calls, network information, and so on – therefore, becomes essential to the growth of competition.<sup>12</sup> Pricing of interconnection, in particular, is a crucial factor. For that reason, regulators in some markets have asked incumbent operators to implement accounting separation. The

requirement is important because it provides information on the cost from which interconnection charges are derived, showing if charges have resulted in discriminatory pricing or not.<sup>13</sup>

Sound interconnection conditions and pricing are a prerequisite for competition to flourish, although not sufficient in and of themselves. Structural and accounting separations are also crucial to the rise of a healthy competitive marketplace. Incumbents generally provide services in most segments of the market, i.e., basic local, national and international long distance, cellular, value-added, etc. For some of these services, incumbent operators still enjoy monopoly prices (or weak competition and high profits), allowing the company to cross-subsidise and set predatory prices in the more competitive services. This anti-competitive threat has led to regulation which is oriented towards achieving structural separations among the various operations of the company. Carriers (mostly incumbent ones) are required to set separate branches with separate accounting and revenue collection systems for each of their market operations. Although this approach is not without its weaknesses – demanding that regulators periodically monitor the possible cross-subsidies – the strategy provides a first step in easing the problem.

Number portability is another innovation that liberalised markets require if competition is to survive. There are two types of number portability: geographical and operator portability. The former has been implemented by carriers for sometime already: when changing locations, customers retain their telephone numbers – generally by paying a fee. This type of portability does not have any manifest impact on the competitiveness of the market. It is operator number portability that is crucial for the introduction and sustainability of competition in the long run. Given the possibility of signing with one of the new carriers, consumers should be able to change operators without having to give up their telephone numbers. Studies have shown that between 60 and 70 percent of consumers would not change operators if they had to give up their telephone numbers (Ovum Ltd. 1994). The reason is quite simple, in that there are high economic and social costs associated with the change of telephone numbers.<sup>14</sup> Therefore, enforcing operator number portability is an essential issue in the pursuit of a level playing field in competitive markets.

Finally, there are issues that, although not directly related to the everyday practice of competition, affect the competitiveness of new entrants. One is the cost of new licenses. Cash-starved governments in developing countries have found the granting of new licenses and the auctioning of radio-spectrum to be tempting sources of much needed funds.<sup>15</sup> The problem with high license fees or radio-spectrum auctions is that the high cost of market entry is subsequently transferred to consumers in the form of high tariffs. It also puts new carriers at a cost disadvantage vis-à-vis the former monopoly operator – who has had several decades to amortise the cost of its investment – making it difficult for new entrants to compete with lower prices.<sup>16</sup> In other words, high license fees provide the government with a significant amount of cash, but the cost of licenses are later bared by the productive system of the country in the form of high tariffs and connection fees. Ultimately, the cost of production goes up and the competitiveness of the country goes down, leaving the government with restricted economic activity and slim general tax revenues.

## 5.0 Institutional Requirements

To effectively tackle the challenges of liberalisation, governments in developing countries need to address a number of prerequisites such as the institutional design of the agency, the degree of transparency and independence required by the body, and the financial and human resources needed for its operation.

### 5.1 *Institutional Design and Transparency*

The institutional design of the agency embodies issues such as the composition of the directorship, jurisdiction of the agency, mechanisms for appeal (if any), and other related matters. Choosing the way in which the agency will be headed raises questions as to whether the body should be headed by a director general or by a collegiate body. Jurisdiction refers to choices of whether the agency should be under the control of the head of state, a ministry, congress, or none of these; and whether the reach of the agency should cover only telecom related matters, or should also include broadcasting and related (electronic) content industries. The institutional design also should address whether the decisions of the agency are subject to appeal, and if so, to whom and in what terms. Since these and other related institutional aspects of the agency are closely bound to the political, cultural, and economic conditions of each country, choices to be made will vary considerably from one country to the next and should be examined on a case-by-case basis. For this reason this aspect will not be further considered in this chapter.<sup>17</sup>

There are, however, some issues such as the degree of transparency and autonomy of the agency and the resources available for its operation that, although institutional in nature, have been shown to have fairly homogeneous implications for the development of the industry regardless of political and cultural boundaries.

Investor and consumer confidence in domestic regulatory agencies is not only based on clear and detailed regulation, but also on the transparency of the regulatory process. This is true in every country around the world, but is particularly true in the case of developing nations where transparency of official decision-making has always been a principle more often praised than practised.

In the era of regulated state-owned monopolies, a transparent regulatory process was of no major public or commercial concern. Today, with rising competition in every segment of the market, the issue of transparency in the regulatory process has become crucial. A transparent regulatory process is both an issue of public accountability and a pragmatic business strategy to boost local telecom market investments.

In the late 1980s and early 1990s, during the drive for telecom privatisation in emerging markets, global capital seemed abundant and the business profits offered by the telecom sector in developing nations was an irresistible opportunity. In the mid-1990s, available capital seems to be increasingly scarce.<sup>18</sup> Yet, the demand for telecom infrastructure and for the required capital has increased rather than diminished. As the competition for capital grows, and the attractiveness of emerging economies cools, investors have become more careful in their evaluation of potential investment opportunities. In an increasingly restricted global capital market, the transparency of the regulatory process in developing nations is becoming one of the key factors to gain long-term investment commitments from private capital without having to give away high rates of return to guarantee high profits in the short-term.<sup>19</sup>

A non-transparent regulatory process has negative effects on the promotion of competition, as well. The success or failure of new competitors in telecom markets is closely tied to conditions and terms of interconnection. Interconnection agreements generally require the intervention of the regulatory agency. Regulatory solutions often do not satisfy either the incumbent or the new carrier. Therefore, if the decision-making process is carried out in an unclear and non-transparent way, suspicion of favouritism and biased preferences can easily discourage potential investors from entering the market and existing ones from making any new long-term investments.

## 5.2 *The Struggle for Autonomy*

A closed and obscure regulatory process is also a fruitful ground for the influence and lobbying of powerful interest groups.<sup>20</sup> In an open, competitive, and increasingly global marketplace, much of the trust of both the public and industry in the regulator relies heavily on the autonomy and independence the agency gains from the various interest groups and constituents that have considerable leverage to influence and distort the decision-making process.

Efforts to “de-politicise” operations, decision-making, and resource allocations in the telecom sector of developing countries have taken two main paths. On the one hand, governments have privatised state-owned carriers and opened the market to third party entry. On the other, they have started to restructure the regulatory process by creating relatively autonomous agencies operating at arms’ length from government. However, while much has been achieved in the former case, much less has been attained in the latter.

One problem is that the appointment, surveillance, reporting structure, and budgetary allocation of regulators is still closely tied to the various branches of the central administration. In several countries, the head of the executive branch (president or prime minister for example), still plays an important role in the life of regulatory bodies – through the appointment of regulators or intervention in politically sensitive regulatory decisions.<sup>21</sup>

Presidential or prime ministerial mandates grant the regulator legitimacy from the highest stratum in government, shielding the regulator from the often intense, and many times contradictory, pressures of Congress and other political forces in society. But the marginalisation of Congress and other representatives of political forces in society also diminishes the legitimacy of the body’s decision-making. In other words, the decisions of the agency under one administration might be interpreted as unilateral and non-consensual, and risk being scrapped by a subsequent administration.

In an effort to create more democratic regulation, some governments have opened the process to input from various sectors of society.<sup>22</sup> Confronted with considerable pressure from various interest groups, and hampered by their weak position in the political arena, regulators have often delayed the resolution of sensitive issues to avoid conflict. Delays in regulatory decision-making in a rapidly changing industry can only create insecurity, delaying or stalling investment decisions, new ventures, and the rise of competition – all of which have a direct negative impact in the expansion of services and infrastructure. For this reason, it is extremely important for any regulatory agency that intends to become open to input from various sectors of society to have strong statutory powers and a high level of autonomy.

Yet, the irony of greater autonomy is that an agency with increased powers becomes a more attractive target for “capture” than a passive, non-autonomous one. An active role and concentration of power in the regulator sends a clear signal to industry about the source of decision-making and whom they should target for lobbying if decisions are to be influenced in any way. Furthermore, a proactive regulator, receptive to regulatory innovations and change, increases even further its capture value for those who intend to transform the rules of the game in their favour.

Although increased autonomy and higher statutory powers might augment the visibility of the regulator as well as its allure as a target for capture, that same visibility shields it from players in the market in ways that are not possible under closed and obscure regulatory processes. Regulation carried forward in an open fashion – through hearings, public notices, and consultative documents – increases the public visibility of the regulator, and reduces the likelihood of capture. This does not mean that regulatory decisions are not often prone to the influence of powerful interests, but it highlights that under open, participatory conditions, capture is less likely.

Finally, one should keep in mind that transparency and autonomy are “fuzzy” notions that can have two manifestations: a formal one based on the law that imposed it, and a substantive one affected by concrete daily regulatory practices. Often these do not easily converge. While much transparency and autonomy may have been required and granted through legislation, the actual implementation will depend on a variety of institutional, cultural, political, and economic conditions in each society.

The institutional design of the agency, for example, can affect the actual degree of transparency and autonomy enjoyed by the regulator. It would be easier for a single director general to operate in a non-transparent fashion, than for a collegiate body to reach a broad consensus to do so. In the same way, it is easier to capture an agency headed by one individual than it is to capture one headed by a large collegiate body.

The formal autonomy of the regulator granted by the law can also be easily undermined if the institution does not have financial autonomy. The sources and management of the agency’s finances are key elements in the regulator’s independent decision-making.

In summary, implementation of transparency and autonomy is not only a matter of formal legal ruling, but also of finding the right institutional, financial, and political conditions for the agency to achieve in practice what is prescribed in the law.

### 5.3 *Monetary Resources*

Regulators operating under traditional regulatory schemes tend to be constrained by the fact that the scope and allocations of budgetary resources are controlled by the executive or some of its branches. It is generally the minister of economy or the secretary of finance who determines the amounts allocated to the various items in the budget, and regulators cannot necessarily manage nor reallocate resources according to the changing needs of the agency and demands of the industry.

To overcome some of the problems generated by these budgetary straight-jackets, some regulators have won government approval to create a telecom trading fund.<sup>23</sup> The fund allows regulatory agencies to operate on a quasi-commercial basis, while remaining part of the government. This new financial and accounting framework allows regulators to independently collect and manage revenues from licensing fees or other sources

without the constraint and bureaucracy traditionally imposed by centralised budget control. These schemes provide enough flexibility for an efficient use of resources to respond to the new demands of an ever-changing telecom market.

In most developing countries, however, the problem of financial resources goes beyond the issue of who controls the budget into the very basic question of how to raise sufficient funds to run the agency, where financial constraints not only undermine the autonomy of the agency, but can also hinder its ability to perform the most basic functions. Without adequate financing, the regulator can turn into a policeman without a stick.

One of the main problems is that the regulator's budget is generally part of the larger national budget and telecom requirements generally give way to more politically sensitive matters such as social welfare programs and the like. Therefore, an independent source of financing becomes crucial for the operation of the regulatory agency.

Some governments have begun to rely on licensing fees to finance regulatory operations. Others have ruled that financing should derive directly from the revenues of the carriers operating in the local market.<sup>24</sup> These approaches are attractive for developing nations because they remove the budgetary burden from the state and provide regulators with a reliable and stable source of financing.

Theoretically, these strategies should solve the financial problem of regulatory agencies in the developing world. In practice, however, the approach is not without its problems. Although the funds are legally allocated to the regulator, often more powerful agencies within the government – such as the ministries of economy or finance – gain control over the resources and redistribute a lesser amount to the regulator for its operation.<sup>25</sup> Another potential problem is related to the fact that dependency on revenues generated by service providers can lead to collusion between regulator and those who are regulated, to the detriment of consumer interests. This trend is more likely in the largely closed and still highly politicised markets of most developing nations than in open competitive environments.

Financial dependency on service providers *or* government makes regulators vulnerable to subtle yet consistent pressures in favour of those groups. For these and other related reasons, the creation of an independent fund supported by a tax on telecom services can provide a buffer to the pressures that agencies face in their daily operations.

#### 5.4 *The Human Factor*

Deficient finances lead not only to weak and vulnerable regulatory agencies, but can also create an insurmountable obstacle to attract what an agency needs the most in an era of market competition: highly qualified human resources. Staff salaries generally constitute as much as 90 percent of regulatory agencies' expenditures, and therefore becomes the single most important element affected by a deficient financing scheme.

Although most developing nations suffer from human resource deficits, it is important to point out that it is not always a problem of quantity of personnel as much as it is one of quality and diversity of skills. Governments in the developing world have used state enterprises and agencies to buffer unemployment problems. Hence, regulatory agencies – like most other state controlled bodies – may have an abundance of labour but in the majority of cases the staff will not have adequate training or the expertise required to handle the growing complexity and diversification of the telecom market. Most

agencies are still dominated by personnel with a professional profile more attuned to an era of single basic service monopoly (i.e., engineers) than to the current competitive and diversified service market (which requires accountants, policy and financial analysts, economists, lawyers, and so forth).<sup>26</sup>

The process of building regulatory capabilities in developing countries is proving to be one of the most difficult and elusive tasks of the reform process. Acquiring the necessary funds, hiring a diversified and highly professional staff, buffering political influences and pressures from interest groups, and opening the regulatory process to public participation can be a slow and painstaking process. Meanwhile, developing nations need to offer reliable and sound regulatory frameworks upon which the industry can make mid- and long-term decisions. To ease some of these short-term burdens, legal instruments can become a transitory substitute for actual daily regulation of the sector.

### 5.5 *Using Legal Instruments to Ease Resource Deficiency*

Analysts have suggested that developing countries can diminish the problems created by weak financial and human resources by incorporating legal instruments into their regulatory goals and targets. Policymakers and regulators can build into contracts, licenses, specific regulations, and general laws, those social ends that the government is interested in achieving.<sup>27</sup>

This approach to reducing the cost of regulation has, however, significant spill-over effects. On the positive side, it provides a solid and stable regulatory framework which increases the likelihood of long-term investment in the sector. Due to the often unstable economic and political environment reigning in most developing countries, investors tend to require clear and detailed licensing or contract conditions that are also embodied in long-term legal instruments that cannot be easily turned around if political conditions change (see, for example, Sinha 1995, Hill and Abdala 1993). The lack of a stable regulatory framework has been one of the main factors scaring away investors away from emerging markets, or leading them to consider only short-term investment with a high rate of return. Therefore, consolidating regulatory targets in domestic legislation will not only ease the resources burden, but it will also provide a boost to increased long-term investment.

On the negative side, regulation built into legislation might become an obstacle to adapting the rules of the game for rapidly changing conditions in the industry. Frequent technological innovation and rapid changes in market profile have raised the need for a regulatory framework that is flexible enough to provide regulators with the necessary leeway to adjust the rules to the changing market environment. Furthermore, several developing nations are involved in broad economic and state reforms as well as telecom reforms and require considerable regulatory flexibility to test various forms of market arrangements and the role of the state in this emerging developmental model.<sup>28</sup> The growing presence of private investments in the sector and the increasing influence of multilateral agreements such as those developed in the context of the World Trade Organization (WTO) will put a limit on the legal and operational flexibility of regulators in the developing world. The WTO, for example, has specific mechanisms that bind countries to the regulatory offers they make. Countries that do not comply are subject to the WTO's Dispute Settlement Understanding (DSU) process (see ITU 1996, and Petrazzini 1996).

In summary, a fixed and detailed legal instrument might operate to the detriment of an up-to-date regulation and to market choice experiments, but it grants investors safe ground for their ventures and regulators a partial solution to the problem of limited resources.

## **6.0 Conclusions**

Several developed countries have begun to question whether telecom regulators should be abolished. Some of them (namely New Zealand and Australia) have tilted the scales in favour of doing away with industry-specific regulatory agencies. A general competition agency and the judicial system of the country will be positioned to provide mechanisms for resolution of disputes that cannot be solved through market/private sector arrangements and agreements.

Although the strategy might be a viable solution for some industrialised nations with well developed institutions and infrastructure, the approach makes less sense in the developing world where the necessary institutions do not exist or are poorly developed. Generally, developing countries do not yet have a body of competition legislation or competition commissions, nor are the judicial systems currently capable of dealing with the emerging complexity and dynamism of the telecom service sector. Furthermore, there is a strong need in the telecom market for a stable, transparent, and fairly specific regulatory framework to encourage long term investments and the entry of new competitive service providers. Finally, as in the case of developed nations, the intervention of a regulator is increasingly essential to the expansion and consolidation of competition, as it is to the curbing of the anti-competitive behaviour of the incumbent.

The rising importance of this last function is based on the fact that, contrary to what has been traditionally argued, liberalisation does not seem to hinder the fulfilment of universal service obligations; on the contrary, it rapidly expands network and service penetration. Competition has also proven to be quite effective in achieving several of the other regulatory goals, such as tariff reductions and improvements in the quality of services and networks. If this is the case, and roles related to control and security diminish with time, as it has been the case in most advanced countries, then regulation in developing nations will soon be intensively devoted to the management of competition.

Regulating a competitive marketplace introduces a wide variety of new issues and requires from the regulatory agency a new set of resources and capabilities. As competition grows the regulator will have to tackle complex issues related to matters such as interconnection, accounting and structural separations, number portability, and licensing. To achieve sound intervention and resolution of most of these matters, the regulatory process must become transparent and regulators will need to attain considerable independence and autonomy from all interested parties in the industry. Yet, the short experience of a few developing nations has already shown that transparency, autonomy, and effective market intervention will remain an elusive goal if the agency is not well financed and staffed. There is little doubt that regulatory agencies now require accountants, lawyers, and economists, as much as they still need engineers. There is also a growing consensus that the agency should draw its funds from sources other than central government budget.

Achieving a rapid growth of their telecom infrastructure is a prime concern to most developing nations. Setting up a highly professional, well-financed, and

independent telecom regulatory agency, and opening the telecom market to the disciplines of competition should be at top priority in every country's development agenda.

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#### Endnotes

<sup>1</sup> If telecom-specific regulators – who devote their lives to the industry – find it difficult to reach resolution on various matters, judges who have little or no expertise of the industry will most likely take a long time to make decisions, or will make uninformed and unfounded decisions – neither of which is of any help to the development of the sector.

<sup>2</sup> In developed nations, with strong and efficient regulators and judicial systems, the rise of competition has been extremely difficult to achieve. In developing nations, there is little doubt that market liberalisation would become a fiction if regulators were absent from the telecom scene.

<sup>3</sup> Political and institutional instability is the main source of unstable economies and volatile markets in developing nations.

<sup>4</sup> In portraying telecommunications services as a key public utility, governments benefit in two different but related ways. On the one hand, they restrict entry, which allows them to collect monopoly rents. On the other, they use their control over entry into lucrative telecom markets to exercise patronage in favour of their political and business allies.

<sup>5</sup> Presumably, the introduction of competition would turn the attention of regulators away from social concern, to the more pragmatic issues of managing a level playing field in the market. If one takes into account the scarcity of qualified human resources and finances in most regulatory agencies of developing nations, this premise would be confirmed. In other words, facing limited resources and exclusionary practices, regulators would most likely emphasise the sound operation of the market as a whole at the expense of rather unclear needs of unprofitable segments of the market.

<sup>6</sup> The contradictory mandates faced by regulatory agencies are not unique to developing countries. Variations of it have been experienced by agencies around the world since the early days of regulation. For an analysis of the American case, see Horwitz 1989, 82.

<sup>7</sup> The positive effects of market competition in improvement of network penetration is confirmed by the performance of open markets in industrialised economies. In the OECD economies, the number of lines added each year between 1990 and 1994 grew by 21 percent in competitive markets, while the number of lines added in non-competitive markets dropped by 28 percent (ITU 1995a).

<sup>8</sup> In China the entry of Liantong into the cellular market led the former monopoly, MPT, to cut its prices by 30 percent; while in Ghana the entry of a second provider in the cellular service market brought prices down by 50 percent. For some studies that provide data on the impact of competition on prices, see OECD 1995b, ITU 1995a, Petrazzini and Clark 1996, and Petrazzini 1996. For an analysis of the impact of developing country privatisation on service prices, see Petrazzini 1995.

<sup>9</sup> This is an issue in which market forces seem not to be providing adequate conditions for performance improvements. Adequate regulatory intervention would most likely be able to provide the necessary incentives missing in the marketplace.

<sup>10</sup> The issues addressed in this section are not a taxonomy of regulatory challenges faced in a competitive telecom environment, but rather an illustration of some of the matters that market liberalisation have raised in early stages of reform.

<sup>11</sup> Network interconnection refers to "the arrangement for linking up two networks and the conveyance of calls and exchange of information from one [telecommunications network] to the other" (OFTEL 1992).

<sup>12</sup> Regulators in market that have been liberalised for quite sometime have identified Type I and Type II modes of interconnection. In Type I interconnection, fixed telephone service network (FTSN) operator and/or information service providers (such as an Internet service provider [ISP]) connect to regional tandem or local exchange offices of the public switched telephone network (PSTN) to reach customers and provide services. Under Type II interconnection, FTSN and information service providers can connect the local exchange, the distribution point, or the customers building main distribution frame allowing an almost direct access to customers. Incumbents have rejected this second mode of interconnection arguing that it is a regulatory confiscation of the company's assets. For a detailed discussion on the matter, see Consumer Council (Hong Kong) 1996.

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<sup>13</sup> Accounting separation generally derive in separate accounts, such as a network account (which includes the costs and charges to other operators) an access account (with costs and charges to customers), and a retail account (with costs of and charges to subsidiaries). On this matter, see OFTEL 1994.

<sup>14</sup> Business, for example, would have to invest a considerable amount of money in announcing the changes, reprinting documents of various kinds, and always risking the possibility of loosing business due to changes in numbers.

<sup>15</sup> India, for example, has asked for exorbitant sums for the right to enter its wireline market. In the cellular market, successful bidders have offered to pay in licences one-and-half times the cost of the complete network. Colombia's plan to auction the radio spectrum will probably lead to the same kind of outcome.

<sup>16</sup> High licence fees also crowd out of the bidding process small and innovative companies that generally do not have the required capital. The market can easily become an oligopoly market controlled by a few powerful corporations. With time, if the incentives for competition are not appropriate, the risk of collusion can rise rapidly.

<sup>17</sup> For a consideration of the pros and cons of various institutional choices, see International Telecommunications Union 1993.

<sup>18</sup> The economic and financial debacle in Mexico, and some sour experiences of major telecom investments – such as that of the Venezuelan privatisation – have affected the confidence of international investors in emerging markets, and in the telecom sector in particular.

<sup>19</sup> The costs generated by the lack of transparency and reliability in the legal and political system is manifest in some Latin American countries, where privatisation investors required high rates of return to recover investments in the shortest possible time.

<sup>20</sup> Interest group theory argues that, in general, government agencies and political bodies are more vulnerable to pressures from industry than from consumers (or even from congressmen representing consumers) for three main reasons. First, regulatory decisions generally have a higher and more clear monetary value for industry than for individual consumers. Second, service providers generally enjoy a higher degree of financial and human resources to lobby government than consumer groups do. And third, industry actors are few and often share their views and interests in ways that allow them to organise and coordinate action more easily than the often disparate interests of a large number of individuals consumers. See for example, Noll and Owen 1983, and Horwitz 1989.

<sup>21</sup> The increasing convergence of telecommunications and content industries will bring new issues to the agenda of telecom regulators. In the past, telecom regulation was highly restricted to economic-based matters; in the future, as content transmission over telecom networks becomes increasingly dominant, political, moral, religious, ethnic, and other social issues will rapidly become matters of major concern for regulators. The sensitive nature of these matters will probably hinder the prospects of regulatory autonomy. An illustrative example of this emerging trend is the proposal of ASEAN countries to set up a regulatory body to control and regulate the Internet. In May 1996, Vietnam passed a law to highly centralise the management and control of Internet services. For more details on these events, see "Asia and the Internet," *The Economist*, 16 March 1996; and "Vietnam Drafts Tough Laws To Control Internet Access," *Straits Times*, Singapore, 31 May 1996.

<sup>22</sup> For various forms of participatory mechanisms in some developed countries, see ITU 1993.

<sup>23</sup> One such case is the Office of the Telecommunications Authority (OFTA) in Hong Kong.

<sup>24</sup> This is the case of Argentina, the UK, and Australia where regulatory agencies are supported by levies on the revenues of companies operating in the sector.

<sup>25</sup> In Argentina, the Ministry of Economy has taken control of the revenues, and discretionally allocates to the regulator a sum that is always smaller than that which the agency previously received from the carriers.

<sup>26</sup> In Malaysia, for example, the regulator Jabatan Telecom Malaysia (JTM) operates as one of the three departments under the Ministry of Energy, Posts and Telecommunications (MEPT). In 1994 JTM had a Director-General, a Deputy Director-General, a Technical Director-General, and five other Directors covering areas such as regulation, standards, frequency management, finance and licences. JTM had a total staff of 107. More than 60 were stationed at the headquarters in Kuala Lumpur, where there were only eight secretaries, six engineers and the remaining staff are non-technical, including clerical, security staff, drivers, etc. In the Philippines, the regulator is the National Telecommunications Commission (NTC), operating under the jurisdiction of the of the Department of Transport and Communications (DOTC). The NTC has a total staff of 1,147 of whom seven are lawyers, 106 are engineers, and 341 are 'non-technical'

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personnel. In both of these cases, there are no accountants or economists or other policy specialists with regulatory experience.

<sup>27</sup> Examples of this strategy can be drawn from Mexican and Argentine privatisation, where the new private companies were required to achieve certain social and infrastructural goals within the first five or seven years of operation. For more detail on this, see Petrazzini 1995.

<sup>28</sup> For an analysis of this trend in the particular case of China, see Lovelock 1995.

