3rd Global Symposium for Regulators (Hong Kong, 2002)

Promoting Universal Access to ICTs

Documents

Note: The documents of this seminar were numbered sequentially regardless of type of document. This PDF includes only *documents*.

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English	Keynote Address: Regulating for End Users	Hamadoun I. Touré, BDT Director
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English	Closing	Tan Sri Abdul Hamid Nuraizah, Chairperson
Français		
Español		

PRESENTATIONS

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English	5	Quality of Service Performance Indicators for Converged Services	Swee Hoe Toh, Senior Manager, Malaysian Communications and Multimedia Commission
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English	22	Proposed Policy Guidelines for Universal Access/Service for Telecoms Services in SADC	Mogopa Tamasiga, Telecommunications Authority, Botswana
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English	28	Consumer Protection in the Asia-Pacific Region	Bob Horton, Australian Communications Authority
English	29	Harmonization of Regulation in the Central American Region	Martha García-Murillo, School of Information Studies, Syracuse University

DOCUMENTS

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English	7	Model Universal Service/Access: Part I: Universal Service/Access Policy, and Creation and Operation of Universal Service Funds	ITU, CTO (David N. Townsend)
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English	9	Model Universal Service/Access: Part III: Telecentre Options and Strategies	ITU, CTO (David N. Townsend)
English	10	New Performance Indicators Issues for Converged Services	Mogopa Tamasiga, Telecommunications Authority, Botswana
English	11	Report from the APT Forum on Telecommunications Policy and Regulation, May 2002	Robert Bruce, Rory Macmillan (Debevoise & Plimpton, London)
English	13	Case Study: Feedback to Regulators from Consumers	Geoffrey Cannock (Apoyo Consultoría)

OTHER DOCUMENTATION

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English	12	Discussion Paper on the Use of Alternative Dispute Resolution Techniques in the Telecom Sector	Robert R. Bruce, Arthur Marriott QC (Debevoise & Plimpton, London)
English	14	The National Regulatory Authority in Poland	Office of Telecommunications and Post Regulation, Poland
English	16	Final Communique of the 3rd Forum on Telecommunication Regulation in Africa, Ouagadougou, Burkina Faso - 19-21 November 2002	ITU/BDT
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English	17	Final Communique of the WATRA meeting, Ouagadougou, Burkina Faso - 17-18 November 2002	ITU/BDT
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English	n/a	Feedback from a Regulator to an Investment Analyst	Jens Arnbak, OPTA, The Netherlands

INTERNATIONAL TELECOMMUNICATION UNION
TELECOMMUNICATION DEVELOPMENT BUREAU

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GLOBAL SYMPOSIUM FOR REGULATORS
Hong Kong, China, 7 -8 December 2002

COMPASSROSE INTERNATIONAL, INC.
REPORT TO THE INTERNATIONAL TELECOMMUNICATION UNION (ITU) GLOBAL SYMPOSIUM FOR REGULATORS, 7-8 DECEMBER 2002:

FEEDBACK TO REGULATORS FROM THE PRIVATE SECTOR

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OUTLINE

I. INTRODUCTION

A. Overview

In 2001, the Telecommunication Development Bureau (BDT) of the International Telecommunication Union (ITU) conducted case studies on effective regulation in five countries (Botswana, Brazil, Morocco, Peru and Singapore). These case studies took a country-by-country approach and their goal was to identify best practices from the perspective of regulators and policy makers. The results of these case studies have been presented to and discussed by the attendees of the ITU Global Symposium for Regulators (GSR).

One area that the regulators attending the GSR believe has not been very well documented is the views of telecommunication providers regarding the effectiveness of various regulatory practices and the relationship between business decision-making and regulatory policies. This study was undertaken at the request of the participants in the 2001 GSR to provide independent feedback to regulators and create a foundation for information-sharing in this area. The report provides a general overview of how operators and service providers react to the laws, rules, regulations and practices adopted in various markets around the globe. This study addresses the business implications of decisions taken by national regulatory authorities and presents operators' recommendations for regulators in order to create business climates that foster earnings, profits and new commercial opportunities. The views expressed in this study are those of the authors and may not necessarily reflect the opinions of the ITU and its members.

To advance the dialogue between regulators and operators on the impact of regulations on businesses, it is important to understand not only what information companies take from a particular regulatory regime, but how they process that information in order to make business decisions. As such, this report begins by providing companies' first-glance perspectives on regulations in particular markets—what information they first collect on the regulatory environment and specific regulations in particular markets. The report then considers the specific regulatory factors that companies view as most critical to their businesses. It then turns to ways that companies factor regulatory issues into their business decision-making, including a review of the various mechanisms for linking regulatory and business development functions within companies. Finally, the report considers the ways that companies communicate with regulators and companies' levels of satisfaction with their interactions with regulators.

Key elements of the report include:

Assessing the regulatory environment and specific regulatory actions

This section includes:

- How companies view regulations in particular markets -- on an issue or regulation-specific basis or at a higher level of the larger regulatory environment, and
- Key regulatory issues affecting companies.

Evaluating regulatory transparency

This section includes:

- How regulatory transparency impacts company decisions,
- Operator views of factors most important to a "transparent" regulatory environment, and
- Views on whether regulators provide the same level of access and information to all providers.

Factoring regulatory issues into the business proposition: where and how they fit into business decision-making

This section includes:

- The regulatory environment as a factor in companies' assessments to enter markets or expand or diversify services,
- Techniques and processes companies use to assess the business implications of regulations and policies, and
- How companies evaluate varied regulatory approaches across countries/regions and how they affect offerings.

Assessing communications with regulators

This section includes:

- Regulators' knowledge and understanding of issues important to individual companies, and
- Companies' methods and levels of communication with regulators.

B. Methodology and Overview of Respondents

This report compiles the views of 18 telecommunication operators and telecommunication associations collected through a series of confidential personal interviews conducted during June and July 2002. An abbreviated case-study methodology was employed, providing in-depth reports of respondents' views on these issues.

The interviewers identified and selected the participants. An effort was made to include interviews with companies that have experience in multiple regulatory environments, offer a wide range of services, use several technologies, and cover most geographic regions. Because of the method of selection and the relatively small sample size, the results cannot be assured to represent the entire telecommunication industry. However, the information gathered does provide, at a minimum, insights into the types of issues that concern the group of companies that agreed to be interviewed and the ways that the regulatory environment interacts with and affects a company's business decision-making. The report can also serve as the foundation for further, more comprehensive research.

The interviews were conducted primarily in person and by telephone. Two of the 18 were conducted via e-mail.

The individuals responding for the companies can be grouped broadly into the following types of expertise or functions: regulatory, strategic/business/market planning and industry affairs. Regardless of where respondents were located within their companies' organizational structures, they had knowledge of the business objectives and the relevance regulation and policy have in achieving those objectives. Overall, the respondents viewed the study as an important undertaking, were encouraged that the 2001 GSR had requested the views of operators on regulatory issues, and were open and most cooperative with the interviewers.

Of the 18 study respondents, 15 represent telecommunication companies and three represent associations of operators and major users. The companies provide a wide range of telecommunication services, as detailed in the table below:

Table 1 - telecommunication services provided by companies

Service Type	Number of Companies Providing Service
Local Fixed Line	9
National Fixed Line	9
International Fixed Line	9
Internet Services	9
Wireless	9
Data Services	8
Satellite	5

Thirteen of the companies are publicly traded, while two are privately held. Historically, national governments have been owners of several of the companies surveyed. However, most of them have been completely privatized in recent years. Governments maintain a majority financial interest in only a few of the companies studied.

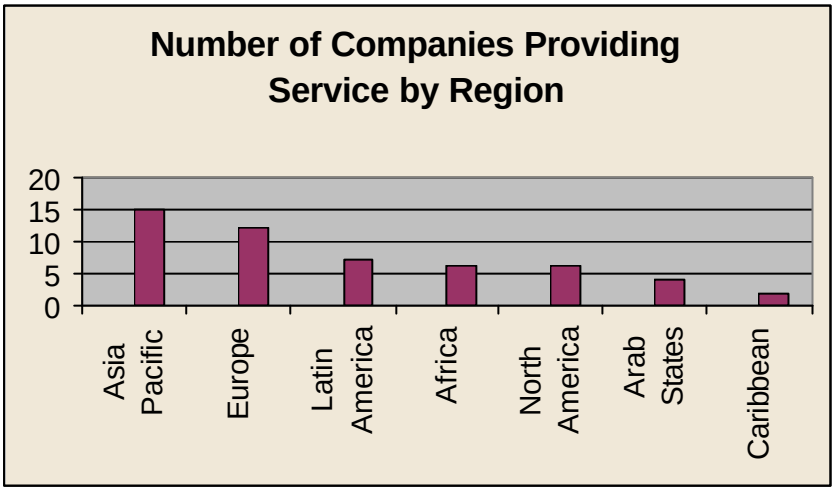
These companies vary greatly in size, as demonstrated by the large differences in their revenue streams. The 2001 annual revenues ranged from below $50 million to above $50 billion per company. Some of the companies have been in existence for only a few years, while others have a long history of providing service. A few have experience as both an incumbent, monopoly operator and as a new entrant, and others have operated only under the structure of a competitive telecommunications marketplace. A few companies focus on a market segment such as the wholesale business or the more lightly regulated advanced services business. Others offer a broad range of telecommunication services to wholesale and retail customers over a wide range of technologies.

A unique subset of the respondents are the companies that have been part of a government owned and operated PTT (Posts, Telephone and Telegraph Administration) that has been through the various transitions of corporatization and privatization, the introduction and growth of competition, and even entry into new global markets and

markets for advanced services. This wealth of experience allowed these particular respondents to provide a wide scope of reference points regarding the changing telecommunication regulatory environment. Their perspectives include not only the ways that regulators have changed but also the changes in ways that companies approach regulation, business decisions, and markets.

Most of the companies are based in or have located their corporate headquarters in developed countries, and most have legal entities established within the countries of operation. All of the companies provide service outside of their home-headquarters country. Two thirds of the companies' corporate headquarters are located outside of the United States (U.S.). The chart below classifies the countries that these companies serve by geographic region:

Figure 1- Number of companies providing services by region



Although the group of respondents is relatively small, its collective regulatory experience encompasses most of the globe. Further, this experience includes well-developed markets, emerging markets and markets in least developed countries.

Not reflected in this chart are the countries that companies have decided to exit or which they evaluated but chose not to enter. Some respondents provided examples of situations in which they made market entry or exit decisions based on a country's regulatory policies. None of the respondents identified a certain geographic region as a particularly troublesome or easy regulatory environment in which to operate.

C. Summary and Findings

Survey respondents were very open in their discussions with interviewers and offered both broad insights and very specific case examples to detail their views. Respondents' depth of knowledge of their companies' internal systems for managing regulatory information and responses and experience in varied regulatory regimes around the globe provided a wide array of views on matters of regulator-operator interactions. This report compiles the responses, highlighting areas of commonality among respondents as well as areas in which views diverged.

Key findings:

- **Regulatory issues are a key factor in market entry and expansion decisions.** Several companies viewed regulatory matters as the top factor in their market entry and expansion decision-making, while most others viewed it as a close second to the market potential in a given market. Several providers detailed the means by which regulatory factors are analyzed and incorporated into risk equations and business case analyses. ***All emphasized that both the regulatory/policy environment and particular regulations and decisions are critical factors in their decision-making regarding markets.***

- **Interactions between regulators and operators are most challenging during times of transition.** Companies discussed the particular challenges of dealing with regulatory issues in markets in transition. Times of liberalization and privatization were cited most often by companies as difficult learning phases for both regulators and operators, and periods during which mistakes were most likely to be made. ***One particular challenge that several companies noted was the tendency of regulators to protect the incumbent or dominant market player to the detriment of competitors and consumers, during these transitional times.***

- **Companies look at the big picture of the regulatory environment, not just specific regulations. Transparency and responsiveness matter.** Companies varied in their methods for assessing markets, with some companies looking first to the overall environment and others to more specific regulations. Despite varied responses on the ways in which the markets are analyzed, ***all companies view transparency of regulatory processes and responsiveness of regulators as extremely important factors in their willingness to enter and stay in markets.***

- **Companies employ a variety of ways to ensure that regulatory information is factored into business planning and decision-making**. Most use cross-functional teams to ensure an appropriate flow of information. While methods of cross-functional communications varied, the majority of companies feel satisfied with their abilities to communicate and appropriately use regulatory information throughout their companies. ***Most believe they are equipped to react quickly to changes in regulatory environments that would have detrimental impacts on their companies.***

- **Companies believe that regulators lack a strong understanding of business decision-making**. They discussed several areas in which they think that the dialogue between regulators and operators could improve. Foremost among these areas is regulators' understanding of the ways in which businesses make decisions. Many respondents suggested that regulators who have spent some time in industry have a better understanding of and appreciation for the companies they regulate. ***An improved understanding of the factors businesses consider in planning and market entry, most operators noted, would benefit the regulators and the regulatory environment as a whole.***

Box 1: At a Glance: Key Findings

- √ In decision making, regulatory issues are not viewed in isolation. Regulatory issues are viewed as part of a larger package of issues, including market, stability, and political factors.
- √ Companies review regulatory environments at a variety of levels. When considering a particular market, many companies first consider high-level issues such as openness and transparency and then move to more specific and financially quantifiable regulatory factors, such as licensing conditions.
- √ While specific areas of regulation such as licensing conditions and advanced services regulation matter to specific types of service providers, transparency matters to all types of companies in the telecommunications market. Transparency sets the tone for all players in the market.
- √ Rules and regulations alone do not equate to transparency for many companies. Companies' perceptions of how transparency plays out in the market are important. Many companies' views of transparency in a market are shaped by regulators' treatment of incumbents versus new market entrants.
- √ Companies' views on transparency are shaped by their position in a market. Incumbents and local players are less likely to question transparency in a particular market than are new market entrants and foreign carriers.
- √ Licensing challenges, especially "extortionately high" licensing fees, were cited as the simplest factor which will quickly eliminate a particular market from consideration.
- √ Foreign ownership restrictions and local partner requirements were also cited as particular reasons why markets are not selected. Companies viewed these regulatory conditions as more complex to assess than licensing terms.
- √ While most companies find it easier to enter multiple markets if the regimes are harmonized or similar, nearly all companies noted that they realistically have to look at each market separately, even when entering markets globally.
- √ Most companies felt that regulators could improve their understanding of new technologies, business practices, business law – including U.S. bankruptcy law, and means of promoting a competitive marketplace. Many companies felt that regulators would benefit from more experience in industry prior to serving in regulatory agencies.
- √ Companies cited rapid turnover in many regulatory agencies as a particular challenge for ongoing communications and information flow.
- √ Responsiveness and flexibility on the part of regulators can outweigh other perceived shortcomings in the regulatory environment.
- √ Companies watch closely for regulatory changes that could be detrimental to them once they are in a market. Nearly all companies surveyed said they react very quickly to new regulations or changes in regulations that may cause problems for their companies.
- √ The dialogue between companies and regulators should continue to grow and develop. Companies believe that both they and regulators should continue to learn how to communicate and be responsive to one another.

II. ASSESSING THE REGULATORY ENVIRONMENT AND SPECIFIC REGULATORY DECISIONS

There are a variety of approaches companies use to look at the regulatory environments of markets in which they intend to enter or expand service offerings. Companies consider both overarching issues of the regulatory and political environment of markets and the more specific elements of that regulatory structure, such as licensing conditions or interconnection rules, which will impact their ability to provide services. In this section, companies discussed both of these levels of review and detailed whether the general environmental level or review of specific regulations has the larger impact on their decision making.

A. Making Assessments of the Regulatory Environment: Focus on Specific Issues or the Overall Regulatory Environment?

Companies were asked what their first steps and considerations were, from a regulatory standpoint, when addressing market entry or expansion in a particular market. They discussed whether these initial assessments of the regulatory environment are made at a more general level -- considering transparent processes, independence of the regulator, competitiveness of the marketplace -- or whether they are made at a more specific level -- concerning the impact on the company of specific regulations. Most companies detailed a mix of approaches. A few focused on a single specific regulation, but most looked both at the more general environmental issues and the specifics of particular regulations affecting their services.

A majority said they performed assessments on multiple levels. Most suggested that their review is multi-staged and that looking at the general regulatory environment gives them a first means of sorting out preferred markets. It could be said that they look at the overall regulatory environment as a threshold test for whether or not to give further consideration to the market. Most companies noted that only if the threshold is met, do they then go on to a second stage of assessment, looking at more specific regulations that impact their ability to provide services. In their discussions, companies cited general issues of "openness," "stability," and "transparency" as key factors in the first tier of review, and noted that the financial impacts of more specific regulations and conditions dominate the second tier of review.

Later sections will detail the ways in which companies process information on regulatory issues in order to make market entry and expansion decisions. It is worth noting here, though, that companies' initial views on the general regulatory environment and on specific regulations are impacted by the ways they process and interpret information on regulatory environments. According to one company, "Our means for assessing the regulatory environment as a whole are not very formal, but our means for assessing specific regulations are very formal and specific to their financial implications."

Five companies indicated that they did not place as much emphasis on an assessment of the general regulatory environment but instead made evaluations on a more specific level.

Four of those five companies are satellite services providers. As explained by one satellite service provider, satellites are a unique market segment and relatively new in terms of global regulation. Therefore, they focus on a single specific issue—licensing requirements—when evaluating the regulatory environment.

Companies generally assess regulatory environments on multiple levels because of the great variation in regimes around the world. However, certain providers must focus on specific regulatory issues that alone can make or break their business plans.

B. Specific Regulatory Issues that Affect Business

After discussing their initial frameworks for reviewing regulatory issues in markets they seek to enter or in which they seek to expand services, each company identified the top five regulatory issues affecting their business. These issues fell into both the categories of general environment and issue-specific regulations, as discussed above.

1. Overview of Issues

The table below provides a summary of how frequently particular issues were mentioned as being considered within the top 3 to 5 regulatory issues.

Table 2 - Top regulatory issues

Top Regulatory Issue	Number of Times Noted by Respondents
Transparency	18
Licensing conditions	10
Independence of regulator	8
Foreign ownership rules	4
Interconnection policies	4
Fees	4
Stability	3
Judicial review	3
Advanced services access	3
Deregulation	2
Regulatory hurdles	2
Taxes	1
Clear regulatory authority	1
Competitive marketplace	1
Regulatory knowledge	1
Timeliness	1

Transparency was cited by all companies as a top regulatory issue. The predominance of the transparency issue is due, in part, to the variation among the types of companies in the

survey. While more specific regulatory issues, such as licensing or interconnection policies, were noted as the top factor for a number of companies, such issues do not apply equally for all types of providers. Transparency, though, remains a factor for market entrants of all types. Section III of this report will explore in greater depth what companies mean by "transparent" regulatory environments, and how regulatory transparency factors into business decision making.

2. Licensing

The ITU *Trends in Telecommunication Reform 2002: Effective Regulation* report discusses the impact of the licensing process on the larger regulatory environment and the market as a whole, noting, "The licensing process can be one of the most important regulatory processes related to reform of the telecommunication sector. Licensing policy and its implementation determine the structure of markets, the number and types of operators, the degree of competition among them, the revenues earned by governments in opening markets, and, ultimately, the efficiency of the supply of the services to the market." [1]

Operators agreed that licensing is one of the most critical elements of the regulatory landscape. From an operator's perspective, though, licensing regimes are assessed by slightly simpler means --- primarily cost and equitability. While licensing was cited by a variety of types of providers as a critical market access factor, all of the satellite service providers in the study noted licensing factors as particularly critical for them.

Table 3 - Operators' Views of Key Licensing Factors

- Number of available licenses
- Fair and equitable licensing processes
- Reasonable licensing fees
- Stability of regime – assurance that license will retain its value
- Obligations preceding (such as bilateral treaties) or attached to (such as local partners) licenses

Of the companies citing licensing as a key factor, four spoke specifically to reasonable licensing fees as the most important element of the licensing regime. These companies noted that licensing fees should have some correlation to the costs of processing license applications and monitoring of licensees in the market, and should not be viewed by regulators as "cash cows". Several companies mentioned cases in which a country's licensing fees were completely out-of-line with others in the region, and which were not related to the regulator's costs of overseeing the licensing process. In those cases,

[1] *Trends in Telecommunication Reform 2002: Effective Regulation, p. 55.*

companies were quick to say that markets that they had considered important would be left out of their business plans if licensing fees were viewed as "extortionist".

Other companies noted that they weigh licensing costs and challenges against the potential profitability of a given market. One company said, "The costs of getting licenses in Mexico, Russia and China are relatively high, but those markets will deliver returns on investments made in getting those licenses."

3. Local Presence Requirements and Foreign Ownership Restrictions

Local presence requirements and foreign ownership restrictions were cited by a number of companies as critical to their business decision making. Companies identified these issues as among the more complex elements that factor into their market entry decisions. They viewed the impacts and costs of these requirements as far-reaching and more challenging to analyze than straight-forward licensing costs. One service provider noted that the impacts of these requirements are felt even at the early stages of market entry, saying, "Foreign ownership rules have bogged down incorporation—our first step in getting into markets."

The following two case examples highlight the financial impacts of local presence requirements and the challenges of finding appropriate local partners. Further, they detail the inequitable benefits often gained by local partners in such arrangements.

Box 2: Case Examples: Satellite operators

Local Presence Requirements

"In a number of countries, we as a satellite operator are required to have a local presence in the country, which in some cases means to be incorporated in the country, and in some cases even to employ staff—this constitutes an entry barrier. Given that for space segment sales we do not need to own or operate any telecommunications equipment in the country (our customers do), we do not see the need for this requirement. It creates very high costs for the establishment of the local presence, and investment in the country and any legal fees and the on-going operational costs which result from the need to have a permanent office open in that country, such as salary, if personnel is required."

Local Partner Arrangements

"A number of countries have foreign ownership restrictions coupled with the requirement to establish a local company or reseller. This presents a hurdle to us as a global satellite operator, as we need to very carefully select a partner who will also understand the global concerns of our company. Given that the investment in the product to be sold (the space segment) has already been made by the satellite operators, the majority shareholder does not add financial value to the company in proportion to its control share for a variety of customers. In the large majority of countries, our company sells space segment directly to sophisticated customers (e.g. a television broadcaster, a telephone company) so from a commercial point of view, no middleman or reseller is required. The primary purpose of having a majority shareholder is only to fulfill regulatory requirements."

4. Taxes and Currency Issues

Taxes and currency issues were also cited by a number of providers as being important to their profitability and thus their market entry decision making. Companies view these issues as they do foreign ownership restrictions and local presence requirements, as multi-layered and complex. Companies noted that the impacts of particular tax requirements or currency factors are not often measurable until after they are in the market. Companies cited particular challenges in exporting profits. When a company is evaluating an investment opportunity, restrictions or heavy taxes on profits removed from the jurisdiction are viewed as deterrents to entering or expanding in that market, as they raise risk and limit opportunity. Companies usually rank different investment opportunities in order to decide how to allocate their capital. All things being equal, restrictions on the use or export of profits will cause that opportunity to be ranked lower than an opportunity with no such restrictions.

Box 3: Case Example: Taxation and Currency Issues

"We face certain risks as a result of the global nature of our business. Certain countries may impose withholding taxes on us or on our customers. These taxes make our services relatively more expensive for customers than the services of local operators. In addition, the taxes may not be imposed equally on our competitors, depending on the nationality of our competitors and the relevant tax treaties that are in place. We also may face difficulties in enforcing our contracts in certain countries. Our major costs, such as satellite construction and launch are in U.S. dollars. While our contracts are generally denominated in U.S. dollars, and therefore are not sensitive to our customer's local current exchange fluctuations. In some countries, economic conditions and current transfer restrictions may make it difficult for some of our customers to meet their payment obligations or to make foreign payments in U.S. dollars."

In a similar way, excessive import taxes levied on equipment will result in a lower ranking. In the following case example, one company explains the issues it faces both in terms of taxes and currency matters and how these affect the ability to compete and impose additional risks.

III. EVALUATING REGULATORY TRANSPARENCY

Transparency issues are critical to market entry and market expansion decision making for all service providers. This section provides feedback from companies on issues related to the transparency of regulatory processes, including the particular aspects of transparency most important to companies.

The ITU Effective Regulation Case Study: Singapore, 2001, looked in depth at issues of transparency. It defined transparency as "a means of ensuring fairness in the regulatory process. The principle of transparency translates into the practice of making regulatory decisions in an open, objective manner that allows regulators to explain the reasoning behind their decisions and to be held accountable for their action". The report categorized

key areas of transparency as regulatory due process, right of appeal, openness and access and ethics rules.

Companies looked at transparency in a slightly broader manner in this study, using "transparency" as an umbrella term. Many looked at transparency issues as a general gauge of their likelihood of success in a given market. Openness, access, and public availability of information were identified as key themes sought from a "transparent" regulatory regime. Systems and processes that do not unfairly favor incumbents are other elements many companies cited as part of the overall "transparency package".

A. Impact of Regulatory Transparency on Companies' Decision-Making

As noted in the section above, all companies included transparency in their list of the top five key regulatory issues. Several companies indicated that they had made decisions on whether to enter, expand or exit a market based on transparency because it is considered critical for the success of the business.

One large European provider, for example, explained that transparency helps reduce risks when entering markets or expanding within markets. "We want to know how things work and that we will be able to know how to approach policy making and the application of regulations in a particular market."

Box 4: Case Example: Transparency v. Complexity
"The U.S. process is viewed as very confusing to companies based in other countries. Many companies outside the U.S. find the process very hard to follow and very hard to influence. It seems that companies within the U.S., though, view it as open and transparent. Is it really transparent if it only seems to be so from within?"

Another company noted that its success in navigating the regulatory process is directly linked to transparency. However, transparency must be weighed against complexity. Transparent organizations can also be overly complex and burdensome. Most developed telecommunications markets in the world have regimes that would certainly be considered transparent, but owing to their complexity, many of those regimes are extremely difficult to navigate.

B. Most Important Regulatory Transparency Factors

Companies were asked to consider the factors they most associated with the notion of transparency and the factors most critical to them in operating in a particular regime. Key factors included: no bias toward the incumbent, clear and publicly available rules and independence of the regulator from the government and the operator. These are important factors to ensure that competitors will be treated fairly and that there is no hidden agenda. Companies also value the ability to make comments to regulators and get reasonable responses to those comments.

Competitive market entrants expressed the importance of not favoring incumbent carriers over non-incumbent competitors. For them, issues of transparency and bias are closely linked and rules alone are not a sufficient indication of transparency. Perception and behavior are also important factors "It is never a good idea for the regulator or minister to travel with the incumbent in the incumbent's car. These kinds of actions can create the perception of an unfair advantage", one company explained.

Transparency alone, however, is not sufficient to guard against bias. Impartial rules remain important. Some regulators, for example, have drafted interconnection rules and prices that are favorable only to the privatized incumbent. The regulator may be very open about this objective. While the regulator is transparent, it remains clearly biased.

Box 5: Case Example: Protecting Incumbents

"In one country, the new entrant wireless operator, who was opposed by the incumbent operator, was fined because it grew too fast (which was defined as faster than the company had stated in its business plan). At the same time that the new entrant was being fined, consumers could not get phones from the incumbent, and were in fact wait-listed for service for long periods of time. This is an example where everyone loses: the mobile operator was, in effect, punished for doing a good job; the regulator's attempts to protect the incumbent from the loss of customers was misplaced because the incumbent had significant unmet demand (it lacked capacity – as evidenced by the waiting lists); and consumers lost out as their demand for wireless services continued to be unmet."

Clear and understandable rules and regulations also need to be made widely available to the public. Rules should be nondiscriminatory and widely publicized, and applicable rules should be readily available to the public and industry, preferably on the Internet or through the regulatory agency or ministry. Contact information with multiple persons should be clearly posted to facilitate processing. Trained personnel should be available during business hours to respond to public inquiries.

Table 4 - Transparency Factors

- No bias favoring incumbent
- Clear rules
- Publicly available rules
- Presence of independent regulator

Some companies would like to see regulators make available to them:

- The identity of all license applicants rather than just successful licensees
- Feedback from comments they provide to regulators during the consultation process as well as the Results or the status of consultations.

C. Providing the Same Level of Access and Information to All Providers

When asked whether regulators provide the same level of access and information to all service provides, the consensus was a fairly strong "no". As noted above in the consideration of more general issues of transparency, the primary area of concern is whether the incumbent operators are given preferential treatment. A major criticism is that rules or decisions are issued in some countries with no opportunity for comment or after consultation with only the incumbent.

Some operators believe that regulators are under pressure to protect government-owned operators whether they be fixed-line or mobile.

Box 6: Case Example: Challenges for New Operator
"In one Latin American country, upon deregulation, the incumbent retained the monopoly until midnight on the day of deregulation. Our company was not even allowed to test its service, on a non-commercial basis, up until the deadline. We had to 'go live' immediately upon deregulation. Unfortunately, some tweaks were needed, and the service was not up to par on the first day. So for some consumers interested in trying us out right away, the service was sub-par, and they never came back."

Access and information to non-incumbents varies widely from one country to another. Often, even in countries with liberalized regulation, the incumbent (or former national provider) is the only 'consultee' on policy. Regulators/policy makers need to consult with users and with all providers -- new entrants and established entrants. Often the decisions are nearly final before the proposal is made public. Regulators will often consult with the incumbent, draft a policy, and post it with little real opportunity for comment by other competitors. Operators view an open process for collecting the views from a wide base of stakeholders prior to formulating the policy as a very important aspect of an effective, transparent regulatory decision-making model.

Box 7: Case Example: Crediting Incumbents
One company detailed bias in systems transitioning from a monopoly provider to carrier selection on each call of competitive providers. "We have found that in several markets that have carrier selection on each call, that as consumers learn the new system, there is some misdialing. Some markets give equal credit to all providers for any misdialing. Many, though, skew the credits to the incumbent. In those cases, all misdialed calls are accounted as calls made through the incumbent provider. Additionally, the incumbent is often given the number that callers dialed under the old system, while competitors are given new and different numbers."

To a certain extent it is basic human behavior for both regulators and companies to continue to work with people they know. Companies entering foreign markets face a number of issues, including language and culture, and it takes time to learn new processes. The more the regulatory process is well documented the easier it is for a company that is new to a market.

Box 8: Case Example: Incumbents' Access to Regulators

Another company also indicated that better access due to longer term relationships with the regulator does not necessarily translate into greater or more successful influence. "At times the situation is the reverse of what would be expected -- often the incumbent has better access because of the historical relationships, but now we are finding that the regulators do not always recognize when the market power has shifted. For example, in one developing country, we are the incumbent but we are no longer the largest company and have less than 25% market share, yet we have been given no flexibility and are still constrained as if we had a 100% monopoly. Our historical relationship with the regulator and 'access' to the regulator has not translated into greater 'influence' or even into fair regulation for us in that market."

In contrast, several companies noted a trend of greater openness and access to regulators. The further along in the liberalization process and the lower the government's financial stake in the incumbent, the more balanced the access, companies noted. At least one company was optimistic that there have been improvements to date in many markets in providing equitable information and access to all providers in the market, and expected further improvements. That company argued that the challenges for incumbents in regard to the level of access to information are similar to or greater than those faced by new competitors.

Box 9: Case Example: Assessing Incumbents' Service Provision

"In one European nation, the regulatory authority has been reluctant to see that many of the new 'wholesale' services offered by the incumbent are causing bottlenecks, and thus the country is now falling behind in developing and offering broadband and ISP data services. The rules need to be flexible enough to adapt to changing market and technical realities. And regulators must be willing to critically assess whether incumbents are able to meet the needs of the market."

All companies face similar challenges in gaining and retaining contacts in regulatory agencies around the globe. The rapid turnover in regulatory agencies affects the incumbent as much as competitors. The level of information and access provided by regulators is thus not often based on long-standing and personal relationships. The challenges of maintaining contacts with regulators is particularly pronounced for companies that seek to offer services in multiple markets.

IV. THE IMPACT OF REGULATION ON BUSINESS

Regulatory issues are among the most important factors in business planning, new business development, and market entry and expansion decisions. Some companies view the existence or absence of certain regulatory rules or policies as so important that they are deal-makers or deal-breakers. They have a set of regulatory conditions that must be met for them to consider an investment in a particular country. It was described by one

company as a "table stakes" (from gambling, a factor that is a prerequisite for a player to get into the game) condition for its investment in a market. Fifty percent of the companies interviewed for this study ranked regulatory issues as second only to market potential while others consider overall political stability or specific markets issues, such as the strength and compatibility of potential partners or the maturity of a market, to be key.

Regulatory issues cannot be viewed in a vacuum. Regulatory issues are considered with other factors, and are difficult to separate from the broader view of the environment, including market, regulatory and political factors. When all factors are weighed and analyzed , market entry and expansion decisions rest on whether there is a reasonable expectation of earning sufficient returns on investments and recovering the investments over their economic lifetime. Companies must answer to their investors.

There is an abundance of regulatory issues that have measurable impacts on a company including spectrum licensing rules, obligations on service providers and how profits are taxed. Many companies detailed specific aspects of the regulatory environment that make it particularly pertinent for their own business decision making.

One company emphasized that regulatory factors are more critical for the incumbent or dominant company in the market, and in those instances, regulatory issues are weighed above nearly all others. That company further noted that, substantial regulatory burdens effectively serve as natural barriers or obstacles in market expansion for dominant players in the market.

For some companies a liberalized and deregulated market is the key determinant for market entry and expansion. One company further noted that regulatory factors would outweigh almost all other factors unless an extreme need arose to meet a particular demand by entering a market that was not liberalized.

Companies explained that regulatory issues generally did not stand alone as a factor in market entry and expansion decisions but were viewed in the context of several other issues. Most of the companies also noted that the relative weight accorded to regulatory issues versus other issues varies according to the specifics of a given market.

Some companies incorporate regulatory factors with other standard business analysis and finance tools. They noted that regulatory issues are factored in with cash flow, return on investment, revenue per customer and other similar factors and that the actual weighing of regulatory issues against these other factors varies according to the unique characteristics of each market.

Others described potential profitability as their key issue for market entry and expansion decisions and said regulatory issues are one of many issues considered in performing their assessments of potential profitability.

A. Quantifying Regulatory Factors

There are various ways in which companies attempt to quantify regulatory issues in market entry decisions. The degree of sophistication of the analyses varies across the companies and according to the types of issues. Some companies assign a monetary value to all significant regulatory decisions and use these in their business decision making. For example, a satellite services provider described a formal process of assessing financial impacts of particular regulatory and policy decisions. That company assesses the number of transponders affected by certain regulatory decisions and then analyzes the financial impacts on the company of such decisions. Other companies quantify the regulatory environment as a specific risk factor in a larger equation of risks in market entry. The majority of providers include specific quantifiable elements of the regulatory landscape (i.e. spectrum fees, fees based on revenues, and taxation factors) as risk factors and considerations, but do not quantify the overall regulatory landscape in a general way.

Box 10: Business Case Analyses for Market Entry or Expansion

Companies detailed factors to which they assign numerical values, based on potential risks and rewards, in assessing the business case for a particular market. Values assigned these factors determine, for many companies, whether a market is a "go" or not.

Top Ranked Factors:

- Size of Market (potential number of customers and sector revenues)
- Potential Profitability (including return on investment, revenue per customer, etc.)
- Regulatory Risks (including transparency issues, liberalization, regulatory trends, particular rules and regulations)
- Regulatory Costs (licensing fees, tax provisions; administrative burdens)
- Time to Market issues (including in-country presence requirements, time for licensing and regulatory decisions)
- Overall political and economic stability including stable currency

Second Tier Factors:

- Internally controllable factors
- Operational issues

B. How Companies Assess the Business Implications of Regulations and Policies

Regulatory information gathering is essential to many companies' business strategies. For this reason it is important for regulators to understand the means by which companies process and use regulatory information in their decision-making. Companies employ a variety of processes and systems to share information about regulatory and policy matters with other functional areas within their company to ensure that regulatory and policy matters are included in business planning, and to guarantee that key decision-makers are sufficiently informed of changes in the regulatory environment. Information sharing

within companies has become more challenging as they expand operations around the globe and face a variety of national regulatory approaches.

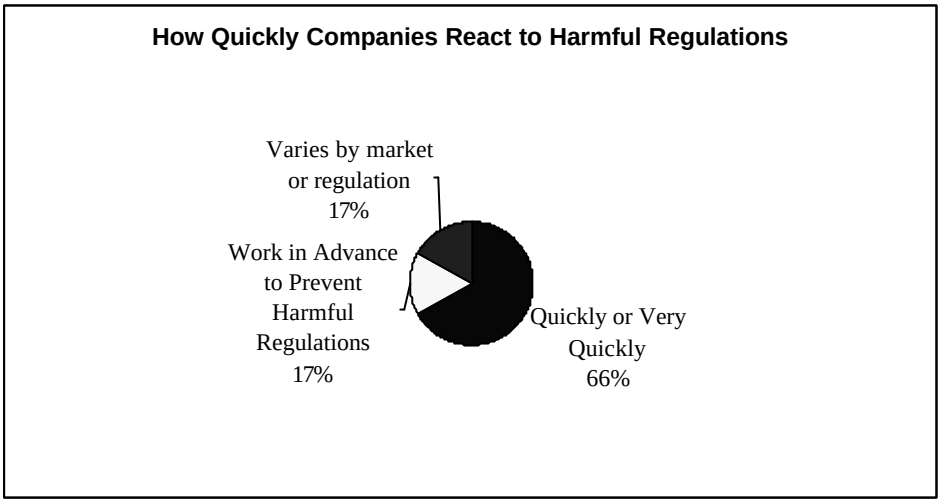
Companies have varied degrees of comfort and success with their processes of internal communications on regulatory issues and the related incorporation of regulatory issues into business planning.

Regulatory teams within companies may use country surveys, overviews, "news flashes" or other reporting processes. They make these available to other functional groups within the company to rank regulatory risks as part of their business case analysis. They attempt to ensure that the regulatory environment and key issues are fully communicated and understood in the business planning and evaluation processes. For example, some regulatory teams work closely with sales and marketing departments to ensure that market access is attained and maintained. Information about key regulatory issues is also considered in network planning and design. In other companies, regulatory factors dictate their business strategies. One satellite service provider seeking global access for its services noted that its regulatory team and business development team are inseparable. Regulatory factors lead that company's business decision making, and regulatory and business development staff work together in markets where the regulatory team sees opportunities. That company calls licensing and regulatory factors affecting its ability to provide service the determining factors in where it takes its business.

While companies have several ways to capture, communicate, analyze and integrate regulatory issues and policies, the true effectiveness of these processes is often reflected in a company's ability to deal with the downside of regulatory change. Nearly all companies believe they are able to react very quickly to changes in regulations or new regulations that would adversely impact their businesses. Some, however, indicated that they are unable to react immediately to regulatory changes.

Companies also seek to work with regulators in advance to prevent the adoption of harmful decisions. They try to be proactive, so that they do not have to be reactive. It is for this reason that companies endeavor to review and comment on proposed regulations that could adversely affect their ability to do business.

Figure 2 – How quickly companies react to harmful regulations



C. Addressing Varied Regimes Across Multiple Markets

Many of the companies interviewed provide service in several different countries and therefore face a variety of regulatory conditions and regimes. One impetus for serving a number of different countries is that the marketplace for many communication services is becoming global. Individual consumers have become more mobile, routinely traveling across national boundaries. Businesses have offices around the globe, and people are developing a common understanding and expectation about telecommunication services, requiring companies to maintain a look and feel across borders to meet customer demand. This section considers the ways in which companies deal with varied regimes in multiple markets, including the ways they structure their services to gain authorization in multiple markets. It also considers the means by which business planning is affected by the need to structure services in ways that meet the requirements of the new "global consumer". Finally, this section reviews the factors considered in seeking markets with a common or harmonized approach to regulation.

Companies can realize substantial commercial and operational benefits in markets which have significantly similar regulatory structures across country borders. For example, companies must devote time and resources to investigate and comply with individual national regulatory requirements. Often, they must employ local legal counsel, adding to their legal costs. Regional regulatory harmonization, such as in the European Union, facilitates streamlined operations and allows operators to provide uniform service offerings to customers across country boundaries in a more cost-effective fashion. Likewise, the 44 countries of the European Conference of Postal and Telecommunications Administrations (CEPT) are attempting to harmonize licensing

requirements across the region. Companies have noted that such attempts at harmonization will help to foster business and competition.

While many companies said that they support the idea of regional harmonized regulatory environments in principle, they noted many practical difficulties stemming from the fact that markets are in different stages of development, liberalization and competition.

Most companies noted that until regulatory harmonization is practicably achieved, a market-by-market approach is the most effective means for dealing with varied regulatory regimes. For some companies, the need to be in a specific market is more important than the desire to have a common regulatory approach. These companies place greater importance on fair rules which are consistently applied because they determine profit potential on a market-by-market basis.

The strategy of other companies is to work closely with countries that are viewed as regional leaders to ensure that market access conditions there are favorable, with the goal that other markets in the region will follow their lead.

Box 11: Case Example: The "Work Around" Philosophy

"Our company makes every attempt to choose markets that have similar regimes, as this strategy allows us to offer a similar product across all markets. We have found that, in general, we can work within the regulatory rules of a particular market in order to craft a workable offering. However, if the rules are too different or impose operational fees or costs that are too high (meaning that the costs are such that they have a significant impact on the projected return on investment), our company will avoid that particular market.

In situations where the regulatory costs are rated as too high to justify entrance into a market, there is often a neighboring market that is more 'friendly' and thus we will locate there instead. This is known within the company as the 'work around' philosophy. A specific example of this strategy took place in two counties in Asia. Country A has a very liberal regulatory regime, with minimal regulation, and the regulators are perceived as easy to do business with. On the other hand, Country B is liberalized on paper, but not yet in reality. The regulators there are perceived as very difficult to work with. There are multiple decision makers, and multiple fees are imposed (including payoffs). Therefore, we have located our offices in Country A, and the businesses and operators from Country B that want to connect have to come to Country A."

Box 12: Case Example: Regional Leadership

"Our company looks for regional leaders that can pull their weight politically in the region and/or in other countries. For example, we realize that France's decisions have considerable impact on francophone Africa, and so France is necessarily a key country for us. The same is true of the European Conference of Postal and Telecommunications Administrations (CEPT). What 44 European countries decide has considerable impact on the developing world. So we watch closely the regulatory and policy issues in such countries and organizations."

Sometimes, however, countries that we have viewed as regional leaders have made decisions that forced us to work around them. For example, one particular African country, which is generally viewed as a regional leader with important political pull imposed a completely exorbitant fee to license us. The fee was a non-starter for us. We are out of that market, and cannot view that country as a regional leader in seeking to access neighboring markets."

V. VIEWS ON REGULATORS' KNOWLEDGE AND HOW COMPANIES COMMUNICATE WITH REGULATORS

Communication between regulators and companies is clearly important for sound policy and regulatory implementation. Companies expend significant resources in working with regulators not only to advocate particular positions but also to provide a better understanding of general business issues. This section addresses operators' views on the level of awareness and understanding by regulators of the particular issues they face, the means by which they communicate with regulators, and their views on the successes and challenges of these interactions. This section also considers how regulators' responsiveness affects the companies' decisions with regard to commitment to particular markets. Responsiveness can be an important factor that may outweigh other perceived shortcomings in the regulatory environment. This section also considers companies' views of their greatest challenges in this arena.

A. How Well Regulators Understand Companies' Business Concerns and the Way Companies Make Decisions

The level of understanding by regulators of business concerns varies depending on market conditions, the type of service provided and individual regulatory officials' own expertise. In addition, some companies suggested that regulators should improve their understanding of operational issues, business goals and targets and operators' business philosophy. Some noted that while many regulators understand the theory behind companies' operations, few understand those operations put into practice.

Some companies believe that the average level of understanding of business issues by regulators is poor. However, they felt that as markets advanced in terms of privatization and liberalization, regulatory agencies of those markets also advanced in terms of their

understanding of business issues. Companies noted that almost all regulators are willing to listen to providers with genuine interest.

Box 13: Case Example: Understanding U.S. Bankruptcy Law and Impact on Overseas Operations

"For our company, the issue that regulators around the globe least understand is United States bankruptcy law. Most countries do not have a separation between Chapter 11 [reorganization] and Chapter 7 [liquidation] proceedings. For many countries, there is only Chapter 7. As such, few understand how Chapter 11 actually works. This has meant that many of our licenses were revoked, and we continue to sort these issues out daily. We are asked in some countries to both pay back license fees for the local company for which they revoked the license when we [the US based company] went Chapter 11 (although the local companies did not go Chapter 11), and form a new company. This shows a lack of understanding of our business situation and concerns."

A number of companies felt that regulators' understanding varied according to their own experiences. Generally, regulators have some understanding of business practices if they come from the liberalized markets, and companies felt that regulators benefit from time spent working in private industry. One frequent criticism was that most regulators have no experience in a competitively operating firm. They tend to focus on managing the regulatory agency, not on the needs of an individual company.

Other companies felt that regulators' level of business knowledge varies according to the types of services being provided. Most felt that regulators have a better understanding of the business decision-making and the impacts of regulations on traditional services than on non-traditional services, and suggested that regulators need to improve their awareness and understanding of new and advanced services. Most companies expressed the opinion that regulators today are interested in learning about how business works, in finding ways to regulate that do not undermine business objectives, and in learning about emerging technologies. Some companies noted, however, that this interest in learning about new technologies is sometimes juxtaposed against regulators' reluctance to show that their knowledge in a particular areas is low. Some companies noted that regulators seem interested in learning about new technologies after some pressing, but few are interested at first blush. For many it is a generational issue, regulators seem less interested in learning about new technologies and new regulatory models later in their careers.

One company linked the issue of regulators' understanding of business models to larger issues for consumers in the market. It explained that regulators may not fully grasp that in the end companies must make money and that regulation is not the most important consideration for businesses. The market and what consumers want and are willing to pay for is a stronger force than regulation. Regulators still do not fully comprehend that many times regulations may serve as a barrier to customers receiving better service at reasonable or even cheaper prices. This can be best achieved if regulation fosters a choice of service providers.

Other companies credit cross-border communications among regulators for improved understanding of the markets they regulate. Some regulators are not only sharing information about how they regulate but are also looking at whether particular policies have had adverse impacts. As a result, one provider suggested that many regulators are working to adapt their own processes to avoid or mitigate such outcomes. For example, in the past, spectrum auctions tended to be viewed in isolation as a national matter when the aggregate effect was devastating. Now other countries are more circumspect in jumping onto the auction bandwagon. One company cited a July 2002 summit in the Dominican Republic, held by the Hispanoamerican Association of Research Centres and Telecommunications Companies (AHCIET) and the Latin American Forum of Telecommunications Regulators (REGULATEL) as particularly useful in opening the dialogue and debate on emerging issues, such as spectrum auctions.

1. The Impact of Regulatory Responsiveness on Serving Markets

There is a relationship between companies' willingness to enter or stay in a particular market and regulators' responsiveness to business concerns. As a stand-alone factor, however, regulatory responsiveness does not usually prevent a company from entering a market, in part because the company will not have a true meter of the regulator's responsiveness until it has entered the market. Moreover, companies generally cannot forego business opportunities simply because of the lack of responsiveness of the regulator. The result may be that unresponsive regulators erroneously conclude that their actions are not problematic. As a provider indicated, "There might be little choice as the opportunity risks involved in not entering a market may far outweigh any savings from not entering a market due to regulatory responses or decisions. This, in turn, may be a disadvantage as it gives an impression to the regulator that the regulator's decisions and actions won't really hurt the company, since licensees 'manage to survive' despite the regulatory decisions."

Box 14: Case Example: Regulatory Responsiveness Best Practice

"The responsiveness of one Western European country made it very easy for us to navigate the regulatory processes there. The regulators understood the business issues our company was facing. They offered great flexibility and allowed us to file in English. They engaged in a great deal of back-and-forth with us, both electronically and over the phone, helping us get our paperwork into shape. They were very clear and went through point-by-point with us what they needed."

Responsiveness, however, does matter, in particular on licensing issues. There is a tendency for companies to walk away from markets in which regulators are not responsive on licensing issues. Speed of licensing determines speed of engagement in the market. In terms of new services, companies will seek to provide services in countries in which they can rapidly meet the regulatory requirements.

B. Methods and Levels of Communications with Regulators

This section describes the particular means by which companies communicate with regulators, the levels at which these communications occur, and the usefulness to them of multinational fora and discussions. The section also addresses the challenges companies face in dealing with regulators and the suggestions they offer to regulators to improve their communications and interactions with operators.

Companies use a variety of methods to communicate with regulators, including participating in formal proceedings, written submissions and communications, informal meetings and in-person meetings. Typically, companies noted that the type of communications they use is dictated by the process and rules of the market, or by the means they find most successful in a given market. Companies find in-person meetings to be the most effective way to communicate with regulators. However, another company noted that it is also the most costly form of communication for providers that are active in more than one country.

In addition, companies use regional or global fora such as the ITU Global Symposium for Regulators to communicate informally with national regulatory authorities. One company noted that such fora are often very useful because of their cordial atmosphere. Regional and global meetings such as those hosted by ITU or regional organizations allow companies to address common issues and provide more of the educational and background information that can be important for regulators in order for them to make the best possible decisions. These meetings also enable newer regulators to consult with more experienced regulators in order to improve their own processes.

Some providers even use such regional or international meetings as their primary means of communicating with national regulatory authorities. One operator noted that the benefits of such fora are two-fold, offering an opportunity to have discussions with particular regulators, and allowing an opportunity to influence policy development. These regional and global meetings provide a neutral and non-adversarial territory for open discussions that facilitate learning and the resolution of issues in constructive ways.

1. Challenges Companies Face in Interacting with Regulators

The greatest challenge providers face in dealing with regulators include: the market transition process, staff turnover among regulatory authorities, and timeliness of responses from regulators. Others noted that bias in favor of government-owned incumbents is nearly impossible to overcome.

The market transition process is challenging because it is sometimes very difficult for new regulators to understand how market forces will work. During the early market liberalization stage, regulators are usually so focused on structural changes within the PTT and the government that they are not able to focus on business and competition issues.

Staff turnover issues, like sudden staffing changes based on political shifts, poses a particular challenge for providers serving several geographic markets. "There are too many countries and regulators to keep up with, especially because of the high turnover rate in many regulatory entities that are tied to political changes", one company explained.

In addition, the lack of timely action can halt all progress for a company seeking to move forward and provide services in a given market. For example, one provider noted that the regulator in one country never responded to its efforts to find out if a decision had been reached on a pending issue. Where companies perceive that regulators' decisions or policy create an unworkable climate, companies have indicated that they will avoid entering that market.

2. Advice for Regulators on the Impact of their Regulations on the Market

Companies were also asked for the most useful advice they could offer regulators in terms of the influence of their regulations on the market and on the companies they regulate. Several themes emerged, many of which were discussed in greater detail in preceding sections.

Box 15: Case Example: Inefficient Regulation

"In one country in Asia, it is prohibited to interconnect international private lines into the PSTN, so if you locate a call center in this country and you also have customers in the country, you must maintain two separate call centers -- one for within the country and one to serve customers outside of the country. This is simply inefficient and requires duplicating networks, equipment and other facilities as well as labor forces. Many of the equipment components, call routing, servers, and other computing infrastructure could easily serve the work load of both call centers, but the regulation prohibits their interconnection. It is a good example of regulatory policy imposing inefficiencies on business -- a real disincentive for locating in the country."

The link between limiting regulation and promoting competition

- A key message is that regulators should not be afraid to rely upon market forces, even realizing that they are not perfect. Regulation should be limited to situations where there is bottleneck control or monopoly power sufficient to create harm.
- Regulation can do more harm than good. Regulators should rely on competition laws as much as possible and only use sector specific regulation when there is a demonstrated, on-going abuse of market power. One provider stated this notion quite simply: "Regulate less, compete more."
- For a competitive firm to enter a market, regulators need to have the basic liberalization package well implemented to even be considered for expansion. There is a great need to do more to ensure that deregulation happens. Regulators need to promulgate the rules and ensure deregulation, not just nominally declare it.

The licensing process

- Making the licensing process complex blocks a competitive marketplace from developing. Specifically, tying the spectrum license to the services license limits competition on the ground and limits the ability of the spectrum license holder to successfully navigate the market. Furthermore, expediting the licensing process expedites delivery of services.

The impact of protectionist tendencies

- Regulators should look broadly at the impact of regulatory decisions on the market and on consumers, and not be so worried about the impact on the incumbent. This same respondent went on to say, "Regulators tend to think that they already know what consumers need, but are often wrong, and have many misconceptions." They suggested that regulators need to not only improve knowledge about the companies they regulate, but also about consumer impacts and attitudes.

- Perception of barriers to entry is critical, as companies will stay out of a market if the barriers are perceived as being too high. This, in addition to the size and potential profitability of a market, is the largest factor in decisions about market entry and/or expansion.

VI. CONCLUDING PERSPECTIVES

Companies are driven primarily by market forces. Accordingly, companies tend to have a very business-like approach to assessing the regulatory impacts on their business. Companies have identified a number of key regulatory or policy environment conditions that they approach with a binary evaluation technique. That is, unless a certain set of conditions or regulations are in place, they will not offer service in that market. Once the company has determined that the market meets these threshold conditions, it uses more sophisticated financial modeling to answer the fundamental question: Will we make a profit?

Regulatory decisions have a direct impact on companies' willingness to serve a market because of their effect on the degree of total business risk companies face. Transparency and openness in the regulatory decision-making process are important factors in reducing this risk. Transparency of regulatory processes is a primary concern to the private sector. In conveying the elements they view as important in terms of transparency, companies had a strong message about bias in the regulatory process: as long as government holds a financial or managerial stake in any operator, the regulator will always be pulled between protecting this operator and acting for the best of the market overall.

As a group, the companies and the associations interviewed believe that regulators could improve their understanding of the ways that regulations affect the marketplace. Several emphasized that doing so requires more than assessing the impacts on one or all of the providers. The companies suggested that regulators need to look more to the impacts on customers. Further, they encourage regulators to reach out to consumers and

communicate directly with them to ensure that their views are well understood and represented in the regulatory policy-setting and decision-making process.

Another improvement area for regulators to consider is general business knowledge and understanding of business operations. Companies observed that many regulators and regulatory staffs have little experience outside of government or work within small monopoly PTTs, which makes it difficult for the regulators to understand the operators' points of view. They believe that regulators' understanding and decision-making would improve with broadening of their expertise.

While much of this report focuses on the company perceptions of regulators, it would be a mistake to conclude that improvement should come only from regulators. One company said, "To some degree we, both the company and the regulators, have to learn how to communicate and be responsive to each other as we go. The challenges are often higher than expected." We authors believe this particular insight has captured an important concept for both companies and regulators. There is a need for improvement of communication skills and continued learning on both sides. Further, neither party has the capability to foretell the future. Mutual acknowledgement of these "imperfections" may be a means for improving relationships and performance of companies and regulators to the ultimate benefit of consumers.

INTERNATIONAL TELECOMMUNICATION UNION
TELECOMMUNICATION DEVELOPMENT BUREAU

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GLOBAL SYMPOSIUM FOR REGULATORS
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TELECOMMUNICATIONS CONSUMER PROTECTION IN THE ASIA–PACIFIC REGION
REPORT TO THE ITU GLOBAL SYMPOSIUM FOR REGULATORS
7-8 DECEMBER 2002

Dr. Bob Horton
Deputy Chairman
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Introduction and Background

This report outlines how a number of countries in the Asia–Pacific region manage telecommunications consumer protection and identifies possible directions that countries in the region may pursue in order to contribute further to improved outcomes for consumers of telecommunications products and services.

Telecommunications consumer protection has been a focus in the Asia–Pacific region during 2002, particularly through the work of the Asia–Pacific Telecommunity (APT) and its Forum on Telecommunication Policy and Regulation, which was held in Kuala Lumpur from 16–18 May 2002. A key outcome of the APT forum was the establishment of an APT Consultative Group on Consumer Protection, which will be an important means by which consumer protection measures are considered in the Asia–Pacific region (a list of APT members is supplied at Appendix 1).

The APT forum included presentations on consumer protection by APT members Australia, China, the Philippines and Thailand. In each of these countries there is acknowledgment that consumer issues with respect to telecommunications are strongly influenced by the degree of competition and the maturity of the national market.

It was evident from the presentations at the APT forum, and from input received from other APT countries as part of follow-up discussions, that consumer protection is a key consideration in the introduction of competition to communications markets. We have seen that communications provides particular challenges that may not be met by general consumer protection laws and leads us as regulators to carefully manage the transition to competition to ensure that benefits are reaped by consumers.

Key consumer protection issues and initiatives in Asia-Pacific countries

This study has also revealed a number of consumer protection issues that are common to different countries (country profiles are included at Appendix 2). Maintaining or regulating for quality of service (QoS) in a competitive communications market has been a key concern for Hong Kong, Australia, Sri Lanka, Malaysia and Singapore, which have addressed the issue through specific regulator powers and intervention, monitoring and reporting, and consumer information programs.

Specific consumer protection initiatives adopted in Asia-Pacific countries include:

- Establishment of consumer advisory committees and forums to promote consumer input into policy making process (Hong Kong, Australia, Malaysia).
- Recognition, and enhancement, of a universal service obligation (Hong Kong, Thailand, Australia, Pakistan) to ensure availability of telecommunications services to all members of the population.
- A targeted and specific agenda of priority policy objectives (Malaysia)
- Introduction of specific regulatory initiatives (eg. pre-selection, mobile number portability) to improve consumer choice (Hong Kong, Australia, Thailand);
- Devolution of certain responsibilities to industry, including development of standards and codes of practice relating to consumer matters (Malaysia, Hong Kong, Australia, Philippines, Singapore).
- Development and running of consumer education programmes, including dissemination of QoS information (Singapore, China, Philippines).
- Schemes designed to provide public recognition of sound e-business practices (Singapore).
- Development of new quality of service performance indicators to reflect new telecommunications services and technologies (China, Malaysia).
- Specific programmes to address Internet and e-commerce issues such as privacy, fraud, cyber laws (Philippines, Sri Lanka).

Some of these initiatives are discussed below.

Commonalities of Approach

An examination of the approaches that Asia–Pacific countries have taken or are taking to consumer protection issues reveals a number of commonalities of approach. As a region, the Asia-Pacific is extremely diverse—culturally, geographically and economically—and this diversity is well represented in the membership of the Asia–Pacific Telecommunity, which includes countries such as Iran, Japan, Malaysia, New Zealand, Samoa and Vietnam. However, the region has demonstrated its willingness to work together to develop common approaches to communications issues, most notably through the APT.

Regulatory model

A communications-specific regulator is a feature of most regulatory schemes in the Asia-Pacific region. In each of these cases, this represents an acknowledgment that the introduction of competition into communications markets provides particular challenges that may not be met by general consumer protection laws, such as those governing trade practices. The development of e-commerce as a new method of trading is just one such example that has occupied and challenged regulators across the Asia–Pacific and beyond.

Role of competition policy in consumer protection

Most regulatory regimes surveyed recognise the role of competition policy in the supply of telecommunications services in providing consumer benefits. An increase in the number of service providers in the telecommunications market is expected to result in a wider range of services for consumers to choose. Competition between service providers should also result in lower prices for high-demand services. In this way, the expected benefits of competition policy underlie a number of regulatory regimes in the Asia-Pacific region.

Whilst not devaluing the role competition policy plays in providing consumer benefits, some countries (eg. China) explicitly recognise the importance of regulation in ensuring consumer protection in a liberalised telecommunication market.

Advisory committees

Regulators in the region are placing a significant emphasis on advisory committees or forums to examine and provide advice on a range of consumer issues, such as quality of service, interconnection, access to infrastructure, universal service and consumer complaints/dispute resolution. Hong Kong established a Users and Consumers Advisory Committee in 1994, which advises OFTA on the development, provision and maintenance of services from a consumer perspective, and on education of, and dissemination to, consumers. The Australian telecommunications regulator has also established a Consumer Consultative Forum with similar objectives. The Malaysian regulator, too, is well advanced in this area.

Codes of practice

Codes of practice are also a key feature of the regulatory regimes in some Asia–Pacific countries, such as Hong Kong, Malaysia and Australia. In the case of Australia, which has placed a significant emphasis on industry self-regulation, codes are developed by industry and then registered with the regulator, which can enforce compliance with the terms of those codes. To date, Australia has consumer codes covering matters such as call charging and billing accuracy, information on prices, terms and conditions, credit management, billing, complaint handling, and calling number display.

The timely development of codes of practice that meet the requirements of consumers, and industry, is an important issue for regulators, consumer groups and industry.

Conclusion and Way Forward

Some conclusions that can be drawn from the survey of consumer protection issues in the Asia-Pacific include:

- Competition in the supply of telecommunications services does play a useful role in consumer protection. However, reliance on the 'downstream benefits' of competition policy alone is not sufficient to provide adequate consumer protection. Finding an important balance between market-based consumer protection measures and direct consumer protection regulation is an important, and ongoing, issue for many Asia-Pacific countries.

- There is merit in affording industry the opportunity to develop self-regulatory arrangements that assist in consumer protection. In developing these arrangements, it is important for industry to work constructively with consumers and regulators to ensure that such arrangements satisfactorily meet the requirements of consumers.

- New telecommunications technologies and services continue to raise new consumer protection issues. This can be seen most vividly in the supply of e-commerce services over the Internet and the imminent emergence of 3G technology. The adequacy of consumer protection measures must continually be reassessed in light of technological developments.

- Public education programmes are an important part of consumer protection. The emergence of new telecommunications technologies and services will continue to increase demand for concise information that assists consumers to understand the impact of new technologies and services, and in making decisions regarding choice of services and service providers.

The way ahead

The range of consumer protection issues confronted by Asia-Pacific countries, and the initiatives adopted to address those issues, is quite broad. It is important for relevant organisations and groups in the region (eg. policy makers, regulators, consumer groups and industry associations) to continue to exchange information on relevant issues and initiatives. This information exchange is valuable in ensuring that countries are able to benefit from the experience of others, and to work together in developing appropriate consumer protection measures in the future.

It is important that while telecommunications services are increasingly ubiquitous in all Asia-Pacific countries, differences in the economic and demographic profile of each country will mean that each country will need to consider the type of consumer protection approach (eg. use of industry self-regulatory measures) according to its own national circumstance.

Appendixes

Appendix 1 – Asia–Pacific Telecommunity Member Countries
Appendix 2 – APT Country Profiles

APPENDIX 1—Asia–Pacific Telecommunity Member Countries

Afghanistan
Australia
Bangladesh
Bhutan
Brunei Darussalam
People's Republic of China
Fiji
India
Indonesia
Islamic Republic of Iran
Japan
Democratic People's Republic of Korea
Korean Republic
People's Democratic Republic of Lao
Malaysia
Maldives
Micronesia
Mongolia
Myanmar
Nauru
Nepal
New Zealand
Pakistan
Palau
Papua New Guinea
Philippines
Samoa
Singapore
Sri Lanka
Thailand
Tonga
Vietnam

APPENDIX 2—APT Country Profiles

Australia

Australia advanced toward full competition in July 1997 with the introduction of the *Telecommunications Act 1997*. The protection of consumers is encompassed in the legislation, which includes provisions:

- promoting the long-term interests of end-users;
- ensuring that standard services are reasonably accessible to all Australians, are supplied as efficiently and economically as possible whilst meeting the needs of the Australian community;
- promoting the supply of diverse and innovative services;
- promoting the equitable distribution of benefits that flow from improvements in the efficiency and effectiveness of facilities and services; and
- providing appropriate community safeguards and regulating the industry.

The success of self-regulation in Australia is evidenced by the current roles and responsibilities of government and industry. Self-regulation, where the industry takes responsibility for managing itself, is now the basis upon which industry codes and standards are produced, and the regulator only intervenes to meet policy objectives such as protection of consumer rights.

While Australia has made the transition from a government-owned monopoly provider to deregulation and open competition, the industry is yet to mature to the point where it may be regulated solely by industry itself and through general competition laws governing trade practices and other matters, if this is ever possible. Government continues to have a leading role in a number of areas. This role may be one of monitoring, as is the case with oversight of the National Relay Service, which allows people who are deaf or have other hearing or speech impairments to access telephone services. However, it may also extend to determining standards where industry-developed standards are deficient or non-existent. The Government also retains responsibility for licensing carriers.

Hong Kong SAR

The Hong Kong industry is open to full competition and driven by the firm belief that liberalisation of its communications market will bring about effective competition and, in particular, quality services at competitive prices.

Hong Kong has a telecommunications industry specific regulator, the Office of the Telecommunications Authority (OFTA). While as a regulator OFTA has the power to regulate public telecommunications operators to ensure the availability of efficient telecommunications services it exercises a light touch regulatory approach relying on competition and market forces to achieve policy objectives, intervening as a regulator only where required. Of note are the efforts in the field of consumer protection through the identification and provision of universal service, introduction of safeguards for metering and billing, introduction of number portability, development of codes of practice for industry and lowering of tariffs through the maintenance of a competitive environment.

OFTA has also implemented a programme of consumer education focused by the use of its Users and Consumers Advisory Committee (UCAC). Membership of the committee is drawn from industry, interested organisations, consumer bodies and government departments. UCAC provides advice to OFTA on development, provision and maintenance of telecommunications services from a consumer perspective.

China

China is at an early stage of competition in telecommunications. It is focused on service provision and quality of service issues. The involvement of China's Ministry of Information Industry is seen as critical to supervising industry and protecting consumer rights and interests—market competition alone is not considered a guarantor of quality of service. Therefore, government regulation has a key role to play and

indeed, one of the key objectives of the Chinese government is to protect the interests of users of telecommunications services.

Consumers also play a key supervisory role in relation to the delivery of services. China's efforts to liberalise its telecommunications market have included introduction of 'Telecom Service Standards' by the Ministry of Information Industry aimed at creating measurable quality of service performance indicators and benchmarks. A consumer complaints service centre—established by but independent of the Ministry of Information Industry, and a Telecom Users Committee, whose representatives are invited to join as delegates of the various classes of user—government, companies, education units and common users—by the Ministry of Information Industry, have also been established to provide consumers with the means for raising and having service concerns addressed. Much of the quality of service information gathered by the Chinese government is also released to the public (for example, complaints and customer satisfaction information) so that consumers can be informed about the service record and service quality of the various operators.

Thailand

Thailand is in the middle phase of introducing competition into its telecommunications industry. Consumer protection in Thailand is to be provided through the activities of both the Thai Consumer Protection Board (CPB) and the National Telecommunication Commission, which is expected to be established in the next two years. The aims of telecommunications consumer protection in Thailand are to ensure that telecommunications services are accessible, equitable and affordable to as wide a population as possible, and that consumers obtain services that represent value for money, quality and choice. As is the case in other markets that claim to provide competition and consumer protection, access and equity are hallmarks of the Thai regulatory model.

The Thai legislation also provides for a number of specific consumer protection measures relating to matters such as privacy, number portability and dispute resolution. Thailand also recognises and implements the principles of Universal Service, which state that a licensee shall provide services:

- in rural areas, non-profitable areas and non/insufficient service areas;
- for educational, religious, medical institutions and other charitable institutions; and
- for the disabled, children, elderly, underprivileged and low-income people

Thailand has also introduced service agreements between service providers and consumers as a consumer safeguard.

Philippines

The Philippines National Telecommunications Commission (NTC) recognises the consumer issues affecting telecommunications users and has specific statutes on consumer protection in the Philippines-Consumer Act. However the NTC recognises that many of the consumer protection provisions are quickly outdated by advancing technology and development of services. This has highlighted one of the key reasons that communications-specific regulators might be established — the inadequacy of general consumer protection laws to deal with the rapid pace of change in communications and in particular, to address new issues and methods of trading, such as e-commerce, which were unimaginable at the time the general laws were enacted. These issues and concerns relate to fraud and deception (websites and bulk emails designed to suggest that a consumer has been specially selected for a prize or offer), content (pornography, gambling, cruel/violent material, terrorist activities), privacy and security (data mining to record consumer habits and data matching), jurisdiction and enforcement.

However, there is acknowledgement that the Internet, in particular, poses real problems and challenges for regulators. To this end, the Philippines has established an Information Technology and E-Commerce Council (ITECC) to look at issues arising from the digital environment, such as the protection of privacy

and security over the Internet. ITECC is chaired by the President of the Philippines and draws its membership from both the public and private sectors. ITECC cooperates closely with the Bureau of Fair Trade and Consumer Protection and the Intellectual Property Office in addressing consumer protection issues.

Sri Lanka

In Sri Lanka the level of consumer protection depends on several factors, which may also be applicable to most other countries:

1. The degree of competition
2. Maturity of the Market
3. Feedback received from Stakeholders
4. Policies of the Government

Competition was brought into the telecommunication market in Sri Lanka in 1989 by introducing the first cellular operator and then the market was liberalized progressively by introducing more cellular operators and data operators. Further in 1996 two WLL operators were introduced. This was followed by selling of 35 per cent of shares of the State owned incumbent operator to Nippon Telegraph and Telephone of Japan. Presently there are 44 licensed telecommunications service providers providing various telecommunication services in the country.

However as market competition alone cannot be held responsible for protecting consumers, a proper regulatory decision making process and a proper enforcement process should be in place. According to the Telecommunications Act no. 27 of 1991 of Sri Lanka as amended, and the licences issued under section 17 of the above Act, there are several provisions and clauses that safeguard the interests of consumers. For example, the Act requires that the Telecommunications Regulatory Commission exercise its powers in such a way as to protect and promote the interests of consumers, while licence conditions require operators to publish the charges, terms and conditions on which services are supplied. In addition, the proposed National Communications Policy recognises the value of consumer protection and proposes further measures, including:

- standards and regulations for service quality, and submission of reports by licensed operators on service quality;
- policies to ensure operators and service providers respond appropriately to consumer complaints and inquiries; and
- procedures to allow the Telecommunications Regulatory Commission of Sri Lanka to deal with consumer complaints on fraud and privacy matters.

Accordingly the policy and regulatory responsibilities of the regulatory Commission cover the areas of tariff regulation, quality of service, dispute resolution, privacy protection and fraud prevention, provision of equal access and universal access and general consumer protection for telecommunications customers.

The Government considers that it is a fundamental right of all citizens to have access to diverse and unrestricted sources of information and means of communication. The Sri Lanka Information Infrastructure will not be complete until it reaches all locations and people throughout the country, and provides reasonable and affordable access to the full range of traditional and emerging information and communications services.

Pakistan

The development of telecommunications infrastructure is generally agreed to reduce poverty and manage globalisation issues for the benefit of developing countries. The priority area remains implementation of a programme of developing rural telecommunications networks (based on lessons learned) and Internet network penetration, together with human resource development. Concern about the disparities of

infrastructure between developing and developed countries, particularly with Internet and its use, has touched off debate about the existing global digital divide. One solution is to look towards international collaboration and sharing of technological information. On the other hand, the government is obliged to provide quality service at an affordable cost. As such, competition is known to be a proven method of accomplishing the sensitive task, which would need to establish a framework of legislation and cyber laws. These have special reference to customer protection.

Singapore

The Infocomm Development Authority (IDA) is the telecommunications regulator in Singapore and acts as an ombudsman body for telecommunications and internet services. The IDA has developed a code of practice for Competition in the Provision of Telecommunication Services which spells out the duties of licensees to end users. The IDA is currently developing programmes to increase consumer awareness of telecommunications products and services to assist consumers in making more informed choices. The Singapore Ministry of Fair Trade and Industry is also looking to enact the Consumer Protection (Fair Trade) Act which will address consumer protection issues across all industries including telecommunications.

Singapore is also supplementing consumer protection with the implementation of the TrustSg programme, designed to introduce nationwide marking for merchants with sound e-business practices. This programme has been a joint development of the National Trust Council, an industry led and government supported body. The program aims to help build confidence amongst consumers and business through a business accreditation process and by awarding the TrustSG seal to accredited online businesses.

Malaysia

In Malaysia, the Communications and Multimedia Act 1998 (the Act) provides the framework to promote consumer interest. Regulating for the long-term benefit of end users, promoting a high level of consumer confidence, equitable provision of affordable services over ubiquitous national infrastructure and the creation of a robust applications environment for end users are among the ten national policy objectives of the Act promoting consumer interests. In achieving these objectives, the Act provides several mechanisms for consumer protection including quality of service, required applications services, consumer dispute resolution, rate regulation and universal service provision.

Malaysia has recently mandated some minimum standards of service quality. The minimum quality of service covers basic standards for the major services of fixed telephony, cellular telephony, internet, and broadcast content applications. The industry regulator, the Malaysian Communications and Multimedia Commission (MCMC) carries out sampling tests and monitors compliance. Under the Act, penalties may be imposed on licensees that do not meet the mandated minimum standards.

Network service providers are also required to provide consumers with certain support services. They are listed in the Act as *required applications services* and include such applications services as emergency services, operator assistance, services for disabled consumers and directory assistance.

The Act also includes a universal service provision that mandates monetary contributions from the net revenue of designated services to fund basic service delivery to unserved consumers that reside in uneconomic or underserved areas as well as underserved groups within a community. The program is currently funded by RM400 (US$100) million of contribution.

Market rates apply in most areas of the Malaysian communications and multimedia market as there is sufficient competition to provide a choice of service providers to consumers. However, the Act does allow for rate regulation when the need arises such as when market forces have failed. Currently, only basic fixed telephony service rates are regulated.

The Malaysian regulatory framework also promotes self regulation through voluntary industry codes on consumer practice to be developed by a consumer forum. The Consumer Forum of Malaysia comprises service providers, telecommunications companies, broadcasting stations, Non-Governmental Organizations

and public interest groups. The Consumer Forum, designated by the MCMC to prepare industry codes on consumer protection matters, has prepared a Consumer Code which is currently undergoing public consultation. The draft code provides model procedures to reasonably meet consumer requirements, including customer complaints and disputes and the protection of customer information. Once accepted and registered by the MCMC, the code will become the reference standard for consumer requirements and protection.

Mechanisms have also been provided under the Act for consumers to bring their customer service and consumer protection complaints, including non-compliance with the industry consumer code to MCMC. Any dispute relating to such matters with the licensees may be resolved amicably through this resolution provision.

In trying to ascertain and monitor the level of satisfaction of consumers with the services provided by the licensees, the MCMC conducts regular consumer surveys. The surveys produce and track a consumer satisfaction index (CSI) on key consumer service issues. These indices are used by the MCMC as part of its consumer related initiatives.

OTHER ACTIVITIES

Industry initiatives

In addition to the consumer protection initiatives and measures that may be introduced by individual countries, regional and industry fora can also play a key role in ensuring that consumer interests and concerns about telecommunications issues are addressed. An example of an industry forum which can offer significant benefits within the Asia-Pacific region is the Mobile Manufacturers' Forum (MMF).

Mobile Manufacturers' Forum

The Mobile Manufacturers' Forum (MMF) (www.mmfai.org) is an industry association of major mobile phone manufacturers (Alcatel, Ericsson, Mitsubishi Electric, Motorola, Nokia, Panasonic, Philips, Sagem, Siemens and Sony Ericsson,) which works with governments and consumers to ensure that consumers have access to accurate information about the safety of mobile phones and base stations. The MMF has a Consumer Charter, which sets out the principles MMF members have committed themselves to. These principles include:

- consumers will be provided with accurate health information;
- consumers who want to further limit their radio frequency exposure will have access to advice from the World Health Organization or other health agencies;
- consumers will be provided with information about a product's adherence to radio frequency exposure guidelines;
- manufacturers will assist network operators in responding to consumer questions; and
- the MMF will continue to discuss concerns, questions and information needs with consumers, governments and health agencies.

Most recently, the MMF has committed itself to providing information about the specific absorption rate (SAR) values for mobile phones. The SAR is the unit of measurement for the amount of energy absorbed by the body when using a mobile phone. The MMF has been instrumental in requiring this information to be provided to consumers with all new models of mobile phones introduced since 1 October 2001.

INTERNATIONAL TELECOMMUNICATION UNION
TELECOMMUNICATION DEVELOPMENT BUREAU

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INTERNATIONAL TELECOMMUNICATION UNION (ITU) AND COMMONWEALTH TELECOMMUNICATIONS ORGANISATION (CTO) MODEL UNIVERSAL SERVICE/ACCESS POLICIES, REGULATIONS AND PROCEDURES

PART I: UNIVERSAL SERVICE/ACCESS POLICY, AND CREATION AND OPERATION OF UNIVERSAL SERVICE FUNDS

"DRAFT"
26.11.02

Prepared by David N. Townsend

Foreword

We are pleased to present the draft version of the International Telecommunication Union (ITU)-Commonwealth Telecommunications Organisation (CTO) Model Universal Service/Access Policies, Regulations and Procedures. The models were prepared in three parts. Part I focuses on universal service/access policy and the creation and operation of universal service funds. Part II focuses on universal service project funding through minimum subsidy auction mechanisms and tariff/interconnection regulation for the promotion of universal access. Part III describes telecentre options and strategies. The models propose the creation of a universal service fund as a central mechanism within a broader market-oriented approach to achieving universal service/access in developing and least developed countries. The models foresee that universal service funds may be used both for projects to provide basic services and for projects providing more advanced communications.

Why the need for such universal service/access models? A growing number of ITU Member States recognize the importance of ensuring access to information and communication technologies (ICTs) by all segments of society. Globalization and rapid technological change have made information and knowledge critical determinants of competitiveness in the new world economy. To compete successfully, a country must have connectivity. Access to the information society can stimulate economic growth by creating new products, increasing productivity and opening the way to new administrative and marketing methods. In addition to economic development, connectivity fosters social development, including education, health and increased citizen participation in civil society. In short, universal service/access policies, regulations and procedures are central to countries' efforts to bridge the digital divide.

How can countries achieve these goals? As a first step, many countries have embarked on the path of market reform, opening their communications markets to competition to stimulate network development, encourage the spread of innovative technologies and promote high quality, affordable service. Many countries have witnessed considerable success, especially in mobile communications. The sharp rise in mobile subscribers throughout the developing world has increased access - at least to voice services - at unprecedented levels. This year, the number of mobile subscribers worldwide outpaced that of fixed line subscribers.

Despite these promising gains, many rural areas throughout the developing world remain un-served by any communications network, fixed line or mobile. Access to high-speed Internet services also remains out of reach for most citizens of developing countries, especially in rural areas. Many countries, therefore, have begun drafting universal service/access policies aimed at increased access to ICTs. A surprising number of these policies call for the creation of universal service funds as a means of bridging the digital divide.

These models, therefore, aim to provide guidelines for the growing number of countries contemplating the creation of a universal service fund as a means of improving access to ICTs. The creation of universal service funds requires policy makers and regulators to make a series of key choices, including whether the source of such funds should come

from the government or the private sector, and if the private sector, should all ICT service providers contribute, or only some service providers? In addition, policy makers must decide who should administer the fund, a separate universal service agency, the national telecommunication regulatory authority or some other entity? How should universal service projects be identified and which kinds of services funded, basic or advanced or both? How can funds be used most efficiently? These models identify promising and best practices in the area of universal service funds. Moreover, the models aim to explain the consequences of each choice to facilitate decision-making on the part of policy makers and regulators. The models recognize, however, that ultimately each nation must make its own set of choices to best meet its national ICT development goals. These models are expected to develop as a useful and practical tool for policy makers and regulators alike, given their detailed descriptions of the various elements of creating and implementing universal service/access policies, regulations and procedures. While the models may be adopted in whole, as part of a comprehensive package of universal service/access policies, regulations and procedures, they may also be used in a modular fashion with countries utilizing only selected recommendations.

Universal service funds, of course, are not the only means of reaching national universal service/access goals. There are a variety of other measures that can be implemented to improve access to ICTs, ranging from further market reforms, to licensing alternative technology service providers to promoting infrastructure sharing. Of course, universal service funds may be used in conjunction with a variety of other measures aimed at increased access. It is also important for policy makers at the highest levels to recognize that even the best universal service/access policies will not, on their own, bridge the digital divide. Basic education, training and poverty reduction remains key to ensuring equal access and use of ICTs by all members of society. Policy makers and regulators, therefore, should ensure that the human and financial resources devoted to the telecommunication sector in general, and universal service/access in particular, are commensurate with their overall development goals.

These models were verified in a workshop for the Telecommunication Regulators' Association of Southern Africa (TRASA) held in Dar Es Salaam, Tanzania in July 2002. Preparation of these models was sponsored by the ITU and CTO, which have entered into a cooperation agreement to prepare a series of regulatory models designed to provide regulators in developing countries with tools to enable them to become more effective. ITU and CTO plan to develop additional models in 2003 on other key regulatory issues. ITU plans to publish these models and those developed next year in the 2003 edition of Trends in Telecommunication Reform.

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Parts I and III of this draft model were prepared by David N. Townsend, President, David N. Townsend & Associates (DNTA), an international communications economics, policy, and strategy consulting firm, in close cooperation with the author of Part II of this draft model. DNTA Senior Analyst Christopher B. Lee also contributed to the research and analysis.
Part II of this draft model was prepared by Edgardo Sepúlveda, Senior Telecommunications Economist at McCarthy Tétrault LLP, a Canadian-based advisor on matters of telecommunications law, regulation and policy, in close cooperation with the author of Parts I and III of the models. McCarthy Tétrault's Hank Intven and Theresa Miedema also contributed to the research and analysis, and Sarah Farooqi provided statistical assistance.

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The views expressed are those of the authors and may not necessarily reflect the opinions of ITU or its members.

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I. Introduction

The perspectives of the international telecommunications community concerning the opportunities and mechanisms for expanding network development and access in developing and least developed countries have changed significantly in recent years. The assumptions and practices that dominated operator behavior and policy deliberations for more than a generation have been rapidly eroding in the face of increasingly dramatic technological and market changes. In particular, as carrier privatisations and market liberalisation are becoming the norm in almost every region, the notion of a state-run, monopoly telecommunication administration constructing telephone networks purely as a public service – irrespective of market or economic considerations – has become an anachronism.

Indeed, it is generally recognised that, as the importance and value of all forms of communication continue to increase throughout the world, and as economic demand for telecommunication services commensurately rises, the *market* is proving to be the best mechanism for serving nearly all levels of user needs. The challenges of "universal access" to information and communication technologies (ICTs) – and the related objective of "universal service" (i.e., individual/residential telephone service) – thus involve more questions about facilitating and promoting market-based development than issues of broad and untargeted public subsidies or mandated construction programs.

But for most societies, the transition from monopoly to competitive markets typically begins at the high end of the spectrum, among the lowest cost/highest revenue customers; investor enthusiasm for reaching out to underserved locations and populations has been mixed at best, despite the potential attractiveness of large numbers of customers and little immediate competition. The reasons for this, of course, are related to the historical costs and risks of rural and low-income markets, particularly in times of economic uncertainty.

Thus, telecommunication policy makers have recognised an ongoing need for at least interim measures to accelerate the rollout of telecommunication infrastructure and information technologies in the least developed areas, as a core element of both liberalisation and development policies. The newer thinking is that essentially all participants in the market can and should take part in the collective effort to achieve universal access, since in theory all are in a position to benefit as public networks expand. And by the same token, no carrier should be expected to bear the risks and costs of universal access when its competitors are not similarly obligated.

These are the principles behind the establishment of industry-wide Universal Service Funds (USFs) or Telecommunications Development Funds (TDFs). By requiring equitable contributions toward the national objective of infrastructure and service development, and then allowing for fair competition among all participants for the use of collected funds, these mechanisms seek to create the extra level of economic incentives necessary to spur private investment in network expansion, while maintaining competitive market conditions. The specific form, responsibilities, and practices of the many such Funds that have recently been established around the world vary greatly, although there are a number of relatively common features. Above all, these Funds are committed to the notion that industry resources should be aimed as aggressively as possible at including previously ignored regions and populations

within the scope of national ICT development. Universal Service Funds are not intended as a substitute for private market incentives and investments and should not interfere with competitive market forces. Nor are they inconsistent with other market-based measures to improve universal service/access and may be implemented in parallel with other such measures..

This document is Part I of a three-part report, plus Appendices. This section describes a "model" Universal Service Fund policy and procedures, based upon extensive research into and experience with a wide range of USFs in developing and developed countries around the world. The model features seek to bring together the apparent Best Practices (or "promising practices") for each of the various elements and activities that should comprise such a Fund. The following sections describe the main features of this model Fund, and the recommendations for administrators and policy makers to consider when implementing, or revising, their own USF policies. Part II provides further detail on processes for soliciting competitive bids to construct new access network facilities in rural areas. Part III elaborates upon options for supporting Multipurpose Community Telecentres as a key application of USF funds.

Terminology, Institutional Framework

In this report, we utilise certain standard terminology and acronyms to represent what can be different institutions, functions, or roles depending upon the country involved. Specifically, we use the following terms:

Universal Service (US): The long-term objective of making communications facilities available to every member of society on an individual or household basis.

Universal Access (UA): The more immediate goal of providing convenient and affordable access to communications on a community or local basis, through combinations of public facilities (pay phones, telecentres, etc.) and individual private service.

Universal Service Fund (USF): A public fund established to support communications development goals. Other equivalent terms used in different countries include Universal Access Fund, Telecommunications Development Fund, and the like.

Ministry of Communications: The chief Government agency or department responsible for establishing and overseeing communications policy, including the determination of development goals and priorities. In some countries, these objectives come under multiple Ministries or agencies, such as those addressing Economic Development generally, Culture, Information, Science and Technology, and so forth. We presume a single Ministry for discussion purposes.

National Regulatory Authority (NRA): The regulatory agency with direct responsibility for the telecommunications sector, particularly oversight of economic and market conditions such as tariffs, licensing, competition, interconnection, and operator investments and development.

USF Administrator: The organisation or unit authorised to implement and manage the Universal Service Fund.

II. Model USF Policy

This section describes the parameters of a model USF Policy, incorporating various best and promising practices from around the world. The Policy elements are intended to outline the key considerations and decisions that should be pursued in the establishment and operation of a Fund, the principles and objectives it should serve, and the range of authority, responsibility, and activities that should be assumed by the different participants in the process. For each subject area, we define the main characteristics of the model USF Policy's recommended terms, provide a general rationale for this proposal, and then briefly describe possible alternative approaches that might qualify as options in some contexts.

2.1 Authorising and enabling laws and policies

All key development programs begin at a high level of **national legislation, Presidential decrees,** or **Ministerial policy statements**, which establish the framework and limitations in which the policy must be implemented. Such a foundation is necessary to ensure the credibility and authority of the policy, as well as to ensure that its terms are consistent with other national priorities and ongoing programs. The model Universal Service Fund policy should be based upon fairly general authorising language and statutory obligations, to ensure that the basic objectives and operation of the Fund are achieved, but without placing burdensome restrictions on its functioning. The following sections identify key topics to be addressed in such enabling provisions.

Define principles of the right to communications access

The entire basis for Universal Access policy should be established as a principle that access to communications is a common right of all citizens. This can be stated in general language, such as:

> "The Government considers that it is a fundamental right of all citizens to have access to diverse and unrestricted sources of information and means of communication. The nation's information infrastructure will not be complete until it reaches all locations and people throughout the country, and provides reasonable and affordable access to the full range of traditional and emerging information and communications technology (ICT) and services, taking account of different needs among the user population, including considerations of gender, age, ethnic and linguistic distinctions, and handicaps."

Define objectives and obligations for national telecommunications development

The mandate should outline the general objectives for infrastructure development, in line with the statement of citizen rights, as well as overall national economic and social goals. The ever-changing nature of the telecommunications industry makes it unwise to specify precise types of technology, or numerical or economic targets, in the framework of a governing statute or policy. Such target objectives should be set by the Fund Administrator (which this model recommends should be part of the Regulatory Authority), consistent with

the principles of the law, but adjustable to changing industry conditions. In addition, the law may specify a minimum threshold of access to be pursued as a basic priority of universal service policy. Representative language could be as follows:

> "The Government intends to promote all appropriate measures to ensure the rapid and equitable expansion of information and communication technologies (ICTs) for purposes of national economic and social development. The first objective of this policy shall be the provision of access to a basic level of telephone service in all rural and low-income urban areas. The [Regulatory Agency] shall develop specific indicators of ICT access, consistent with international experience and precedent, and shall identify appropriate targets for moving toward universal access nationwide within a reasonable time frame. It shall periodically evaluate the progress of the industry toward achieving these targets, and shall adopt such policies and mechanisms as may be necessary to ensure their achievement, in coordination with national economic policy, and fair market principles."

In addition to outlining these objectives, the law and policy should clearly define the basic obligations of industry operators to support their achievement. Although the specifics of implementing these obligations, in terms of licensee roll-out commitments, USF contributions, interconnection, and so forth, should be left to the regulator to define, the law must provide an unambiguous assertion of the obligations, so that there can be little chance of carriers manipulating or avoiding the system due to legal ambiguities. Potential language could be the following:

> "Every licensed ICT operator or service provider (as defined in this Act) will be obligated to contribute to the achievement of national Universal Access objectives as a condition of its license or authorisation. The [Regulatory Agency] shall define these obligations in the course of exercising its licensing and regulatory responsibilities.

Note that in many countries, policies, laws, and license provisions may already exist that define certain roles and responsibilities for network development, carrier of last resort, and Universal Service. Where traditional state monopoly telephone operators remain dominant, these obligations typical fall primarily or solely upon such carriers. In these cases, or where development obligations are spread among several existing entities, the enabling statutes and their implementation need to take into account the transition from previous roles to the new regime. This includes defining a clear timetable for introduction of the new Fund, and for removing or modifying current operators' obligations, as well as introducing the new ones. Where certain mandated construction programs may already be underway under the old policy that generally conform to the Fund's objectives, these might be taken into account by the Fund Administrator as sufficient, for some interim period, to fulfill an operator's Fund contribution requirements.

Mandate establishment of Universal Service/Development Fund

The establishment of a USF should be explicitly required under the statute or policy, although its specific parameters and implementation should be defined by the Fund administrator. The establishment provisions should also set forth a timetable for initiating the Fund, and refer to the objectives and obligations as the basis for the Fund's activities. Representative language:

> "A Universal Service Fund (USF) [or equivalent] will be established on or before [DATE]. All funds collected by the USF will be allocated to assist in the rapid development of ICT infrastructure and services in areas that are inadequately served by present operator networks and services. All licensed or authorised operators and service providers shall be required to contribute to the Fund."

Define responsibilities for implementing and administering the Fund

The enabling statute must identify, or create, the institution that will administer the Fund, and define the responsibilities and authority of that entity, and any advisory board or committee. Assuming the administrator will be the National Regulatory Authority (as recommended below), other key provisions should also be laid out in the law, such as the use of separate budgets and accounting, including the source of the Fund's administrative budget, and the general responsibilities for utilising the Fund. Representative language:

> "The Fund will be administered by the [Regulator], and shall be separately identified under the [Regulator's] operating budget. The [Regulator] will establish a committee of operators, service providers, users, and government officials to advise it on the most effective use and operation of the Fund. The amounts and uses of the Fund will be made public, and subject to independent audit. The precise form and working of the Fund will be determined by the [Regulator], following consultations with the Government, the public, and the ICT industry. The [Regulator] shall establish specific procedures for identifying qualified locations, and for inviting competing proposals from operators to utilise USF funds in support of investments in those areas. The administration costs for operating the Fund shall be determined annually by the Administrator, and paid from among collected funds, subject to audit and review by the [Regulator]."

Note that it is preferable that the statute not define in much greater detail the operating provisions for the Fund, including the precise amounts of contributions or expenditures, and other implementation details. A well organised and properly qualified Fund administrator should be authorised to make those decisions on the basis of its analyses of the market. Thus, the majority of provisions recommended in the following sections of this model USF policy should be determined by the Fund administrator/regulator itself, following the general authorisations and obligations set forth in the statute or national policy.

Emphasise market-oriented, non-discriminatory principles

It is important, from the outset, to establish the clear principle that the Universal Service Fund is not intended as a substitute for private market incentives and investments, nor should it interfere in any way with competitive market forces. This principle should be clearly stated in the enabling legislation, to ensure that the Fund's activities always conform to market-oriented and non-discriminatory standards. Sample language can include the following:

> "Competing operators in the same market may not be subject to different levels of obligations to support Universal Access that would result in discriminatory treatment of one operator versus another. No USF funds will be utilised to support investments that would otherwise be made by private operators on purely commercial terms, nor shall funds be utilised to the competitive advantage or disadvantage of any operator. To the greatest extent possible, USF funds will be employed to facilitate investment in market-oriented, sustainable operations, which will not require public subsidy following initial start-up funding."

Establish enforcement and dispute resolution powers

The authority of the Universal Service Fund's management to implement and enforce its decisions, especially the collection of payments from all mandated contributors, must be strongly established in the law. Similarly, it should be clear that the Fund administrator has final authority over Fund disbursement decisions, subject only to appeals concerning misapplication of the Fund's own rules. It is important to design this aspect of legislation and policy to minimise frivolous legal maneuvering and stalling by reluctant participants or strategic competitors. Some possible language (subject to legal review in each country) includes:

> "The Fund administrator shall have full power and authority to implement the provisions of this Policy/Act, subject only to the oversight of the [Regulator] Board of Directors [or equivalent]. The administrator shall be explicitly empowered to demand and collect payment of required Fund contributions from designated service providers according to the requirements of their licenses, and of the Fund's rules. The administrator shall also have final decision-making authority over Fund allocations and disbursements, with appeals to the Board permitted only with respect to alleged violations of the Fund's own mandate or procedures. The administrator shall mediate and resolve any disputes that may arise concerning collection and uses of the Fund, and shall have the authority to enforce its provisions through its general enforcement powers." [Specific enforcement powers (fines, sanctions, etc.) would be defined elsewhere in the Regulator's general authorising legislation.]

2.2 Sources of contributions to the Fund

The USF policy (as defined by the Fund administrator in keeping with the enabling provisions of the law) must clearly define the sources from which funds will be obtained to accomplish its objectives, and the precise obligations and terms under which such funds will be collected. The most common practice among Funds being instituted around the world, and the recommendation of this model policy, is to require **direct contributions from all telecommunications service companies**, in terms of a defined portion of their revenues. (Often other sources are also included, especially at the outset to help launch the Fund, such as direct Government or even donor contributions, and revenues from spectrum auctions or carrier privatisations.) Beyond this basic principle, there are many detailed provisions of this component of the policy that need to be determined. Among the key elements recommended for the model policy are described in the following sections.

Equitable contribution by all market participants

The most equitable and competitively neutral practice for obtaining Fund contributions is to require all market participants to contribute an "equivalent" amount, by setting a **fixed percentage of designated revenues** as a common obligation. The key questions to be clarified under the policy are: what constitutes a "market participant"? Which "designated revenues" are covered by the percentage? And, is there a basis for differential treatment of different types of services or operators? This model policy recommends the following provisions in response to these questions. (Note that these are general recommendations, not necessarily exhaustive or specific. Each country's laws would have to describe explicitly the definitions of which types of companies and activities must contribute to the Fund, in relation to the market structure and range of licensees. Legislative language should be as unambiguous as possible to avoid conflicts over which firms may be obligated to contribute. .)

Who Should Contribute?

Generally, the range of companies and operators that should be required to contribute to the Fund are those which come under the regulatory auspices of the telecommunications regulator, and/or which offer services considered to be included within the definition of "basic and enhanced communication", irrespective of whether they are dominant or non-dominant competitors, and without regard to which technologies (e.g., wireline, wireless, VSAT) they may employ. These would include, at a minimum:

- Fixed telephone service providers (local and long distance);
- Mobile telephone and paging service providers;
- Data and leased line network and service operators;
- Internet service providers;
- Communications equipment suppliers;
- Other value-added service providers.

Where "Convergence" policy opens the market for new traditional two-way communication service operators to be offered by multimedia companies, and vice-versa, it may be appropriate to expand this list to include:

- Cable television network operators;
- Broadcasters (radio and TV);
- Electronic publishers; and
- E-commerce and information technology suppliers.

(Again, legislative language must be as specific and unambiguous as possible.)

What Revenues Should be Covered?

In principle, operators should contribute a portion of all revenues derived from services that are directly or indirectly linked to the basic and advanced ICT infrastructure and services to be supported by the Fund itself. These should include, at a minimum:

- All basic local and long distance telephone services and related features;
- All data transmission, private network, and value-added communication services;
- Mobile services, including owned and affiliated systems;
- All revenues from interconnection, settlements, and other services rendered to outside (non-domestic) operators;
- All revenues from communications equipment sales and rentals;
- All retail and wholesale Internet access and related services;
- Cable TV and other "Convergence" service revenues provided by competitive communications operators.

Revenue categories that should potentially be excluded from Fund contributions are those derived from firms' activities that are essentially unrelated to telecommunications services, as well as inter-operator payments among domestic operators for facilities and services. Non-telecom revenues may include real estate transactions, outside investments, consulting and advisory services, and third-party marketing deals, among others. Domestic inter-operator payments would include interconnection charges, wholesale facility lease payments, charges for unbundled network elements, and payments for other relevant services such as third-party billing, directory listings, and so on. As communications suppliers become increasingly diversified, it will be more difficult to identify precisely what portion of company revenues should fall under the contribution requirement. Clear and precise accounting records will be required to ensure accurate compliance, and must be defined by the Fund Administrator in advance, by examining the current year accounts of contributing carriers, and identifying appropriate categories in keeping with the contribution policy mandate. When companies seek to change their accounting procedures, or when they add new services, subsidiaries, or other revenue sources, there must be a requirement to file a report proposing how the changes would affect the carrier's contribution formula, which would be subject to the approval of the Administrator.

Should Anyone Receive Special Treatment?

The goals of competitively neutral, equitable treatment of market participants (see Section 2.5) suggest that all firms participating in the communications business should contribute comparably to the USF. There could be circumstances, however, in which specific operators or service groups might merit special consideration, and potential exemption from Fund contribution. This could apply to two particular types of situations:

- Small, start-up companies in new markets seeking to develop business opportunities that the Fund views as valuable to sector growth (one important example of this category could be Internet Service Providers (ISPs); and
- Service providers offering communication services in locations and to users that are within the scope of the Universal Service mandate itself.

In general, it is potentially a conflict of policy objectives to promote development through fair competition, while at the same time supporting favored operators in relation to USF policy. The ideal approach would be to provide incentives and support to these types of activities through means *other* than exemptions from USF contributions (e.g., tax policy, tariff or interconnection discounts, public or private grants, etc.), so as to maintain the strict neutrality of the Fund's practices.

Contribution amounts determined through appropriate market analysis

The determination of the necessary amounts of Fund contributions by industry operators should ideally reflect a careful analysis of market conditions, and of the key economic factors that will influence the Fund's success. Most developing countries have to date not followed such an approach, and have instead mandated from the outset essentially arbitrary contribution levels, such as 1% to 5% of gross revenues, or similar factors.

This model USF policy recommends that the Fund administrator be responsible for conducting the initial and ongoing analysis of appropriate Fund contribution levels, subject to some basic parameters and objectives. In sum, the Fund should seek to collect the "optimal" amount of income needed to accomplish its mandated goals in the shortest time possible, while minimising any adverse, distorting effects upon contributing carriers and the market. The analysis that should be undertaken (and periodically revised) includes the following elements:

- ***Needs assessment***. A thorough analysis of the levels of unmet and underserved demand for basic and advanced information and telecommunications services (including assessments of operator-provided data, and independent research), identifying locations, populations, and business sectors with the greatest needs, and the areas and types of services that the market is least forthcoming to provide.

- ***Cost analysis***. A study of the probable levels of investment and operating costs required to deliver needed services to the target user populations. This should

seek to estimate costs over at least a 5-year horizon, taking into account projected changes in demand conditions and other evolving factors.

- ***Revenue/demand forecasts and fee calculations***. Forecasts of the revenue streams likely to be earned by all participating (and anticipated) industry operators during the study period, adjusting for any price elasticity effects resulting from the imposition of USF charges, and other expected market changes. Based on these estimates and the cost results, the Fund administrator should set the fee percentage required to generate the necessary income, but without creating too burdensome an obligation.

Limited options for "in-kind" alternatives to direct financial contributions

The objective of universal access policy is not to collect and spend money, but to promote direct investment in infrastructure and service development. It may therefore be desirable, under appropriate conditions, to encourage "in-kind" investment by industry operators as a potential alternative to financial contributions. The principle of in-kind investment is that an operator may expend its own capital to construct new telecommunications facilities in designated underserved areas, and may deduct at least some of the costs of these investments from its calculated USF contribution requirement (this option is sometimes referred to as "pay or play"). Where this is permitted, it is important that the economic value of such investments be equal to the value of funding contributions that would otherwise be required of the operators. The nature, location, and scope of in-kind investments must be equivalent to those undertaken through the use of USF funds.

These considerations are the responsibility of the administrator, and can lead to complex accounting and economic evaluations, as well as potential misuse of the practice. The in-kind option, therefore, should be introduced only when the Fund has been fully established, and its administrators have sufficient experience and information to evaluate proposed in-kind projects according to appropriate criteria.

2.3 Management and administration of the Fund

The fundamental administrative issue with regard to the Fund is the question of what entity or authority will have responsibility for managing its operations. Here again, there is fairly strong consensus among a majority of countries implementing such policies, that USF fund administration should come under the control of the national telecommunications regulatory agency, where it is separate from the incumbent operator. This model policy thus recommends such an arrangement, assuming such an independent regulator exists within each country implementing the policy. Where no such regulatory authority has been established, it will be necessary to create a new agency or institution to administer the Fund, at least on a transitional basis until a new regulator can take over those responsibilities.

Management autonomy

Within the regulatory institution, the operation of the Fund should be a stand-alone function, separate and distinct from the other regulatory activities relating to licensing, tariffs, competition, spectrum, and so forth. This suggests the creation of an autonomous Division or Office within the regulatory agency, reporting directly to it senior director(s), and with its own clear authority mandate to carry out the requirements of the Universal Service Fund policy.

The Fund's management officials should be able to draw upon other resources of the regulator to support their activities, such as market studies and economic analysis, but there should be no bureaucratic barriers to dispensing USF funds and pursuing mandated projects. This implies, for example, that day-to-day approval and disbursement decisions of the Fund should not require review or formal approval by agency authorities outside of the USF office itself; the agency director should chiefly take the role of overseeing and coordinating USF policy in connection with other regulatory initiatives.

Independent budget, separate accounting

The imperative to establish the autonomy of the Fund administration similarly requires that its budget be maintained entirely separate from the Regulator's operating budget. This implies that a wholly independent bank account and accounting records be established, solely for the collection and disbursement of the Fund, with no co-mingling with other regulatory or government funds. There should be no circumstance, for example, whereby the Regulator (or any other entity) "borrows" from the Fund, or uses its as security, or otherwise has access to this money. The administrator must issue an annual, public report of all Fund contributions and expenditures, and there should be an annual independent audit as well.

2.4 Fund mission, objectives and priorities

This section addresses some of the core issues that must be decided in establishing and operating a successful Universal Service Fund. In sum, the key questions are: **What is the Fund seeking to accomplish?** and **How should its resources be allocated to achieve these objectives?** There are several important elements to consider; the following discussion describes the components recommended to be included in a Fund mission statement..

Overriding mission and vision

The mission and vision of the Fund should be derived largely from the enabling legislation and policy, but these governing philosophies should still be clarified and expanded by the Fund administration itself. They form the basis for the decisions and priorities that the Fund will pursue during its operation. A representative mission statement could be:

The USF's mission is to promote progress toward the realisation of Universal Access to basic and advanced ICTs throughout the country. In allocating funds toward specific project financing, the Fund will seek to promote the following goals:

- Contribute to national economic development and social well-being;
- Promote technological innovation in the telecommunications sector;
- Promote competition in the telecommunications market;

Establish efficient, self-sustaining, market-oriented businesses, which will continue to expand access to ICTs on their own initiative, requiring the minimum amounts of short- and long-term Fund support possible.

Practical objectives and priorities

Telecommunications technologies are essential to developing countries not merely as means for citizens to communicate with each other, but as a foundation for numerous other activities that are of critical importance to the economy, culture, and social well being of all nations. Thus, any Universal Service Fund must concern itself with the broader impact of telecommunications resources, beyond the mere geographic deployment of basic telephone facilities. In determining the types of activities and investments that the Fund will support, its administrators must seek to create an effective balance among a range of objectives, which in combination will bring the greatest short- and long-term benefits to the society.

In this regard, there are **four major categories of infrastructure and service development projects** that should be supported by the Fund, which are described on the following pages. One key responsibility of the administrator must be to conduct ongoing research and monitoring of the sector to assess on a regular basis public needs in each of these areas, and to structure its allocation of resources to address those areas that are most appropriate and highest priority at any given time, while ensuring that some reasonable degree of investment is made in each area, within the Fund's budget constraints. Note that, in general, the first category, Universal Access to basic telephony, must always be given precedence over the others to a considerable degree, not only to establish a minimum threshold of social equity, but also as a practical technological foundation for supporting the other service categories in most areas. Beyond this foundation, the proposed standards and methodology for determining Fund allocations across the different categories in relation to national needs and degree of development are described in Section III.

1. Provide universal access to basic telephone communication

The concept of Universal Access to basic telephone service implies that every citizen should have the ability to make voice telephone calls when necessary. This is different from the more broad, long-term objective of "Universal Service", which implies that every home should eventually have its own individual telephone service. Universal Access is a comparatively achievable, short-term goal that should be the highest priority of the model Fund. Access to telephone service, in this respect, must be defined in terms that create a practical opportunity to make service available throughout the country as quickly as possible.

The first steps in this direction should focus upon expanding basic telephone network backbone and access line infrastructure to all rural and unserved locations, such as installing at least a minimum standard level of public telephone service in all such locations. This public telephone service must be reasonably accessible to all citizens, in terms of location, technology, quality of service, reliability, and price. It must also form at least a minimum technical foundation upon which further service expansion and improvements may be built.

Part II of this Report provides an in-depth discussion of this objective for the Fund, including a detailed description of a proposed mechanism for utilising USF funds to support expansion of basic telephone network access by national or regional telecommunications operators.

2. Provide access to advanced communications capabilities

The installation of basic telephone network access lines is a first step toward supporting both traditional voice telephone services and more advanced Information Society opportunities in less developed countries and regions. It is thus important to expand the range of the Fund's objectives for providing fundamental communications access network to support the introduction of more advanced capabilities and technologies and services for end users of that network . These especially include access to the Internet, including both the World Wide Web and Electronic Mail. However, these more advanced technologies are not as easily or affordably deployed as basic public voice telephone service; Internet access and all data-related services depend upon a higher degree of technical sophistication in both the underlying network and end-user facilities. Even where the required network technology may be installed, users must have access to computer hardware and software, with adequate processing power to take advantage of Internet-type services. And even where these facilities are available, citizens must have the training necessary to understand how to use them. It will thus be necessary to consider carefully the trade-offs and benefits associated with selected advanced infrastructure deployment projects, as compared with other Fund uses.

Ultimately, the objectives of Universal Access include providing both basic telephony and advanced capabilities as widely as possible, and ideally Fund-supported projects should be aimed toward these combined purposes. Where projects focusing upon basic telephone service infrastructure are implemented, they should include provisions for adequate transmission quality and capacity, and other terms to indicate how other services that use the Internet as a platform can eventually be incorporated. A key option for promoting this objective should be support for establishment of Multipurpose Community Telecentres (MCTs) in geographically dispersed rural (and urban) areas, which can offer a full range of telephone, computer, Internet, data, fax, and other technical services to local populations. Part III of this report provides detailed recommendations on the options and objectives for supporting a telecentre development program with the support of USF funds.

Of particular importance, the training and outreach elements of advanced services projects must be among their most prominent features. It will never be sufficient merely to establish physical facilities, whether computers or data communications networks, without ensuring that these facilities will be utilised by the public to the greatest extent possible. Providing access to advanced information technology services specifically implies fostering widespread education and awareness of their availability, strong emphasis on the knowledge and skills necessary to use the services, and also the understanding of how such technologies can be applied to improve individual and community social and economic welfare.

3. Provide support for economic development and opportunity

The Fund should also be able to utilise some of its resources in direct support of national economic development objectives that are intricately tied to ICT infrastructure. This implies providing financial assistance to selected projects that tend to deploy needed communications infrastructure in locations where existing and emerging business activities will be most reinforced by access to these technologies. In practice, this can mean a variety of technologies, services, and operating arrangements. In some cases, it may mean contributing to the development of concentrated high technology "enterprise zones" or industrial parks, where telecommunications-intensive businesses can locate offices and obtain maximum service for reasonable prices due to scale economies. But in many areas, such support will more likely be smaller in scale, such as the Multipurpose Community Telecentres mentioned above, and elaborated in Part III of this Report. These telecentres not only can provide telephone and Internet access, but also can offer training and related business support functions, to local entrepreneurs in smaller villages and towns.

As discussed in Part III, the concept of the community telecentre as a business "incubator" can be self-reinforcing in many respects. A well-organised and independently run local telecentre can itself represent an important business opportunity within many localities, and can thus serve as a training ground for other new, technology-based local businesses. In this sense, the Fund should focus upon supporting telecentre projects that are based upon legitimate, profit-making business models to the greatest extent possible. This objective differs somewhat from the more basic Universal Access goals, which might require a more continuing form of subsidy, and will more likely be provided by larger telephone carriers on a national basis. In the case of projects designed to promote community-based economic development, the starting point should be initial support for viable, trend-setting local businesses such as telecentres.

4. Provide direct support to public and community service institutions

The final category of Fund objectives involves supporting access by important major public services institutions to needed ICT services. The types of institutions that should be supported under this program include:

- Educational facilities, from primary schools through universities, as well as libraries, and public training institutions of all kinds;
- Health care facilities, including clinics, hospitals, doctors' offices, and similar health service locations;
- Government offices and service centres, both existing locations and new public information centres and kiosks; also public post offices, particularly for e-mail access.

The Fund should consider financing projects that offer to install appropriate communications infrastructure to such public facilities, as well as projects focusing upon creating and customising relevant information content, such as school course curriculum, health care training, and public service information, to be made available through such institutions. Funding support for these projects, however, should ideally be augmented with other public, private, and donor funds that would normally be allocated to support the underlying services of these institutions; the USF's contribution may be a minor element of a separate project initiative to add particular features, or in some cases the USF may take the lead in specifying certain projects, and solicit other participants.

Examples of projects that might be funded under this objective could include Tele-education projects that allow students in rural areas to take classes at universities or schools in other locations; and Tele-medecine projects that connect patients or nurses with doctors in other locations, and allow for consultation or training in specific medical cases.

The Fund may also be utilised to support providing telephone and e-mail access to rural post offices, and the provision of telegram services, or equivalent text messaging services, as well as more advanced public voice messaging services.

2.5 Competitive neutrality and transparency principles

The USF's implementation and activities must be closely in line with the broader liberalisation and regulatory objectives of national telecommunications policy. These principles must be reflected in the designation and administration of Fund contributions, as well as in the criteria and processes for Fund distributions. It should be a fundamental requirement that competing operators in the same market may not be subject to different levels of obligations to support Universal Access, if these differences would result in discriminatory treatment of one operator versus another. Similarly, decisions regarding uses of Fund money for development projects should not be based upon considerations of helping new competitors to gain a foothold in the market, if these operators' proposals would otherwise not be optimal for achieving the stated development objectives. These and similar

market conditions will tend to change rapidly as liberalisation advances, and it will be important for the Fund Administrator to monitor constantly the conditions in the market and the neutral impacts of its activities.

Another key factor in competitive neutrality involves interconnection. All operators should be obligated to interconnect their networks with any service provider that constructs facilities and offers service utilising USF funds, and those operators, in turn, must interconnect their networks with any other carrier seeking access to their customers. Interconnection terms and conditions, including tariffs, should be reviewed by the regulator as part of the approval and evaluation of Fund supported projects. They may potentially differ from interconnection requirements for non-Fund operations, for example to help offset costs and encourage faster investment. (See discussion of tariff related issues in Part II of this Report.)

To ensure that all USF procedures and decisions are equitable and honest, these procedures must be as public and transparent as possible. Every Fund disbursement decision must be based upon an open, public process, in which the opportunity and criteria for obtaining Fund support are equally available to all qualified applicants. Section III below provides further details on the general procedures for soliciting project bids and evaluating competing proposals. Part II of this Report offers detailed procedures for the specific case of obtaining least-cost bids for basic access network franchises.

Finally, as mentioned previously, the Fund's records must be open to public inspection, and subject to annual independent audit. Its decisions must be subject to review when legitimately challenged, initially by the senior Regulatory authority, and ultimately by the Government and/or the Courts in cases of extreme controversy.

2.6 Review and revisions of Fund activities

The operation and objectives of the Fund should be subject to periodic review and revision, both from within the agency itself, and through a process of public and government consultation. Internally, the Fund administrator should issue an Annual Report, containing at least the following information:

- Financial reports: collections, expenditures, reserves, etc.
- Descriptions of projects funded, goals, tasks, budgets
- Review of previously funded projects, accomplishments, problems
- Revisions to target objectives, estimates of progress
- Intended Operational Plan goals and budgets for coming year

After a pre-determined period of operation, for example 3 years, the Fund and related Universal Service Policy should be subject to a full public review and renewal process, comparable to the consultations that should have preceded its initial creation. The review should focus upon the overall Fund mission, its priorities and activities during the preceding period, financial questions and concerns, and especially the evolving conditions of the ICT sector in the country. Coming out of this review there should be a consensus renewal and/or revision of the Fund's mandate, adjusting to changed conditions. Ideally, the Fund's role

should diminish over time, as the market picks up from the incentives and initiatives and takes over the role of serving previously ignored customer groups and locations.

III. Model Fund prototype rules of procedure and operation

This section describes a set of proposed operating procedures and standards for the Model Universal Service Fund. While it is not intended as a comprehensive "manual" of operations, the provisions of this section can form the basis for a Fund administrator to establish its own procedures, consistent with the policy parameters described in the previous section.

3.1 Fund management and organisation

According to the recommended criteria for the Universal Service Fund to operate as an autonomous division or branch of the national telecommunications regulator, it is necessary to create a management and organisational structure for the Fund administration that fits within the framework of the regulator, while maintaining that autonomy. A proposed structure is illustrated in the diagram below, with the following general roles and responsibilities. Note that this is a relatively idealised structure, which might be beyond the resources of smaller countries and limited budgets. In principle, many of the identified positions could be combined (e.g., Director, Assistant Director, Project Managers), with the caveat that such multiple responsibilities would necessarily limit the range and timing of Fund implementation and functioning.

Regulator Board of Directors (Commissioners). The Governing Board of the Regulator, however it may be constituted, should be responsible for setting the overall Policy for implementation of the Universal Service Fund (e.g., most of the provisions of this model). It approves annual Operational Plans and budgets, as well as Annual Reports and audits. It appoints the Fund Director and Assistant Director, and members of the Advisory Committee. When necessary, the Board is the arbiter of disputes and appeals that cannot be resolved by the Fund administration itself.

Advisory Committee. Provides input, suggestions, and ideas to Fund management concerning project priorities, Operational Plans, target objectives, and other key issues. Should consist of appointed representatives from the industry, user groups including consumers, the Government, and public institutions, with emphasis on those most affected by the Fund's activities. Membership should be voluntary, not paid by the Fund, and should be clearly advisory, not controlling, in nature.

USF Director. Oversees all Fund activities, reports directly to Regulatory Board of Directors. Prepares and authorises annual Operating Plan, budget, and project plans.

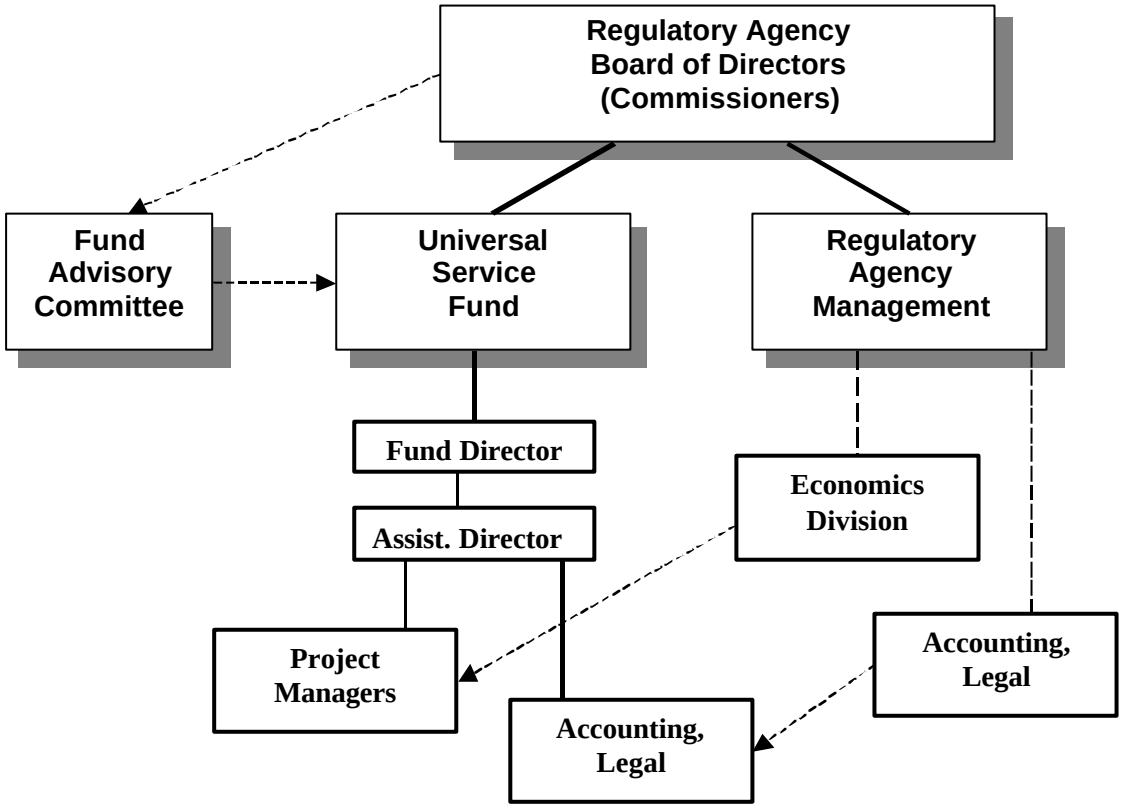
USF Assistant Director. Reports to Director, assists with day-to-day Fund management, project evaluations and decisions, public communication, and report preparation.

Project Managers. A group of several (depending on the size of the Fund) specialists responsible for analysing market conditions, developing proposed project plans, and acting as liaison with Fund recipients in the implementation and evaluation of approved projects.

Accounting and Legal Departments. Personnel in these positions, especially accountants, are responsible for ensuring the proper operation of the Fund, maintaining the books, and executing necessary contracts and other legal documents.

Liaisons with Regulatory Functions. The economics, legal, and accounting departments of the main section of the Regulatory agency should be available to assist the Fund's personnel with their expertise and resources, as necessary.

Figure 1: Proposed USF Organisational Structure



3.2 Accounting standards and procedures

Successful operation of the Fund depends heavily upon accurate and efficient accounting procedures. With potentially very large sums of money transiting the Funds accounts on a regular basis, there is a need for clearly established standards at each stage of the process of collecting, tabulating, and distributing funds. The USF's accountant(s) and Director must establish these standards at the outset, consistent with national public accounting practices and the Fund's mandates. Key features recommended for the model USF are described below.

Contributions

There are four main stages to the process of collecting Fund contributions from industry operators:

1. Payments	Should be made on a **semi-annual** basis, with a 3-month lag (i.e., reflecting revenues for the 6-month period ending three months prior.)
2. Documentation	Payments must be accompanied by a standardised filing form, showing revenues earned and the calculation of the required contribution.
3. Certification	Each contribution and filing must be reviewed and certified by USF accountants before it is officially accepted; irregularities or questions must be promptly addressed.
4. Audit	Contributors must submit an annual independent audit report on their revenue performance and Fund contributions; previous filings must be reconciled with this report, and any discrepancies should be repaired.

"**Pass-through**": Often telecommunications operators prefer to identify their required USF contributions as a separate line item on customers' bills, in effect passing on this cost through their tariffs (although tariffs may not always be increased to cover USF payments). This practice should generally be acceptable as a public relations measure, although it has proven controversial in a number of settings.

Special contributions: In some cases, outside donors and benefactors might be inclined to contribute money to the Universal Service Fund. Such donations may be tied to specific projects that the donor wishes to support, or may contribute to the general Fund. They should not have the effect of reducing required payments by industry operators, however.

Fund Accounts and Budgets

Fund income should generally be collected into a single bank account, separate and independent from the operating accounts of the Regulator, and accessible only by the Fund's management. The total Fund amounts should be divided among three primary budget categories, which can be accomplished either through accounting allocations and/or additional subsidiary bank accounts. These budget categories are:

Project Fund	The bulk of the Fund, to be allocated to development projects according to the Fund's mandate and procedures
Operating Budget	Funds necessary to pay the costs of operating the USF administration: Salaries, benefits, rent, equipment, services, etc. Should typically be in the range of 10% of total Fund income.
Reserve Fund	A contingency amount to cover cost overruns and unexpected needs. Can also include a Special Projects allocation, available as appropriate.

Project Budgets

Projects funded by the USF must maintain their own accounts, which must be available for review by Fund management at any time. Information to be included in these records should include:

- Total project budget estimates (annual and life cycle)
- Fund distributions and uses
- Detailed expenditure records
- Any revenues earned from the project
- Forecasts of future needs and anticipated resources

3.3 Procedures for determining funding allocations

Given that there will always be a severely limited amount of money available to the Fund in comparison with any idealised set of development goals, one of the crucial decisions that the Fund Administrator must make on an ongoing basis is how to allocate those funds among competing worthy investments. In theory, there could be quantitative methods to analyse such choices, by comparing long-term net present value of alternative projects, incorporating social benefits and externalities and multiplier effects. It is worthwhile for the Fund Administrator to pursue such analysis, particularly to help estimate the magnitude of these types of factors and to illuminate the choices it confronts; however, in reality such calculations are impossible to specify with much precision, and Fund allocation decisions (as with all public resource expenditures) must ultimately be made on qualitative – and political – grounds. The discussion that follows presumes that the Fund Administrator will make allocation decisions based upon a combination of quantitative and qualitative analysis, subject to its legal mandate.

Operating Plan, Projects, Concessions

Prior to each annual (or biannual) funding cycle, the Fund Director must establish its intended **Operating Plan** for the upcoming period. This Plan consists of approximate Fund allocations to various types of Projects (primary objectives) that will be supported during the next funding period. A **Project** is defined as any specific Fund-supported activity for which one or more organisations receive financing subject to the rules and requirements of the USF. A Project can be aimed at promoting one or a combination of several of the main objectives listed previously:

- Universal access to basic telephone service
- Public access to advanced info-communications
- Economic development support projects
- Public service institution support projects

In its initial planning stages, the Fund management, Board, and Advisory Committee should establish specific **targets**, in terms of numerical and geographic coverage, as well as ranges of technological facilities and infrastructure, to be pursued under each of these categories. In principle, these should consist of long-run goals that collectively contribute to building an integrated vision and strategy for the country's technological, economic, and social development; they should, however, be realistic enough in each area of investment that meaningful progress can be expected toward each target over a five to ten year time frame. The selection of priorities for funded projects under any given period's Operating Plan should be based upon the current state of progress toward the expansion targets for each category, and the combined national strategic objectives. In general, there is a presumption that Universal Access (network buildout) projects should receive the highest priority and the largest allocation of funds in most countries. The specific emphasis and approach is likely to vary depending upon the geographic and economic conditions of each country, as well as the

present and emerging market structure.[1] However, some amount of funds should in principle always be allocated to each of the other categories, in rough proportion to the degree of achievement of the stated objectives. This approach will help support broader economic and social development opportunities while still emphasising basic needs. As mentioned, the ultimate decision for each Operating Plan's budget allocations must involve an informed judgment on the part of the Administrator, taking into account all of these considerations.

Each specific Project to be funded under the Operating Plan can consist of one or more **Concessions** (or franchises or licenses), depending upon the nature of the project and available funds. A Concession is a specific set of tasks assigned to a particular vendor/operator, for a fixed budget distribution. The specific objectives and tasks, and the scope and number of possible concessions, should be defined initially by the Fund's Project Managers, subject to approval of the Director and the Board, at the outset of the planning period. Upon approval of the Project priorities and objectives, the Project Managers must then describe each project in greater detail, in terms of the specific approach and expectations for concession proposals to be considered under that project. In the case of basic public telephone access projects, the procedures and criteria for awarding these concessions should be clearly defined, and based upon a least-cost bidding methodology. See Part II for full discussion of this element of the Fund's operation. The second major category of projects is likely to be Multipurpose Community Telecentres, whose options and implementation procedures are described in Part III.

As for all other projects that come under Categories 2, 3, and 4 above, these may be defined and implemented according to more flexible and interactive procedures, which will encourage potential concession bidders to offer creative technical and business approaches to meeting those different types of needs. The Fund Operating Plan and Project Managers should specify both general objectives and particular ideas for use of funds in these areas, and should then invite bidders to submit proposals that would meet the objectives in any reasonable and appropriate way. Some examples could include projects aimed at providing high-tech training services, school-based curriculum and technology, small business incubation in ICT services, E-commerce trial projects, and regional networking and collaboration initiatives. The Fund Director should have the flexibility to modify the original project scope and definitions, based upon ideas or concerns presented by bidders.

In some cases, the Fund's managers may define new projects based upon requests brought to the Fund from within various communities. Existing institutions, organisations, and even companies may approach the Fund proposing to obtain financial support for specific activities which are within the scope of the Fund's objectives. The Fund Administrator should have the flexibility and authority to approve certain limited expenditures, even on a non-competitive basis, for these types of worthwhile projects. Such activities should generally not consume more than 5% of the total Fund budget, however, and should be subject to strict transparency and audit regulations.

1 See Navas-Sabater, Juan, Andrew Dymond, and Niina Juntunen, "Telecommunications and Information Services for the Poor," World Bank Discussion Paper No. 432, 2002, pp.25-40.

Determining priority target populations

In order to maximise the benefits of the USF, it is necessary to determine which geographic locations and target populations should receive priority treatment in the allocation of funds and identification of Projects. These should be the areas and population groups that are most at risk of "market failure," where the private market will not readily meet the demand for telecommunications services. The Fund's management should conduct a socioeconomic and statistical analysis of candidate locations, based upon a range of telephone operator and other cost and demand estimates, as well as macroeconomic and key demographic factors, which should result in a ranking of locations and groups according to greatest need. If available, a geographic information system (GIS), showing demographic detail by region can be a powerful tool to map out specific areas by need. The following guidelines should be incorporated in the analysis:

Socioeconomic priority criteria

Locations where economic conditions inhibit pure market-based solutions. In principle, the Fund should only contribute support in locations where the market is incapable of providing needed services on an economic basis. The Fund Administrator must take the lead in identifying such areas, through consultations with existing operators, and review of relevant cost and demand assumptions.

Population with low relative income. Indicators of the level of poverty in a Province, town, or neighborhood, should be among the most significant factors determining high priority for USF funding.

Population not integrated with a centre of development. Communications projects should emphasise areas with the least opportunity for economic development, based upon existing economic activities. The exception would be projects specifically associated with short-term economic development opportunities (Category 3).

Scarce and dispersed population. Populations in the most rural, dispersed geographic areas should generally receive priority over more urban populations. However, some funding should also support needs in more densely populated areas.

Population with low access to infrastructure and communications. A low degree of existing infrastructure and access to communications should also be a criterion, especially for projects that will directly build new infrastructure. For this purpose, however, "low access to communication" can also include barriers to access due to low education and training, so that training-oriented projects for low income and illiterate urban populations can also receive funding.

Historically disadvantaged groups. Particular emphasis should be placed upon promoting access for women, youth, and those with physical disabilities, as well as indigenous peoples who may have been excluded from past development opportunities for political or cultural reasons.

In establishing its Operating Plans and Project priorities, the Fund's managers must weigh these different factors according to the status of development in different areas, the available funds, and the capabilities of the market to respond to needs in different locations.

3.4 Project definitions and criteria

In designing and evaluating specific project proposals, the Fund must establish specific criteria or options for components of each project. Upon the announcement of each cycle's Operating Plan and Project bid solicitations, the Fund must identify for potential bidders the types of components that it will require (or encourage as optional) for project proposals. Project components can include such elements as service scope, technical features, quality and availability, cost, and training and management plans. Note that in all cases only projects that do not directly duplicate activities already underway in the private sector should

be funded. The following sections provide general definitions of the categories of project criteria that may be considered.

Universal access to essential basic telephone services

To attain universal access, projects should be defined so as to include technical requirements or options that will best help achieve this goal . See Part II for detailed discussion of the factors that should be taken into account in specifying universal access development projects.

Advanced telecommunications and information services

There are likely to be a number of different projects designed to promote greater access to advanced technologies and services. The following categories identify some of the service component options to be considered in evaluating such projects. These options also apply to the subsequent sections, on economic development and public institution support.

Bandwidth and transmission quality: All projects promoting access to data and Internet services require facilities capable of transmitting adequate bandwidth (for example, at least 28.8 Kbps per circuit), and of sufficient noise-free quality to ensure services will be functional and practical to use. Ideally, high speed, dedicated data lines should be provided for those projects that can develop wide use access, such as community telecentres.

Access to computers and other devices: Internet related projects also require access to appropriate computers and similar devices that enable use of all Internet-based features. These should be of sufficient quality and technology to allow use of all current on-line service features, and should also be designed for ease of use by the widest possible population.

Electronic mail service: As part of the progress toward expanding access to advanced services, the Fund will consider supporting development of universal access to e-mail service throughout the country. This implies that any citizen may obtain an e-mail address and account for a minimum charge, and may access e-mail through any available means, especially public telecentres, post offices, and Internet terminals, also to be promoted via the Fund. Universal e-mail would not replace commercial options for this type of service, but instead would be available to those without full service Internet access.

Internet (Web) access: Projects promoting Internet access (primarily access to the World Wide Web and HTTP protocols) should include deployment of access sites within reach of the maximum possible percentage of the population. This can be accomplished through multipurpose community telecentres, public Internet kiosks, schools and libraries (see below), and also expansion of commercial Internet services to a wider population, potentially on a subsidised basis.

Voice Message services: Projects that will promote universal access to voice message services, in addition to traditional outbound public telephone services. Such projects would make available voice mail boxes for any citizen, which can be accessed via public telephones, for nominal payment.

Information content: Projects that include the development of relevant information content, in addition to physical infrastructure and facilities. Such content should be targeted to the needs and interests of the communities to be served, as well as of the country as a whole in terms of its strategic integration in international markets. Examples may include information of an educational, cultural, political, or economic nature, and this information should ideally be available in formats (e.g., interactive, multi-media, Web-based, computer software, and hard-copy forms) that will be most useful to the broadest user groups. Information content platforms that can be adapted to customised local needs would be especially valuable.

Training support: Training of both users and providers of advanced services will be a critical factor in many projects, possibly as important as the technology deployment itself. Access to advanced information services will only be valuable if the public is able to take advantage of those services. Projects involving access to computers, Internet, e-mail, and so forth, must therefore include explicit plans for allocating resources to training classes, with special attention for women, youth and other disadvantaged groups or those with special needs. Training should include use of the technologies and services, as well as support for applications that would benefit the community, such as employment, research, business planning, and health and education uses (see below). In some projects, the training component should be combined with community outreach, to ensure that the public is aware of the available new services, and is encouraged to learn and utilise them. Training oriented projects may be especially important in certain urban locations, where facilities may be more readily available, but the public may be less aware of the opportunities from access to information technologies.

Wireless, cellular, and paging services: Projects that offer to provide wireless and mobile services to areas where they are not available; for this purpose the Fund should also consider subsidising the cost of these services for lower income customers who would benefit from them. Such projects may include experiments with introducing new types of wireless technologies that are targeted toward rural and low income populations. Mobile services may be offered in combination with other projects, such as public telephone networks, telecentres, and universal basic services. Wireless access to Internet and e-mail constitute possible options to be considered for future projects.

Cable TV and broadcasting: Advanced technology and infrastructure projects may consider incorporating broadcasting and cable TV components, either through joint ventures or competitive investments. Where the cost of deploying broadband facilities might be shared across multiple services – e.g., cable TV plus high speed Internet access – these projects may be cost-effective, by offering the widest array of services

for the lowest overall subsidy. Projects of this nature must take into account the value of services to the community, as well as competitive options already available.

Economic development and small business support

Projects designed to support the growth of businesses and economic development in specific areas, as well as long-term economic development throughout a country, should include deployment of both basic and advanced telecommunications technologies and services, according to the criteria outlined above. In addition to these minimum standards, however, these projects should go further to include specialised services of particular value to businesses, particularly small and independent businesses. Economic development projects must also be evaluated according to cost and sustainability criteria, and according to the employment, training, growth, and related benefits for the subject communities.

The criteria to consider for these projects include the following:

Full featured telephone services: Beyond basic telephone service access, business-oriented services should include advanced features, such as the capability to place conference calls, to place calls on hold and transfer calls, possible Caller ID service, and more advanced voice mail and message functions.

Access to advanced business data and network services: The Fund should also consider projects that will deploy advanced data services, and voice and data networking, for those locations where growing businesses would benefit from such capabilities. These services should support integrated networks for larger businesses, options for high speed data transmission, and for linking with international partners via the highest quality network services.

Business-oriented Internet services: Enhancements to Internet services available to businesses should include greater bandwidth options, multiple e-mail and Web access accounts, as well as full support for Web site hosting and design, including advanced interactive features.

Community Telecentre and other local telecom business development projects: Of particular interest in this group of projects should be the idea of establishing new telecommunications-related businesses within local communities, which will both serve the public need (as in the previous two categories), and create employment and income opportunities for the local population. A main example of this concept will be the community telecentre, which can be established as a self-sustaining business (with initial Fund support), and can offer public telephone and Internet services, while growing as a profitable business itself. The Fund will support both broad-scale projects intended to develop various telecentres under one organisation, as well as small, individual projects requiring assistance for a single community. It will also support experimental pilot projects in specific locations, designed to evaluate and promote the benefits of ICTs to community development. Note that training must be a key component of any project in this area, as mentioned in the previous section.

Public service institution information and communications support

The types of criteria that should apply to projects supporting public schools, libraries, health clinics, and government offices are similar to those involved with advanced services generally, as well as business support services. In addition, these projects should focus upon the particular needs of each type of institution, in terms of technology, service, assistance, special capabilities, and particularly information content. Some of the project criteria that should be considered are identified below:

Interactive multimedia services and capabilities: For education and training, as well as health care applications, the most useful advanced services should include video-grade transmission, and full interactive functions, to allow for distance learning, remote diagnosis, and similar activities. Projects that introduce innovative technologies and services in these areas should be integrated with projects providing underlying communications and information infrastructure.

Specialised content development: The value of institutional information services will be highly dependent upon the nature and quality of information content available through such services. As with community telecentre services generally, projects focusing upon educational, health, and government services should also incorporate development of targeted information resources in these subject areas. These can include curriculum for education and training, interactive services and databases, and programs to assist users in understanding the services available to them from the government. The Fund will consider supporting such content development projects, including those that may be coordinated with other projects in these fields to provide more broad-based information resources.

3.5 Proposal evaluation and approval

The Fund administrator must establish the criteria that will be used to evaluate proposals that will be submitted in connection with each Project. Those bidders submitting proposals should be aware of these criteria before preparing them (see below). The Fund administration must then undertake a formal proposal solicitation and evaluation process to approve selected bids and distribute funds.

In the case of Universal Access projects to build basic telephone network facilities, the proposed procedures are described in Part II of this Report, and the primary criterion is a least-subsidy requirement. In the case of Multipurpose Telecentres, the dimensions of an integrated program for developing such centres are described in Part III. The following procedures should apply to the evaluation of projects that do not fit into these categories, including stand-alone telecentre projects, and add-ons to access network rollout projects.

Proposal evaluation process for general Fund-supported Projects (Categories 2, 3, 4)

Stage 1. Pre-qualification.

This stage involves the pre-qualification of bids, based upon minimum standards related to the technical and social objectives of the Fund and the project in question. These minimum standards will be set prior to the invitation for proposals, and can be as stringent as necessary to ensure that projects meet the objectives of the Fund. The purpose of this stage is to eliminate proposals that do not merit further consideration, to allow the Project Manager to examine more viable proposals in further detail.

In some cases, the minimum pre-qualification standards may involve specific requirements that all proposals must meet: for example, the location(s) in which services are to be provided might be specified precisely by the project definition. In other cases, the bidders may be allowed to suggest which locations they are prepared to serve. In the first case, the required locations will serve as minimum standards for pre-qualification, and bidders who are not able to serve those locations will be disqualified. In the second case, the proposed locations may not be a standard for pre-qualification, but could be a factor in later proposal evaluation.

The same can be true of other standards, such as maximum cost (subsidy) and minimum quantity or quality of service. The Project Manager will specify in each instance what minimum standards must be met by each proposal. Proposals when submitted must clearly and simply describe how they meet these minimum pre-qualification standards.

Stage 2. Requests for clarification, expansion, or modification of pre-qualified proposals.

For proposals that have been pre-qualified, this stage will allow the Project Manager to request further information from the potential concessionaires, to clarify the information submitted in the original proposals. This will allow the Fund officials to improve their understanding of the proposals before final evaluations.

In some cases, the manager may also request that bidders expand or modify their proposals in some manner. Such a request must be provided to all potential bidders, and can involve including additional services or locations, new technological or facility options, or expansion of project implementation or management plans. Any potential modifications must be aimed at ensuring that all projects provide the country with the best possible services for the most reasonable cost.

Stage 3. Evaluation of revised proposals and award of concessions.

The Fund Director and designated officials shall review final revised proposals for purposes of awarding Fund-subsidised project grants, based upon the criteria discussed in the following section. This review shall involve in-depth evaluation of pre-qualified proposals according to all relevant criteria. Each proposal shall be ranked within each of the six criteria

categories. Thus, one proposal may be ranked highest on the Quality of Service criteria, while another may be ranked first under the Implementation Plan, and so forth.

The Project Manager must indicate in advance which criteria are most important for any particular project. In some cases, for example, location or quality may be more important than benefits or quantity (although all criteria may still be relevant). After ranking all proposals under each of the criteria categories, the managers must evaluate the results, to determine which proposal may be clearly superior to others according to the most important criteria, and the overall ranking. If two or more proposals are essentially equal based upon this qualitative ranking and evaluation, the concession should will be awarded to the bidder requesting the least subsidy.

Evaluation Criteria

The final evaluation and award of a concession requires examination of the detailed elements of concession proposals according to six possible types of criteria:

1. Location: geographic locations to be served
2. Quality of service: technology and services to be provided
3. Quantity of service: population served by project
4. Community benefits: economic and social impact of project
5. Implementation plan: feasibility and sustainability of proposed plan
6. Cost: amount of subsidy required
7. Bidder qualifications: the bidder's to delivering on its proposals

The Fund Director and Project Manager must establish both the minimum required standards (for pre-qualification), and the relative importance (for final evaluation) of these criteria for each solicitation, and must inform the bidders of these requirements and priorities before bids are submitted. The winning bidder should be the proposal that best meets the criteria that are the most important for that Project, following the approach described above.

The following sections describe in greater detail the types of information to be included in the proposals and considered in the evaluation, under each of the criteria categories.

Location

As discussed in Section 3.3, for some projects the locations where services are to be provided will be defined as part of the main project criteria. This can be true, for example, of projects that require offering service to all villages of a certain size, or to specific geographic regions. In other cases, however, it will be possible for projects to be implemented in several different potential locations, either by national companies or by local bidders from within the communities themselves. In these cases, the exact locations proposed to be served can be a decisive factor in determining the winning proposal(s).

The Project Manager must determine which kind of location criterion to emphasise for each project solicitation, and must inform the bidders of its priorities. Location criteria can be established in terms of any of the categories identified in Section 3.3. In other words, for each solicitation, Fund officials must duly inform bidders as to the priority geographic criteria for each project, e.g.:

(a) rural or low density locations,
(b) economically disadvantaged locations, or
(c) locations with short-term economic growth potential

In part, the choice of location criterion will depend upon the nature of the project; e.g., economic development projects may specifically target areas with the best growth potential, and universal access projects may target the lowest density locations. Some other projects, however, may be provided in any such locations, and the Project Manager must determine in advance which type of area it most seeks to serve from a particular solicitation.

Quality of service

The quality of the services to be offered under a given project can be defined in a variety of different ways. Among these are the nature of the technology to be deployed, the extent of service features and functions, and other qualitative aspects of the project definition. Section 3.4 above identifies numerous types of service quality criteria that can be established for project solicitations according to the type of project. For each project, the Project Manager must identify any specific minimum requirements for quality of service, and may also suggest possible options that bidders can consider proposing in addition to these minimum standards. The project definition will also describe the degree of importance (priority) that it will place upon quality of service factors in evaluating project proposals for the adjudication of the project.

Quantity of service

This criterion measures the scope of the proposed services, in terms of the number of persons, households, businesses, or other targeted users who will gain access to the service if the project is implemented. Evaluation of this factor may involve a strict counting of the quantity of facilities to be installed, or it may require a more in-depth assessment of the realistic availability of services to specific groups. For example, merely installing telephone or information technology equipment in a location may not mean that all residents realistically have access to the services provided by that equipment; the evaluation may need to consider how many people will be trained and encouraged to use the services, under the proposed project plan.

Community benefits

This criterion estimates the value of the proposed services to the communities that they will serve, in terms of both social and economic benefits. It does not imply a strict quantitative measure of such benefits, which will usually be impractical, but rather a qualitative comparison of different project proposals according to their expected community impact. Factors to be considered in evaluating community benefits can include the role that services will play in enhancing the life of the community, in fostering economic growth, job opportunities, education and training, and social welfare. Plans that specifically reach out to the community, to include them in the operation and development of services, should generally be given higher ranking on this criterion. Proposals should also be encouraged to include gender-appropriate plans, to ensure that women as well as men are adequately represented and served.

Also, the tariffs to be charged for services can be a factor here, as lower tariffs imply greater value to users as well as greater use; however, tariffs must also be high enough to support a sustainable business plan, as discussed under the next criterion. Another factor is the installation of residential lines that could meet the potential demand of the area.

Finally, some "community" benefits may in fact be benefits that occur on a more broad, national scale as well. For example, the impact of the project on the overall telecommunications market in the country should be considered, as one important goal of the Fund is to promote development and competition in the market, which should lead to new opportunities and benefits for all communities. Projects that promote or reinforce such competitive opportunities may be considered more beneficial in the long run.

Implementation plan

Project proposals must also be evaluated according to the viability and completeness of their implementation plans, which in many cases may be a vital factor in determining the success or failure of a project. An implementation plan requires both a short-term process for installing facilities and services, and a longer term plan for operating and maintaining (and expanding) the services, to ensure that they will be sustainable after the USF subsidy has been exhausted.

Implementation plans to be included with project proposals should incorporate the following types of information:

- Business Plan: 3-to-5 year budget projections (costs, revenues, other financing), breakeven analysis, market demand analysis;
- Tariff and other pricing proposals, including interconnection agreements with other carriers;
- Management Plan: organisation of project, responsibilities of personnel, identity of key managers;
- Implementation schedule: specific dates and sequence of events, timing of equipment installation, operational start-up dates;
- Publicity and Community Inclusion Programs: plans for inviting participation in the project from affected communities; gender awareness considerations; publicity and outreach to promote use and benefits of services;
- Monitoring and reporting: plans for informing USF managers of progress in implementation, public response to services, lessons learned, identified obstacles and their possible solutions.

Cost

The cost of a project will be defined in terms of the proposed amount subsidy requested from the USF to support its implementation. Additional costs beyond the subsidy should not be directly considered, but should be a factor in the evaluation of community benefits and the implementation plan, as discussed above. For projects that are otherwise considered to be equivalent according to the other evaluation criteria (or which are defined according to specific requirements and constraints, such as Universal Access projects as outlined in Part II), the proposal requesting the smallest amount of USF subsidy should be awarded the concession.

Where it is not possible to compare projects according to exactly equivalent characteristics, the amount of subsidy requested must still be a criterion in the selection process, but must be included with the other factors in the evaluation, to ensure that the winning proposal is that which provides the greatest net social and economic value.

INTERNATIONAL TELECOMMUNICATION UNION
TELECOMMUNICATION DEVELOPMENT BUREAU

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INTERNATIONAL TELECOMMUNICATION UNION (ITU) AND COMMONWEALTH TELECOMMUNICATIONS ORGANISATION (CTO)

MODEL UNIVERSAL SERVICE/ACCESS

POLICIES, REGULATIONS AND PROCEDURES

PART II: MINIMUM SUBSIDY COMPETITIVE AUCTION MECHANISMS FOR FUNDING PUBLIC TELECOMMUNICATIONS ACCESS IN RURAL AREAS AND TARIFF/INTERCONNECTION REGULATION FOR THE PROMOTION OF UNIVERSAL SERVICE/ACCESS

"DRAFT"
26.11.02

Prepared by Edgardo Sepúlveda

Table of Contents

1. Introduction

Part II of the model describes a set of processes and procedures for applying Universal Service Fund (USF) financing to construct and operate new public access telecommunications facilities in rural areas in developing and least developed countries, based on a minimum subsidy competitive auction. While Part II of the model specifically discusses the deployment of public payphones in rural areas, other types of infrastructure, service delivery modalities and services, including, public call offices, franchise public phones, telecentres providing basic and advanced services (including Internet) may also be constructed and operated based on USF financing through minimum subsidy competitive auctions. This document also analyses and provides recommendations regarding applicable consumer tariff and interconnection regimes.

This document seeks to bring together apparent "Best Practices" (or "promising practices") for each of the various processes and procedures based primarily on experiences in a number of Latin American countries including Chile, Colombia and Peru. These countries have enjoyed considerable success in employing minimum subsidy competitive auctions to fund deployment of public payphones and advanced telecommunications in rural areas. This document is based on extensive research into and experience with a range of such processes and procedures in developing and least developed countries around the world. Appendix 1 of this document provides a summary of the applicable processes and results for some of the first developing countries to hold these types of minimum subsidy auctions.

Section 2 describes how an USF Administrator would design, develop and implement a multi-year Programme to finance the construction and operation of public access telecommunications facilities in designated rural areas. The USF Administrator should also define a set of designated mandatory services, which the selected operator will be required to provide as a condition of receiving the subsidy. The subsidy is provided by the USF.

Section 3 describes the processes and procedures of how the USF Administrator solicits bids, selects the operator and provides the applicable subsidy from the USF based on a competitive international bidding process. This process is based on and is initiated by the request for proposal document issued by the USF Administrator. Appendix 2 provides the indicative contents of a sample request for proposal. The request for proposal will include, *inter alia*, a specification of the actual projects that are being auctioned, the maximum subsidy amount available and other required information.

Section 4 analyses and provides recommendations related to consumer tariffs and interconnection charges that are applicable to the provision of the designated mandatory services. This analysis includes a discussion of the economics of rural telecommunications networks and a review of whether the applicable consumer tariffs and interconnection charges should be regulated. Appendix 3 includes a detailed discussion of illustrative benchmark consumer tariffs and interconnection charges, including in a table format.

2. Development of Projects

This section reviews and discusses the principal steps that the USF Administrator will have to undertake to design, develop and implement the actual public access telecommunications projects that will be financed by the USF. This includes the determination of the geographical scope of the projects, the mandatory and optional services to be provided by the projects and the calculation of the maximum subsidy available for each project.

Part I of this model discusses the procedures for determining funding allocations from the USF and identifies four categories of project definition: basic telephone services, advanced telecommunications and information services, economic development and small business support and public service institution information and communication support. The annual or biannual Operating Plan established by the USF Administrator sets out the approximate allocations from the USF to each of the main four categories of projects. Part II covers the first category of projects – the construction and operation of new public access telecommunications facilities in rural areas to provide basic telecommunications services. The remaining categories of projects are addressed in Parts I and III of this model.

The USF Administrator should establish its annual or biannual Operating Plan based on a longer term, multi-year programme for each of the main four categories of projects. The rest of this Section describes the principal steps that the USF Administrator will have to undertake to design, develop and implement its multi-year programme for projects to provide public access to basic telecommunications services in rural areas. For this document we designate this as the Public Access to Basic Telecommunications In Rural Areas Programme or "Programme".

2.1 Programme Design

The design and implementation of the Programme is a complex undertaking that requires considerable planning and analytical capacity. A number of policy, regulatory, social, financial and economic variables have to be taken into account in the design of the Programme. Nevertheless, the USF Administrator has to design a Programme in order to implement its projects in a co-ordinated, effective and efficient manner.

Clearly, the Programme has to be designed taking into account the government's universal service and universal a access policy. Depending on the specificity and the level of detail of that policy, the USF Administrator may have no, some or considerable discretion in the definition of the key "macro-level" parameters of the Programme.

Before the USF Administrator is able to begin to design the Programme, it must first carry out a diagnostic of the current and likely future state of universal service and universal access. This diagnostic must include data gathering, research, estimates and analysis of the following:

- Supply-Side Factors

    - **Actual Network Coverage.** This analysis should be comprehensive and should include all networks and technologies that may be used to provide the mandatory services. This aspect has a number of dimensions. For instance, in terms of fixed or mobile networks, geographic coverage may be quite different than population coverage. All dimensions should be taken into account. The analysis of this aspect, together with data of actual population distributions, will allow the USF Administrator to determine which currently-populated areas or localities currently are not covered by the network.

    - **Actual Access or Subscribership to the Network.** To communicate, people need actual access to the network, rather than merely network coverage. Hence, the USF Administrator has to have data on the subscribership to the fixed or mobile network. For instance, there is very little empirical data regarding the percentage of all wireless subscribers that do not also have fixed access (either at home or at work). This data would be useful to determine the extent to which mobile networks are actually expanding the number of households that have some access, rather than providing

additional access opportunities to households that already have it. The analysis of this aspect, together with population data of actual localities, will allow the USF Administrator to identify which localities currently do not have access to any type of telecommunications service.

- **Future Coverage and Subscribership.** Any Programme has to take into account expected future network coverage and corresponding subscribership. Clearly, if it can be reasonably expected that in the short-term a significant portion of the currently unserved population will receive service the Programme may be scaled down or even deemed unnecessary. Future increases in coverage and subscribership may be due to the normal expected growth of the sector and the different segments (a detailed forecast may therefore be required) or due to rollout and other obligations (these are discussed in detail in sub-Section 2.6.)

- Demand-Side Factors

  - **Affordability assessment.** The most critical demand side factor is affordability. The USF Administrator should research or collect data on individual or household expenditures on telecommunications and other services. Combined with income data (preferably by region and sub-region), this information will allow the USF Administrator have a good idea of the current and expected affordability of telecommunications services by each region. This will allow the USF Administrator to better determine the required geographic/population coverage discussed above. The affordability assessment should also take into account any potential change in consumer tariffs, for instance as a result of a consumer tariff rebalancing plan.

A final critical factor in Programme design that the USF Administrator must take into account is the approximate allocations from the USF that the Programme will receive over its duration in order to design a Programme that can realistically be financed by the USF.

2.2 Key Programme Parameters

Some of the key parameters that the USF Administrator has to define in order to design and implement the Programme are summarized below. One of the aspects of Programme design is that, given limited USF financial resources, there are very significant trade-offs to some of the key parameters discussed below. The USF Administrator will be called upon to make some careful decisions in defining the specific parameters of the Programme, including geographic and population coverage, services coverage and selection and sequencing of localities:

- **Geographic/Population Coverage.** This is one of the most important parameters of the Programme. The geographic parameter has a number of dimensions. Section 3.3 of Part I of the Report provides a general discussion of some of the criteria to be taken into account in defining the geographic component of target locations for all categories of USF projects. The Government's Universal Access/Service Policy may require that "all rural areas have reasonable access to a public telephone". To implement this policy objective, the USF Administrator has to determine what constitutes a "rural area" and other geographical groupings. Most USF Administrators have focussed on the identification of specific rural "localities" (e.g. towns, villages, municipalities, etc.) over a certain population that currently do not have the designated mandatory services. Annex A of the Report includes a detailed numerical example of the determination of target localities for this Programme. The greater the coverage of the Programme, the more costly it will be to finance.

- **Services Coverage.** One of the most important parameters that must be determined by the USF Administrator relates to the types of services to be included in the Programme. A very clear distinction must be made between the services that are required to be provided under the Programme (designated as mandatory services) and those that the selected operator may be allowed to provide (designated as optional services). The discussion in Part II of this model focuses on the provision of basic services via payphones[1]. This specific objective may be elaborated in the universal service policy. Unless, however, the policy is very specific, it will be necessary for the USF Administrator to define the specific mandatory services in a very detailed manner. Most typically, USF Administrators have included voice-grade fixed access to the telecommunications network in order to make and receive local, national long distance (NLD) and international long distance (ILD) calls. Depending on whether, these are part of the general regulatory framework, some USF Administrators also include access to free operator, directory and emergency services. The greater the mandatory services coverage of the Programme, the more costly it will be to finance.

- **Technology Neutrality.** The Programme should be based on the principle of technological neutrality. The focus of the USF Administrator should be to carry out a process that results in the mandatory services being provided by the least cost method. It is the responsibility of the potential operators to develop a technical and business plan that makes economic sense. This will include the specific technology or technologies that will be used to deliver the mandatory services. The USF Administrator should not define or unduly restrict the technology to be used, other than to insist, for instance, that it be "field-proven" and not "experimental". Note that in the countries reviewed in Appendix 1 the mandatory services were defined in such a manner that many different types of technologies could have been used. In fact, satellite, radio, cellular and wireline technologies, sometimes in combination, have been employed successfully to provide mandatory services.

- **Time Duration.** The Programme should have a specific planning horizon in terms of time duration. Most USF Administrators have adopted a planning horizon of between 5 to 6 years. The time period should be long enough to incorporate sufficient projects that will make a significant process in terms of the Government's Policy, but not so long as to make it inoperative, or ineffective due to changing sector conditions.

- **Selection and Sequencing of localities.** Once the USF Administrator has an approximation of the geographic/population and services coverage and the time duration of the Programme, the USF Administrator may start to select and sequence the actual localities that are to receive service. As noted above, the most common approach is to finance projects in specific currently unserved rural "localities" that surpass a certain population threshold. Another approach is to select localities and/or projects based on a net present value ("NPV") analysis calculation. This analytical tool is summarised in sub-Section 2.5. NPV analysis may also be used to select the order (sequencing") of projects to be financed. See also Section 3.3 of Part I of the Report for a general discussion (for all types of projects, including for the ones covered in this document)

1 The inclusion of enhanced or value-added services in the mandatory services does not significantly change the process and procedures discussed in this Report. There are two principal means to incorporate enhanced or value-added services. One approach is to include the provision of enhanced or value-added services in the same project that already includes basic services. The other approach is to have two stand-alone projects, one including only basic access and the other only enhanced or value-added services. Payphones are only one of a number of mechanisms that allow the public to access telecommunications services. Other similar mechanisms include Public Call Offices (PCOs), franchise public phones, etc. The processes and procedures described in this document are general and flexible enough to incorporate payphones and other mechanisms that allow public access. For greater clarity, therefore, when in this document we refer to payphones, we are not necessarily excluding other mechanisms that allow public access.

of some of the criteria to be taken into account in defining the geographic component of target locations. These criteria could also be used for the sequencing of projects.

- **Size of Projects.** This is a critical factor in the success of the Programme. This refers to the number of localities that are aggregated into one stand-alone project that will be subject to the minimum subsidy auction. The optimal size of the project will depend on a number of factors. One will be the administrative costs of the USF Administrator. Regardless of the size of projects the administrative costs of implementing more than one project will be larger than those associated with only one project. This factor suggests that projects should be relatively large (that is, include a large number of localities). Another factor will be the costs borne by potential operators. To participate in any minimum subsidy auction process, potential operators will have to incur significant costs on a per project basis. Most potential international operators would therefore prefer to have larger projects so as to spread out the associated costs. These costs may include due diligence associated with calculation of their subsidy amount, any legal or commercial costs associated with incorporation or registration, the hiring of local legal and other advisers, etc. Most projects to date have generally been relatively large. As discussed in Appendix 1, the projects in Peru and Colombia generally awarded maximum subsidies of above USD10 million and require the installation of between 500 to 1000 public payphones in different localities. The one mitigating variable which may suggest that smaller and more numerous projects may be appropriate is if the Government has a specific preference for a multiplicity of operators implementing the projects.

2.3 Determining the Subsidy

There are generally two approaches to determine the maximum subsidy required. These approaches are complementary, and both should generally be used. The first is to estimate the amount of the maximum subsidy using a financial cost model as discussed below. The second approach is to let the market determine the final amount of the required subsidy, through a competitive bidding process.

It is recommended that the competitive bidding approach should always be used. However, the financial cost model should be used for determining the "benchmark" maximum subsidy amount available for each project. Generally, USF Administrators have announced the maximum subsidy available before the bidding process is concluded. The maximum subsidy is generally announced in the corresponding request for proposal. By announcing the maximum subsidy amount, the USF Administrator knows the maximum subsidy amount it will be required to pay for any respective process. This is useful for budgeting and administration for the USF Administrator. Similarly, the announcement is helpful for potential applicants, allowing them to determine whether there is sufficient subsidy available for them to participate in the competitive bidding process.

A financial cost model can be used to determine the amount of the subsidy for each project. In general, these financial cost models calculate the difference between the capital and operating costs of providing the designated mandatory services in a specific geographical area and the projected revenues from the designated mandatory services. Cost projections may be based on network construction estimates or on national or international benchmark costs for new access lines. Revenue estimates can be developed in different ways. Generally, the maximum subsidy available is calculated as the net present value ("NPV") of the difference between these expenditures and revenues over a determined study period.

Note that the subsidy should only pay for the uneconomic part of any project to be subsidised. For example, it may cost a total of USD 10 million to install and operate one public payphone per

village to 1,000 previously unserved villages over a determined study period. However, the financial cost model may indicate that telecommunications service revenues from those villages can be expected to total USD 2.5 million over the same study period. In this case, the required subsidy from the USF should be no greater than USD 7.5 million, or about US $7,500 per payphone.

2.4 Net expenditures to be financed

One of the most common questions raised with respect to the minimum subsidy auction process is whether it should be used to finance the costs of installing the mandatory services (capital expenditures) only or also incorporate the operation and maintenance of the mandatory services (operating expenses). One of the reasons this question is raised is related to budgeting considerations. In general, absent specific policy reasons or directions to the contrary, it is recommended that an integral approach be implemented, that includes consideration of capital and operating expenditures. We consider this and other related issues (including whether successful licensees have to "justify" their subsidy amount) below:

- **Policy:** Generally, there is no policy reason to include only capital expenditures and exclude operational expenses (or more accurately operational deficits) in a minimum subsidy auction scheme specifically or an universal service obligation (USO) scheme in general. Organization for Economic Cooperation and Development (OECD) countries that have USO schemes do not necessarily exclude operational deficits. The Latin American minimum subsidy schemes upon which this model is based do not explicitly exclude operational deficits. There are strong policy grounds for seeking to ensure that at the end of the relevant project licensing period, the operator is financially viable on a going-forward basis and hence has the incentive to continue to provide the designated mandatory services beyond the designated service period. This objective, however, does not necessarily mean that operational deficits should be excluded from the subsidy.

- **Precedence:** In the Latin American minimum subsidy schemes, the winning bidders do not have to "justify" their subsidy amount. Further, if there were to be a requirement that the applicants justify the winning subsidy amount, such a requirement raises the issue of what the USF Administrator would do if the winning subsidy amount could not be "justified". There are obvious incentive problems with this requirement. It is hoped that the winning subsidy amount will be the result of a competitive bidding process. Once the USF Administrator is satisfied that the process was competitive it would not be desirable to "second-guess" the competitive result. In this respect, for instance, it is interesting to note that the Peruvian USF Administrator stressed this point in its request for proposal when requesting financial statements: "The amount of the requested [subsidy] doesn't have to coincide with the referential costs [presented in forms below]."

- **Practicality:** Even if, from a policy perspective, it was decided that only capital expenditures were to be subsidised, there would be significant practical difficulties in making such an approach operational. If the subsidy is not allowed to incorporate operational deficits, symmetry would suggest that operational surpluses also be excluded. This exclusion of surpluses would foreclose the possibility that the capital expenditure amount could be partially or fully offset by expected operational surpluses, as has been the case in the Latin American countries where the winning bids were generally well below the maximum subsidy allowed, sometimes at zero-subsidy. This would mean that the actual subsidy amount may be higher than necessary. Further, if justification is required, smart applicants may "game" the process in the following manner: calculate the net present value (including estimated capital expenditures

and operational surpluses and/or deficits) to get the required subsidy amount X; backward engineer the capital expenditure and operational numbers so that the capital expenditure amount is the same (or greater) than amount X. This possibility may reduce the credibility of the entire process.

2.5 Selection and Sequencing of Projects

As discussed in sub-Section 2.2 a net present value ("NPV") analysis may also be used to select the order of projects to be financed. This sub-section provides a summary description of how NPV analysis may be used to determine the sequence of projects to be financed.[2]

The Chilean USF Administrator evaluates each of the potential projects to be financed based on general government-approved methods of cost-benefit analysis. For each project, two measures of net present value ("NPV") are calculated: private and social. Projects that have a positive private NPV are excluded from the list, based on the criteria that these projects are capable of being financed solely from project revenues without a government subsidy. The USF Administrator then ranks the remaining projects (those with a negative private NPV) based on the relationship between social and private NPV, among other factors. This formulation aims to maximise the social returns per dollar of private investment. For these "subsidisable" projects, the maximum subsidy is calculated as the absolute value of private NPV.

Private NPV for each project is calculated based on a forecast of costs and revenues attributable to the project and accruing to the operator during the 10 years of the mandatory service period. Costs and revenues are discounted at prevailing interest rates. The remainder of the process may be summarised as follows:

- **Private Costs.** Once the totality of localities that are eligible to receive a public payphone has been identified, the USF Administrator uses an engineering model to help identify feasible network solutions and analyse investment costs of various technology alternatives including cables, terrestrial radio links, and satellite links. As a result of this optimization process, the model helps to group localities into a smaller number of technically-viable projects.

- **Private Benefits.** The total revenue generated by a project is the sum of the revenues generated by each locality, and is estimated as the average per capita income in the locality multiplied by the proportion of income people are willing to spend in telephone calls multiplied by the proportion of the locality's population effectively served by the payphone. The expected number of outgoing calls is the revenue divided by the maximum regulated price per minute and by the expected average call duration. In addition, incoming calls are estimated at 30 percent of outgoing calls.

- **Social Cost-Benefit Analysis.** To calculate the social NPV of each project, the USF Administrator forecasts and discounts the costs and benefits attributable to the project (private costs and benefits only) and accruing to the national economy as a whole (includes public costs and benefits) during the 10 years study period. Social costs and benefits are derived from the private costs and benefits. Projects whose social NPV is less than zero would result in a loss to the economy and would not be financed by the USF Administrator. Projects whose social NPV is equal to or greater than zero would be undertaken. Private costs are adjusted to reflect real long-term scarcities in the economy. This may involve a series of corrections for perceived distortions in the price system. In addition to private revenues, social benefits

[2] This sub-section is based upon research performed by B. Wellenius in 2002 cited in the References.

include an estimate of the increase in consumers' surplus[3] resulting from being able to use the subsidised payphone[4]. As a last step in the selection process, the remaining projects are ranked by social NPV per unit of maximum subsidy (absolute value of private NPV). The projects with the highest social return per dollar of private investment are ranked highest and are placed at the top of the list of projects to be financed.

2.6 Consistency with existing Obligations

Service and/or roll-out obligations imposed prior to the implementation of the Programme have to be taken into account in any Programme design.

There are generally two types of service or rollout obligations. The first is a general obligation to provide service to all customers willing to pay the regulated prices. In some countries, this obligation is described as an "obligation to serve". Geographic or population limits are sometimes prescribed for areas where such an "obligation to serve" is imposed. For example, such areas could include urban areas but not rural areas. Alternatively, such an obligation could stipulate that rural towns above a certain population must be provided with service. In most cases, new services must be installed within a prescribed time after an application for service is received by the operator. The operator with this type of obligation to serve all customers is usually referred to as the "carrier of last resort" ("COLR"). In most cases, the COLR is the incumbent operator[5]. The other type of obligation is to extend certain types of designated services to a pre-specified number of subscribers or localities and are referred to as roll-out obligations.

Below we analyse the following four situations, based on the two main types of obligations discussed above and the time perspective[6] of the obligations:

- **Forward-looking COLR-type obligations.** In the future the COLR may be expected to provide new service to customers in the geographic areas included in the Programme. Whether the Programme has to be adjusted will depend on the specifics of the COLR-type obligation. For example, in Peru the COLR had an obligation to provide telecommunication services for all rural towns with a population of more than 3,000 inhabitants. The Peruvian Programme, however, was designed so that its target population was that of rural towns with more than 400 inhabitants but less than 3,000 inhabitants. Therefore, there was no duplication between forward-looking COLR-type obligations and the Peruvian Programme.

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3 The difference between what consumers actually pay and the higher amount they would have been prepared to pay.

4 This is calculated by estimating the corresponding demand curve, the price and quantity of calls for the project. A higher point on the demand curve is identified, based on estimates of the higher cost of communicating without the project. This assumes that, because potential users would otherwise be forced to travel to other payphones, they incur transportation and time costs in addition to paying the price of the call of the other payphone. Consumers' surplus is calculated based on the difference between the "with" and "without" project demand results based on the data above.

5 Note that, depending on whether prices are cost-oriented or not, the "obligation to serve" certain customers or certain geographical areas may not be economical for the COLR. If prices are not cost-oriented, the COLR is probably incurring losses for some services and/or for some geographical areas and is subsidising such losses from other profitable services and/or areas. The only sustainable and long-term solution to the situation above is some combination of progressive rebalancing of prices towards cost-orientation and/or direct funding from the Government or the USF. Before the rebalancing exercise is finalised, or if only partial rebalancing is undertaken, direct funding from the Government or the USF may also be required. The mechanisms and procedures to implement this type of direct subsidy funding for infrastructure and services that are already in place are outside the scope of this document.

6 Time perspective refers to whether these obligations were to be initiated in the past (and maintained for a certain period) or whether the obligation is to be initiated in the future. An example of the former would be the installation of a public payphone in the past and its maintenance into the future and is referred to as an "existing obligation". An example of the latter would be the installation of a public payphone in the future, referred to as a "forward-looking" obligation.

- **Existing COLR-type obligations.** The principal consistency issue is one of geographic or locality-specific coverage - obviously, the Programme should not include any localities already provided under COLR-type obligations.

- **Forward-looking rollout obligations.** Whether there is a need for co-ordination will depend, as in the case above, on the specifics of the rollout obligations and the localities that could be covered under the Programme. For instance, it is possible that the rollout obligations do not specifically require the operator to provide service in rural areas. That is, the rollout obligation could be met by providing additional lines in urban areas only. Under this scenario, the Programme could be implemented without any need for adjusting the forward-looking rollout obligations. Alternatively, if there exist rural-specific rollout obligations these will have to be carefully reviewed. This is because the Programme could include some localities that would otherwise be included as part of these rollout obligations. As such, the Programme would be freeing the designated rollout operator from some (or all) of its obligations.

- **Existing rollout obligations.** Some analysts have noted that existing services that are the result of the implementation of historic roll-out obligations should not receive any financing because they were assumed as part of a "package". These obligations may have been a component of a privatization or licensing process, and as such their total cost (including the future maintenance) would have been included in the overall calculation of the package. Hence, any direct funding would upset the balance of the original package and may unduly benefit the operator. As such, the Programme would be freeing the designated rollout operator from some (or all) of its obligations.

3. Bidding Process

Most countries have implemented the minimum subsidy auctions through an international competitive process based on a request for proposal[7]. This section examines some of the key elements in the design and implementation of the competitive process, from the point after which the projects have been defined and selected to the actual installation and operation of the designated mandatory services by the selected operator. Some of the important aspects of the competitive process include the design of the bid strategy and the preparation of the bid documents (including the request for proposal and the proposed licence for the operator). Appendix 2 provides a detailed outline of the indicative contents of a sample request for proposal. This outline may be a useful and practical starting point for USF Administrators who wish to prepare a request for proposal for a minimum subsidy auction process. The sample request for proposal summarises some of the issues covered in this section and documents and identifies other key aspects that remain outside the scope of this model[8].

7 There are a number of terms used around the world for such a process, including Call for Application (CFA), Request for Application (RFA), Request for Bids (RFB), etc. We use the term request for proposal .

8 One of the main issues that is outside the scope of this document is licensing. Clearly, in order to promote the government's policy, the USF Administrator should be able to implement or have implemented (by the licensing authority) a liberal and light-handed approach to licensing the operators that will be required to implement the subsidised projects. By licensing we mean the administrative steps followed by the NRA or the ministry (whichever is the licensing authority) to issue the required authorisation to construct and operate the network and provide the mandatory services. By liberal and light-handed we mean, *inter alia*, that there are no exclusivity provisions that do not permit the entry of new operators, including the rural operators that would provide the services under discussion in this document. We also mean that the licensing regime should allow the new rural licensees to provide the mandatory services in the designated geographic areas only – there should be no requirement to establish any other type of infrastructure elsewhere. We also refer to entry and ongoing licence fees – please see sub-section 3.7 for further discussion on this issue. Clearly, the USF Administrator will need to co-ordinate with the licensing authority to ensure that this liberal and light-handed licensing approach is in fact implemented. The licensing regime

3.1 Competitive Bidding

Even the best USF Administrators will generally have less information than telecommunications operators about the real costs and benefits of implementing rural public access telecommunications projects. Therefore competitive bidding approaches should always be used to determine the actual subsidy amount disbursed for each project. Competitive bidding has the advantage of generally reducing the total funding required to meet universal access objectives. As described Appendix 1, the actual winning bid amounts awarded in Latin American programmes were generally well below the maximum subsidy amount calculated by the USF Administrator to be required to provide service. In Chile, over the 1995-1999 period, the average winning subsidy was about 50% of the maximum subsidy offered. Similarly, in Peru, in 1999-2000, the average winning subsidy has been about 25% of the maximum subsidy offered. In the first set of projects auctioned in Colombia in 2000 the average winning subsidy was 45% of the maximum subsidy offered.

3.2 Bidding Strategy and Auction Design

There are a number of objectives to take into account when designing the bidding strategy. Clearly, from the point of view of the Government, one objective is to minimise the actual subsidy amount to be disbursed. This subsidy minimisation objective,[9] however, is subject to the constraint that the designated services are actually provided for the specified time duration at reasonable consumer tariffs and at an acceptable quality-of-service ("QOS"), among other conditions. The USF Administrator has to stipulate a clear, logical and proportionate set of provisions to ensure that such mandatory service constraints are fulfilled.

It is very important to recognise that there is a direct trade-off between the mandatory services constraint and the subsidy minimisation objective. If the service constraint is enlarged or made more onerous, the corresponding subsidy amount required by potential operators will increase and the USF Administrator will have to pay more money to implement its universal access policy.

There are a number of other factors that also have a significant and direct impact on the subsidy minimisation objective. These could include country risks such as security, economic stability and credit worthiness, which are beyond the direct control of the USF Administrator. Other aspects, however, such as transparency are certainly under the influence of the USF Administrator and are discussed below. These aspects should be reviewed and modified if necessary with a view to optimising the trade-off between the subsidy minimisation objective and the mandatory services constraint. Below we discuss some of the aspects that should be considered in this process.

Once the bidding strategy has been decided, the auction process should be determined. To date, all USF Administrators have adopted one round simple auctions. However, multiple-round auctions, such as used in the late 1990s for cellular spectrum, could be used for some minimum subsidy projects. The Peruvian USF Administrator has already implemented a multiple-project bidding approach. Bidders were encouraged to bid simultaneously on more than one project. The objective was to provide the lowest total subsidy for all projects involved. This way USF Administrators can attempt to capture any economies associated with multiple projects. A description of this auction

should not interfere in the implementation of the governments' policy – if it is expected or actually found to do so, the licensing regime should be amended.

9 Note that this objective is the equivalent of the objective of maximising the bid amount for a mobile cellular licence or other such attractive opportunities in the telecommunications sector.

process is included in Module 6 of the Telecommunications Regulation Handbook.[10] Results of this approach are in included in the Peru section of Appendix 1.

3.3 Transparency

Regardless of which particular auction design it selects, the USF Administrator should ensure that the entire competitive process is procedurally transparent. Transparency requires that the process be conducted openly and that the selection of the winning operators be made based on criteria published in advance. Key features of transparent processes include:

- advance publication of the request for proposal, with process rules, qualification and selection criteria;
- separation of qualification and selection processes;
- return of unopened financial offers (bids) to applicants who do not meet the published qualification criteria; and
- public opening of sealed financial offers from qualified applicants.

Transparency is best measured from the point of view of the participants in the competitive process. It is good practice for a USF Administrator to take all reasonable steps to ensure that participants in the competitive processes, as well as the general public, perceive the process to be fair.

Conducting a transparent competitive process is sometimes perceived to be more time consuming and difficult than less transparent alternatives. The process, for instance, of publishing procedural rules and selection criteria in advance can be difficult for a newly formed USF Administrator in a country where procedural transparency is not entrenched. However, the absence of transparency undermines confidence in the fairness of the entire competitive process, the regulatory framework and in the telecommunications market itself.

It is good practice to engage in public consultation before and during a competitive minimum subsidy process. To start, it may be useful for an USF Administrator to invite public comment on the approach to be taken in a proposed competitive process before it starts. Consultation allows the USF Administrator to receive directly the views of consumers and prospective applicants on a proposed competitive process initiative. This allows the terms and conditions and auction procedures to be fine-tuned to maximise the prospects for a successful competitive process.

Consultation can be formal or informal. It is generally advisable, however, for the USF Administrator to establish a formal and transparent consultation process. A good approach is for the USF Administrator to publish a notice stating its intention to launch a competitive process to implement the process, and invite comments on the proposed approach. The notice should set forth in some detail the proposed approach and any specific issues on which comments are sought.

3.4 Distinguishing the Process from Procurement

To the greatest extent possible, the process to select the successful operator should be distinguished from general government procurement processes. Depending on the specific national

[10] The Telecommunications Regulation Handbook may be downloaded from the TREG website at (http://web/ITU-D/treg/related-links/links-docs/Genregulation.html)

legislation, because the USF Administrator is in essence "acquiring" a certain flow of services using public money (the USF), the entire process may be subject to standard procurement processes. Hence, as we discuss below, the mandatory services constraint should be the subject of strict application and enforcement. This does not mean, however, that the entire process, including the competitive selection, has to be subject to government procurement. That is, the mandatory services constraint procurement aspect should be isolated from the rest of the process.

This is of concern because government procurement procedures are generally not suitable for a competitive selection process. Many countries have bureaucratic centralised procurement administrations. Detailed government procurement procedures are often developed for good reason – among them to avoid corruption. However, application of these procedures can cause legal and administrative headaches, and delay and confusion. It is generally best to use a simple and transparent competitive process, based on internationally accepted telecommunications licensing procedures.[11]

3.5 Marketing the Bid Opportunity

The minimum subsidy process may involve significant risk for operators. The USF Administrator must offer potential operators an attractive opportunity that is financially viable. While some telecommunications opportunities sell themselves others, particularly for some rural areas in certain developing countries, must be carefully designed and marketed. Some USF Administrators have retained international advisors to help market the opportunity internationally. Potential operators have to be aware of the bid opportunity if they are to show interest in it. There are a number of steps in promoting awareness and generally marketing the bid opportunity, including:

- **Paid Advertisement** – There are a number of international and regional general business-oriented and telecommunications sector publications that are read by decision-makers in potential applicants. There are also specific tender or other procurement publications that could be of interest. The USF Administrator should consider purchasing an advertisement in one or more of both types of publications.

- **Press Release** –Another means of publicising the bid opportunity is through a press release. These could be sent by the USF Administrator to international or regional trade newspapers and newsletters most likely to be read by decision-makers of potential applicants.

- **Direct Contacts** –Direct contact with the potential applicants that are most likely to be interested in the bid opportunity may also be appropriate. This is also potentially a good means of gathering important market information or other feedback. For example, it may be particularly advantageous to contact operators that are currently rural service providers in the corresponding region or around the world, as well as large foreign operators known for their interest in developing countries.

- **USF Administrator's Website** – This is a practical and cost-effective means to inform potential investors and operators of the minimum subsidy opportunity.

3.6 Attractiveness of Bid Opportunity

There are a number of important legal regulatory and licensing costs that could impact on the financial attractiveness of the bid opportunity. Similarly, there are a number of related revenue

11 For a review of licensing procedures, see Module 2 of the Telecommunications Regulation Handbook.

sources that could impact positively on the financial attractiveness of the opportunity. These are discussed below.

To attract quality foreign and domestic applicants to the minimum subsidy process, there must be clear revenue potential opportunities beyond the designated mandatory services. Clearly, some of these revenue opportunities have to be reviewed to ensure they are not inconsistent with current sector policy.

These revenue possibilities may be considered as optional services. The selected operator would have the right but no obligation to provide such services. These optional services could include some or all of the following:

- enhanced or value-added services inside the designated geographic areas, including Internet, mobile cellular, and other services, either for individual or public access.
- basic services to individual residential and commercial customers.
- national long distance (NLD) services between the designated geographic area and the rest of the country.
- international long distance (ILD) services, including international gateway rights, in the designated geographic area.

3.7 Regulatory, Licence and other fees

Any type of fee to be paid by potential operators, whether to participate in the bid process, acquire the necessary licence to provide the designated mandatory services or must otherwise be paid as a result of providing the mandatory or optional services, will have a direct impact on the attractiveness of the bid opportunity. Any such fees will also have a negative impact on the subsidy minimisation objective and therefore will result in a higher than otherwise subsidy amount being requested by potential applicants.

The USF Administrator should endeavour to eliminate or reduce any applicable fees to the minimum required for "cost-recovery". Cost-recovery schemes involve establishing applicable fees based on the projected or actual costs of providing the relevant services by the corresponding public institution, whether it be the NRA, the USF Administrator or other governmental entities. There should be no or minimal cost-recovery fees associated with the licence acquisition or ongoing operation of the designated mandatory services. Similarly, any applicable spectrum fees should be calculated based on a cost-recovery principle. All operators may generally be required to pay a universal service fee. This type of fee may be considered inappropriate for the operator selected to provide the mandatory services, whose very purpose is to implement the government's rural universal access objectives.

Lastly, the request for proposal and the other bid documents should also make clear that there will be no additional payments of any kind payable by the operator, other than those specified in the bid documents.

3.8 Services Constraint

There are a number of key aspects that have to be considered to ensure that the selected operator fulfils the mandatory service constraints. This sub-section discusses the qualification and selection

of the potential operator and provisions to ensure that the operator installs and provides the designated mandatory services at an acceptable quality over the designated period.

3.8.1 Qualification Criteria

This model recommends designing a two-stage procedure for the selection of the successful operator. It is important, therefore, to distinguish between the criteria relating to the qualification of an applicant to participate in the bid process and the criteria for the selection of a successful operator from among the qualified applicants. The criteria for the selection of operators to provide public access to basic telecommunication services will be the lowest subsidy proposed among the qualified applicants. As discussed in Part I of this model, other criteria may be applied for selecting operators to provide projects for advanced services or for economic and public development.

Qualification criteria are minimum requirements for the right to participate in the selection process. Generally, qualification criteria are limited to ensuring applicants have the financial and technical resources and experience needed successfully to provide the mandatory services. It is important to establish clear, rigorous and proportionate qualification criteria, especially when the selection criteria are based solely on the minimum subsidy offered.

Depending on the scope of the designated mandatory services and the amount of the subsidy available, it may be appropriate to incorporate more than one qualification phase. For instance, in issuing a large bid opportunity, a pre-qualification requirement may be established. This requirement limits the eligibility of applicants who can participate in the final qualification process. It is justified, for instance, where there are high costs incurred by the USF Administrator (and applicants) in conducting a detailed qualification process. In these circumstances it may make sense to discourage participation in the process by applicants who are unlikely to meet the qualification criteria or to submit a competitive application. Various pre-qualification options exist, including payment of a substantial bid opportunity participation fee, in the form of a bid document purchase fee or other similar practices. Another requirement that could be considered in this context is a bid security.

The main qualification criteria used in minimum subsidy processes include:

- Legal status of applicant
- National participation
- Operational experience
- Financial capability

3.8.2 Legal Status of Applicant/Licensee

Some countries require that applicants register as a commercial entity in their country to participate in any governmental bid opportunity. Other countries require such registration only once the entity has been successfully selected. With a view to maintaining the qualification criteria proportionate, such *a priori* registration should not be required unless specifically stipulated in the relevant legislation.

Some processes require that the applicants be organized as a particular legal entity, such as a joint venture or a legal consortium. Again, these types of requirements usually respond to specific

national legislative provisions. Generally, there is merit to maintaining a relatively flexible approach and to not unduly restricting *a priori* the specific legal status of the applicant. One option, which allows a certain degree of flexibility, is to distinguish in the request for proposal between an applicant and a proposed operator (the "licensee"). Hence, the applicant is not required to be the same legal person that becomes the licensee. Under this approach, it is important to distinguish between requirements and other obligations that relate to the proposed licensee, rather than to the applicant. In many cases, it is more logical to seek compliance from the proposed licensee rather than the applicant since it is the proposed licensee that will ultimately provide the designated mandatory services.

3.8.3 National Participation

Regardless of any foreign ownership restrictions, the government may wish to ensure a transfer of knowledge and other skills to national operators or other entities. One means of achieving this goal is to require some minimum level of local participation in the licensee.

3.8.4 Operational Experience

To ensure that the mandatory services are appropriately installed and operated the qualification criteria could include the requirement to show evidence of significant prior operational experience in operating similar types of networks elsewhere in the world. This criteria may be satisfied by showing that either of the following have been met:

- Operated a public telecommunications network with over a certain number of subscribers.

- Operated a public telecommunications network with over a certain number of public telephone access lines in rural areas.

The exact operational thresholds will depend on the size of the respective projects being auctioned. Large projects (e.g., of over one thousand public payphones) will require significantly larger thresholds. One option to consider is that the applicant may either rely on its own operational experience or the experience of a member of the applicant's consortium or an affiliate. An affiliate is just as likely to be able to provide technical support to the Licensee as the other shareholders of the Licensee. It is becoming the norm amongst major operators in the world to have a separate international consulting affiliate.

3.8.5 Financing Capacity

The proposed licensee should have sufficient financing capacity to undertake the subsidised project and provide the mandatory services. The required financial capacity must take into account the estimated maximum and requested subsidy amount. There are traditionally two means by which to show financing capacity. One is to have a substantial net worth. This would provide evidence that the applicant has the independent means to finance the subsidised project. The other means is through the submission of certain financial documents that show that the applicant would be able to otherwise raise the required financing.

One or both of these means may be used jointly. A combination of these two means may also be used. Such an approach may provide greater flexibility. This approach is based on two or more thresholds for the demonstration of financial capacity. As an example -- but depending on the scope of the project (say with an estimated maximum subsidy amount of USD 10 million) -- where a proposed licensee has a net worth of at least USD 10 million, the request for proposal

presumes that the financing capacity of the proposed licensee is established. Second, if the proposed licensee has a net worth that is greater than USD 5 million but less than USD 10 million, the request for proposal requires further proof concerning the financing capacity of the proposed licensee. This further proof could be provided by the submission of the financial documents discussed above. Lastly, proposed licensees with a net worth of less than USD 5 million may not permitted to apply for the licence.

3.8 Bid, Performance and other Guarantees

In this sub-section we consider the two most common forms of guarantees used in minimum subsidy processes: bid and performance guarantees. The latter has to be considered together with the disbursement schedule. Both types of guarantee are costly financial instruments for licensees. The higher the requested amounts and the more onerous the conditions imposed, the more likely it is that applicants will require higher subsidy amounts to compensate for these costs. This direct relationship between costs and conditions and the subsidy minimisation objective should always be kept in mind.

3.9.1 Bid Security

The bid guarantee is designed to penalise a successful applicant from withdrawing from the process before the licence is issued. The amount of the bid guarantee has traditionally varied between 5% to 10% of the corresponding subsidy amount up to a maximum of about USD 5 million. A lower bid guarantee will increase the pool of interested applicants but provide less security for the USF Administrator.

3.9.2 Disbursement Schedule and Performance Guarantee

The performance guarantee is designed to reduce the risk of the operator installing none, some or all of the network and then withdrawing from the project before the designated licence period. Under this scenario the operator could have collected some or all of the subsidy amount for the subsidised project without fulfilling its obligations, which is not acceptable. The type and size of the performance guarantee will depend on the proposed disbursement schedule. There are several main aspects of such schedules: whether the payments are front-end loaded or back-end loaded, whether there one or more disbursements will be paid, and the selection of milestones for disbursements. .

Front-end loading the disbursement schedule will reduce or eliminate the financing costs of the successful operator. This is because the selected operator can use the subsidy funds to pay for the purchase and installation of the required equipment. Such an approach, however, increases the risk of the operator collecting and keeping the funds without installing the network. Front-end loading requires a higher performance guarantee than back-end loaded disbursements. It is not unusual to have a performance guarantee equal to 100% of the winning subsidy amount. Such a guarantee can be reduced as the network is installed and services provided, and eventually eliminated at the end of the licence period.

Using only one disbursement rather than two or more is administratively simpler. For instance, the Chile USF Administrator pays 100% of the winning subsidy amount upon confirmation of operation of the mandatory services. The disadvantage with a single disbursement, however, is that it usually is back-end loaded (as in Chile), which means that the financing costs of the selected operator can be very significant. The operator must finance the associated purchase and installation costs, without receiving any subsidy funds. Only upon installation will the USF Administrator disburse 100% of the requested subsidy amount. The need for a performance

guarantee is less urgent under this scenario. A relatively modest guarantee (less than 25% of the subsidy amount) may be desirable upon disbursement to ensure the operator provides service for the entire designated period.

Alternatively, the USF Administrator could pay multiple disbursements with associated milestones. The disbursements could be tied to the rollout requirements specified in the request for proposal. If the government wishes to have operational 50% of the public payphones to be deployed through the project in 9 months and the remaining 50% within the next 18 months, the disbursement schedule could be designed to mirror such a rollout schedule. That is, 50% of the subsidy to be paid upon completion of the first milestone and the remainder paid upon completion of the second. The required performance guarantee could also be tied to the disbursement schedule, rising from 50% to 100% of the subsidy amount until all the payphones are installed, and subsequently decreasing to zero at the end of the designated licence period.

The disbursement schedule could also be back-end weighted to ensure quality of service (QoS) and other government objectives. For instance, Peru's USF Administrator has used the following disbursement schedule:

- 40% for first tranche on first milestone (50% installation after 9 months)
- 40% for second tranche on second milestone (100% installation after 18 months)
- balance 20% in two annual payments of 10% each at the end of each 12 month period following the 18 month installation period.

A related issue that should be considered with the disbursement schedule and the performance guarantee is the ownership of the assets. It could be justified, for instance, that prior to the completion of the designated mandatory period, the assets associated with the provision of the mandatory services belong to the USF. Hence, in the worst case scenario, if the licensee were to abandon the project the USF would be able to draw upon the performance guarantee and, with the existing assets, be better able to guarantee the continuation of service. If this approach is adopted, it should be included in the request for proposal.

4. Consumer Tariffs and Interconnection Charges

The tariff and interconnection regimes applied to the selected operator are probably the most important regulatory determinants of the success and viability of the entire minimum subsidy process. These two sets of revenue determinants must, in combination with the requested subsidy, ensure that the licensee is financially viable.

This section discusses issues related to these critical regulatory aspects, including a discussion of the economics of rural networks which focuses on the higher costs of providing rural telecommunications services in rural areas. The following sub-sections include a discussion of whether the applicable consumer tariffs should be regulated and the structure of those consumer tariffs if they are to be regulated. It also discusses the interconnection charges applicable to the licensee and the other operators the licensee interconnects with. Appendix 3 develops the illustrative benchmark consumer tariffs that are introduced in this section and provides greater detail with respect to interconnection charges. Appendix 3 also provides a summary table with illustrative consumer tariffs and interconnection charges.

4.1 Key Issues

The issues presented in this section are to be considered in the context of existing laws and regulations dealing with consumer tariffs and interconnection charges. Some countries have highly-developed regimes and methodologies to deal with the calculation of consumer tariffs and interconnection charges, including good information on the incumbent operator's costs and a model of a licensee's costs. Most countries do not. Based on the assumption that the country's framework does not yet have such a detailed framework, it is important that the request for proposal:

- provides certainty regarding the consumer tariffs the licensee can charge;
- ensures that the licensee's consumer tariffs are sufficient to make the licensee financially-viable;
- provides certainty regarding the interconnection charges received and paid by the licensee;
- ensure that the interconnection charges received and paid by the licensee are sufficient to make the licensee financially-viable.

In order to develop a business plan and to calculate the subsidy amount to be requested, potential operators must forecast their revenues. Potential operators must know (or at least be able to reasonably estimate) the consumer tariffs they can charge and the interconnection charges they will receive from and be required to pay to other operators. Otherwise, potential operators face too much uncertainty about their future revenues. Such uncertainty will lead potential operators to conclude that the project is risky and that they therefore require a higher subsidy amount.

There are two approaches to providing certainty. One is to prescribe consumer tariffs and interconnection charges in advance, which is recommended and developed in the remainder of this section and in Appendix 3. The other is to stipulate that consumer tariffs will be unregulated (that is, the licensee would be free to set any consumer tariff). In the latter case, the potential operator will plan, and, if successful in the auction, charge consumer tariffs based on its own demand and cost calculations. The advantages and disadvantages of this approach are discussed in the sub-section below.

A third approach is far more inferior and risky. That is to stipulate that consumer tariffs and interconnection charges will be regulated, but not to provide specific rates. This either will lead to confrontations once the USF Administrator and the licensee finally determine what these prices should be, or, in a worst-case scenario, the licensee will abandon the project.

In the absence of detailed cost information, the request for proposal should therefore specify consumer tariffs and interconnection charges based on a combination of data, including cost-based international benchmarks. Such data could include: 1) appropriate comparable consumer tariffs in the country; 2) the consumer tariffs and interconnection charges of operators actually selected to carry out such projects (for instance, in South America[12]); 3) consumer tariffs and interconnection charges from other countries in the region; 4) any existing consumer tariff and interconnection changes, regulations, guidelines or other information from the country. This approach is developed in Appendix 3.

12 To date, the minimum subsidy auction process and procedures described in this document have been implemented only in a number of countries in South America and the Caribbean. The countries covered in Appendix 1, Chile, Peru and Colombia, were the first three countries in this region to implement the minimum subsidy auctions.

This model further recommends that the specified tariffs be maximum tariffs. That is, the licensee would be free to set the actual consumer tariffs at a lower level.

4.1.1 Regulation of Consumer Tariffs and Interconnection Charges

As stated above, one approach to consumer tariffs for public payphone operators licensed through a universal service project is to stipulate that consumer tariffs will be unregulated, leaving applicants free to set consumer tariffs at any level. There are two main disadvantages to this unregulated approach. One is that tariff regimes are typically applied to liberalized markets where effective competition may be expected to constrain any excessive pricing. For such public payphone universal service projects, however, the licensee can be expected to hold a de facto monopoly. Given the absence of regulatory constraints and the existence of significant barriers to entry, the licensee is likely to behave like any profit-maximising monopolist by charging excessive monopoly pricing and causing a reduction in consumer welfare.

The other disadvantage is that potential operators will calculate their requested subsidy amount based on a consumer tariff that may not be acceptable to the USF Administrator. It is entirely possible that the applicant that requests the lowest subsidy amount, and hence is declared the winning applicant, plans to charge the highest consumer tariffs. As noted above, this may lead to future confrontations as the USF Administrator reviews the consumer tariff proposed by the selected operator. If that consumer tariff is deemed to be too high by the USF Administrator, this could also lead to abandonment of the project.

For the same reasons (certainty and possible abuse of monopoly), this model generally recommends that the interconnection charges that are payable to and by the licensee be regulated. For a general discussion on the rationale for regulating consumer tariffs and interconnection charges, see Modules 4 and 3 of the Telecommunications Regulation Handbook, respectively.

4.2 Economics of Rural Universality

There are two main reasons for the relatively low rural access levels in many developing and least developed countries. The first is that because rural incomes tend to be lower than urban incomes the total amount of (community) income devoted to telecommunications is lower[13]. The second factor is that rural networks are more expensive to install and maintain than urban networks. We discuss this factor below.

The costs of providing telecommunications services in rural areas is generally much higher than in urban areas. Why? One reason relates to he cost characteristics of telecommunications networks, particularly those servicing rural areas. The other is the general lack of associated infrastructure required for the installation and maintenance of rural telecommunications networks.

13 See Module 6 of the Telecommunications Regulation Handbook and the report by Navas-Sabater cited in the References below for a discussion on telecommunications expenditures between and within countries. The principal argument forwarded in these papers is that the most important determinant of telecommunications development is economic development. That is, there is a strong relationship between the national telephone penetration rate, and the nation's per capita gross domestic product. However, although national per capita income levels impose a constraint on telecommunications development, there are significant differences in the percentage of income that is spent on telecommunications in different countries. For example, in some countries with a relatively low GDP per capita, less than 1% of GDP is spent on telecommunications. In other countries with similar GDP per capita, as much as 4 or 5% of GDP is spent on telecommunications. On average, however, around the world, people spend about 2 to 3% of their incomes on telecommunications. This relation, developed in subsequent sub-sections, generally holds true for whole countries, regions, cities, and on average to households.

4.2.1 Telecommunications Network Costs

This sub-section concentrates on fixed wireline technology. This is mostly due to the greater public availability of data on this traditional type of technology. The general principle developed here, that the per-line/access costs of provision are very significantly higher in rural areas than in urban areas, also holds for wireless technology. Note that this general principle is different from the discussion, summarized in sub section 4.2.3, of what type of technology may be most economical for any specific area and application.

Telecommunications and other industries that require networks (e.g. electricity, railways, airlines, sanitation, etc.) generally have cost characteristics that are different from most other industries. In particular, telecommunications networks may exhibit economies of scale and/or economies of scope. Economies of scale exist when the average total cost of the firm decreases with the volume of production. Economies of scale can arise from a number of technological and managerial factors, including fixed costs (i.e. costs that are incurred regardless of how many units of output are produced). When more than one good is being produced, there are sometimes shared equipment or common facilities that make producing them together less expensive than producing them separately. Economies of scope exist if a given quantity of each of two or more goods can be produced by one firm at a lower total cost than if each good were produced separately by different firms.

One particular type of economies of scale in telecommunications networks is economies of density. This phenomenon refers to the decreasing unit cost of providing telephone access within a specific geographic area as the number of access lines increase. The table below shows, for instance, the relative indicative unit cost of providing access lines by certain density zones. The density zone represents the number of access lines per square mile. While these numbers are indicative of the relative costs of local access provision in the seven jurisdictions studied, none of the specific numbers are generally applicable outside the sample. The importance of the table is that it shows that low-density rural lines are very many more times more expensive to construct and operate in comparison to an urban line[14]. This general proposition holds for all countries and regions.

14 According to Cribbett (2000), "average line costs in low-density areas in Australia … were found to be between 6 to 10 times the average cost per line in the rest of Australia". Not surprisingly, the same study concluded that "low density areas are estimated to account for some 25% of the total cost of providing local telephone service, despite having only about 5% of the total number of lines."

Table 1: Indicative relative line costs by line density zones[15]

Lines per square mile	Lines per square kilometre	Model 1 Results Monthly Cost (USD)	Model 2 Results Monthly Cost (USD)
0 to 0.39	0 to 0.1	372.99	300.29
0.39 to 5	0.1 to 1.93	158.90	127.93
5 to 100	1.93 to 38.58	63.41	40.61
100 to 200	38.58 to 77.16	39.30	22.37
200 to 650	77.17 to 250.76	33.23	17.44
650 to 850	250.76 to 327.92	31.50	14.44
850 to 2550	327.92 to 983.76	28.56	12.01
2550 to 5000	983.76 to 1928.94	26.91	10.03
5000 to 10000	1928.94 to 3857.88	23.80	9.15
10000 and above	3857.88 and above	20.66	6.37

Source: P. Cribbett Population Distribution and Telecommunication Costs, 2000.

The main reason that a rural fixed-line is more expensive than an urban fixed-line is related to the extent of support structure sharing with other loops and the average length of the loop. The term support structures refers to all works and facilities that support the actual cable that terminates at the subscriber premises and includes posts, trenches, ducts and other such elements depending on whether the loop is aerial, underground or buried. Clearly, the per local loop cost of the support structure will be much lower if the support structure may be shared with other loops. Given that loop density is much higher in urban areas, there is more opportunity for support structure sharing in urban areas. Hence, the average amount of support structure per urban loop is lower than a rural loop and therefore the average cost of the latter will be higher.

The other reason that rural loops are more expensive than urban loops is that rural loops tend to be longer than urban loops. This means that they need more associated support structures. Also, the actual cabling for the loop is longer. For both these reasons, the per-loop cost tends to be higher in rural areas.

4.2.2 Associated Infrastructure

The other reason rural service is more expensive than urban service is that the quality and quantity of the associated infrastructure required for the installation and maintenance of the telecommunications network is lower in rural areas. Rural transportation networks in developing countries, including roads, tend to be relatively few and not well maintained. Many rural communities may not be accessible by road for part or all of the year, increasing the cost of

15 This study developed density cost proxy estimates based on adapted results from a number of economic cost models. These cost estimates were then used to explain whether observed differences in the average costs structure could be explained by differences in the actual population across the densities. That study was used to analyse average line costs in Australia, New Zealand, Finland and the US States of Alaska, California, Oregon and Washington. The cost models that were adopted are the Benchmark Cost Proxy Model ("BCPM") (Model 1 in the table) and the Hatfield Model (HAI) (Model 2 in the table), models, both developed in the United States. A similar set of relative values were also calculated by the FCC using its Hybrid Cost Proxy Model (HCPM) as part of the regulatory proceedings to establish its universal service regime. As discussed in FCC (1999), the BCPM, HAI and HCPM are bottom-up proxy models that calculate the forward-looking long run incremental costs of providing the designated services. The monthly cost is calculated based on a total annualised costing methodology.

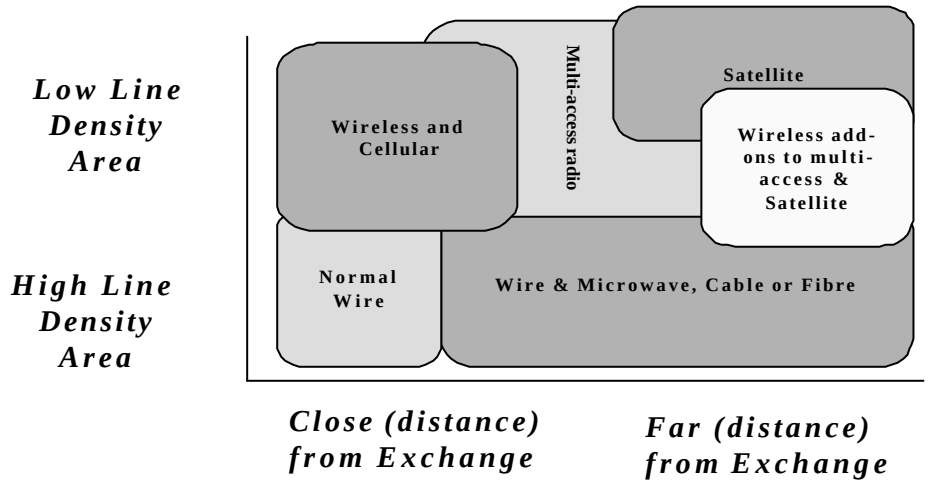
installing and maintaining telecommunications networks in those rural areas. Another critical infrastructure is electricity. Telecommunications networks require a reliable source of energy to function. Not all developing countries enjoy nation-wide electricity networks. The cost of a network is higher where operators must provide their own energy supply rather than relying on the national electricity network.

4.2.3 Other Technologies

Sub-section 4.2.1 discusses the difference between the intra-technology urban/rural relative costs versus the inter-technology relative costs. For instance, it may be the case, that especially for lower density areas, wireless technology may be relatively more economical to construct and operate than wireline technology.

Figure 1, adapted from the report by Navas-Sabater cited in the References below, shows, in a qualitative and graphical manner, some typical market niches (based on cost and other factors) for various technologies by line density and by distance from the exchange. Figure 1 is not necessarily drawn to scale, and the boundaries for each technology may not be as clear-cut as shown. Hence, even though there may be some lower-cost options to wireline technology in low-density zones, these cannot be considered as low-cost options in an absolute sense. Therefore, the general proposition holds that the provision of access to rural low-density areas, regardless of the technology used, is very significantly more costly than equivalent access in urban areas.

Figure 1: Typical Market Niches for Various Technologies



4.2.4 Costs Conclusion

Traditional consumer tariff policy has focussed almost exclusively on income as the main variable when determining tariffs. Under this approach, rural consumer tariffs are regulated to be below or at the same level as urban consumer tariffs. As argued in this sub-section, however, rural costs are very much higher. Based on these relative costs, this traditional approach makes no economic sense. The unintended result of this approach is that operators have simply chosen to under-provide or worse, to not provide, rural telecommunications services because to provide such services means incurring significant losses. This model therefore recommends that the operator selected to provide public payphones in rural areas be authorized to charge cost-oriented consumer

tariffs and cost-oriented interconnection charges. This makes economic sense and is the only logical approach given that the operator will generally not be able to cross subsidise its rural access services from other profitable services. This approach necessarily supports asymmetric pricing in rural and urban areas – that is, consumer tariffs and interconnection charges should be higher in rural areas than in urban areas.

4.3 Consumer Tariffs and Interconnection Charges

Consumer tariffs and interconnection charges are the principal revenue determinants for the licensee. As such, these two sets of revenue determinants must, in combination with the requested subsidy amount, ensure that the licensee is financially viable. This includes a reasonable return on any investment. Any reduction in the expected revenue stream provided by consumer tariffs and interconnection charges will result in the applicants requesting a correspondingly higher subsidy amount, and vice versa.

There are two important policy issues associated with the level and structure of consumer tariffs and interconnection charges. One relates to the actual level of these revenue determinants: consumer tariffs and interconnection charges must be set so that at the end of the relevant licensing period the licensee is financially viable on a going-forward basis and hence has the incentive to continue to provide the designated mandatory services. This is the floor level of consumer tariffs and interconnection charges. On the other hand, consumer tariffs and interconnection charges cannot be so high that the designated mandatory services are unaffordable to a significant majority of the population that is to receive those services. This is the ceiling level of consumer tariffs and interconnection charges Between these two acceptable perimeters, any difference in the level of consumer tariffs and interconnection charges will be reflected directly in differences in the amount of subsidy requested by potential operators.

The other policy issue relates to the relative structure of consumer tariffs and interconnection charges. Assuming that consumer tariffs and interconnection charges calculated based on total costs (of installing and operating the network) would be greater than the ceiling noted above, either consumer tariffs and/or interconnection charges have to be set below corresponding costs. This is a key policy decision for the USF Administrator. Further, consumer tariffs and interconnection charges have to be set in a logical and consistent manner so as to minimise any inefficient calling patterns based on arbitrage opportunities.

4.4 Structure of Consumer Tariffs

It is necessary, before discussing the actual level of consumer tariffs, however, to define the corresponding charging structure for the licensee. The licensee will likely be able to offer local and long distance services within the designated (or target) geographic area that incorporates the corresponding public payphones (the "region")[16]. The licensee should also be able to originate and terminate national long distance ("NLD") and international long distance ("ILD") calls in the region. At least initially, the licensee is not likely to be allowed to provide NLD and ILD services between two points outside of the region, rather only terminate such services within the region. In

16 The "Region" refers to the geographic area that incorporates the corresponding public payphones and within which the licensee will likely be able to offer local and long distance services. Preliminary work suggests that both consumer tariffs and interconnection charges may be very significant revenue determinants. A discussion paper prepared by B Wellenius in 2002, cited below, notes that the study of the traffic patterns in Chile suggest that slightly more than 50% of the licensee's calls are intra-region. The remaining calls, slightly less than 50%, are inter-region calls. A report prepared by A. Dymond for the World Bank in 2002 notes that that incoming calls to public payphones represent a very large percentage of total traffic.

essence, this means that the licensee has to be interconnected with the incumbent to terminate and originate ILD and NLD calls from outside of the region.

Clearly, the principal consumer tariff for the licensee will be the intra-region tariff. One approach is to set one unified consumer tariff for all intra-region calls. Another approach is to differentiate between local and intra-region NLD calls. Both approaches have advantages and disadvantages and the particular approach selected will depend on existing consumer tariff regulations or guidelines (if any exist), the kind of technology likely to be used by the licensee, and the size and shape of the region. For instance, if the region is relatively small and the licensee is likely to use satellite technology (which tends to make calling costs relatively more distance invariant), it is probably more appropriate to have a single consumer tariff for all intra-region calls.

Alternatively, if existing consumer tariff regulations or guidelines specifically stipulate that the licensee must differentiate between local and NLD calls, if the region is relatively large (say with a diameter of more than 500 km), or if the licensee is likely to use wireline technology (which tends to make calling costs relatively less distance invariant), it is probably more appropriate to differentiate between local and intra-region NLD calls. Under this scenario the criteria would have to be established for the definition of a local calling area. Distance charging bands for intra-region NLD calls would have to be established as well. For illustrative purposes this model uses an example of a consumer tariff structure for mandatory services that charges one consumer tariff for all intra-region calls.

The most transparent approach to setting inter-region consumer tariffs is based on wholesale interconnection charges. For instance, for inter-region NLD calls originated in the region, the consumer tariff would be the intra-region consumer tariff plus the applicable termination interconnection charges payable by the operator to the incumbent.

4.5 Level of Consumer Tariffs

Each USF Administrator should determine the applicable consumer tariff for its own Programme. For purposes of the discussion this model uses an illustrative benchmark intra-region consumer tariff of USD 0.10 per minute. While this rate may actually be appropriate to a wide range of countries, it is not necessarily appropriate for all situations. At the very least, the illustrative USD 0.10 per minute tariff may provide a good starting point for a USF Administrator's consumer tariff analysis, and could be used as a benchmark. As further developed in Appendix 3, this figure, for example, is in line with comparable consumer tariffs used in Latin America. It is also consistent with consumer tariffs that communities with income per capita of USD 500 per annum have been shown to spend, and therefore indicative of consumer tariffs that could be paid by end users of rural public payphones.

4.6 Interconnection Charges

The level of interconnection charges paid by and to the operator is a key determinant of financial viability. In an interconnection charge scheme there are generally three interconnection charges: an originating; a transit, and; a termination charge. In most countries, with the incumbent operator usually a national vertically integrated local and long-distance operator, this scheme is generally simplified into just two charges, an origination and a termination charge. One charge would correspond to the licensee and the other to the incumbent, depending on the direction of the call.

Given that rural access costs are very significantly higher than those in urban areas, one of the main regulatory recommendations is that the interconnection charges payable to rural operators

should correspondingly be higher than those paid to urban operators. This is a similar result to that of consumer tariffs.

4.6.1 Interconnection Charges Payable to the incumbent by the Licensee

The licensee must be permitted to interconnect its network with that of the incumbent. For calls originated on its network and terminated on the incumbent's network, interconnection rates should be based on wholesale interconnection charges. This is a critical issue for the financial viability of the licensee. Unless otherwise specifically stipulated in existing interconnection regulations, the incumbent will likely resist being paid wholesale interconnection rates, preferring to be paid higher retail-based consumer tariffs. This is not an appropriate operator-to-operator interconnection arrangement and the government should insist on the adoption and implementation of wholesale interconnection charges.

In terms of establishing the wholesale interconnection charges payable to the incumbent, it is likely that such comparable interconnection charges have already been established for other operators. It is likely that a wholesale NLD interconnection charge is payable to the incumbent operator by mobile cellular operators to carry and terminate calls to the fixed PSTN network. This may be the appropriate benchmark to establish interconnection termination charges payable by the licensee to the incumbent. Alternatively, an interconnection regulation may exist that sets out such wholesale interconnection charges.

If no wholesale interconnection charges are currently used within the country, an interim approach (while the studies are carried out to estimate the corresponding costs), is to use a wholesale-retail discount on the retail consumer tariff to proxy the wholesale interconnection charge, such as a 20% discount from retail consumer tariffs. This approach has been used as an interim measure in a number of countries.

The basis for this approach is that the wholesale interconnection tariff should be lower than the retail consumer tariff because the operator that terminates the call does not have to incur (that is, "avoids") certain costs that are imbedded in the retail consumer tariff. Hence, that operation should be able to charge a lower wholesale interconnection charge. These "avoided" costs include those associated with marketing the service, with collection and billing and other associated costs of retailing the service.

Regulators around the world have used different retail-wholesale discounts when proxying wholesale interconnection charges. The specific amount should be based on national conditions and on whether the retail charges are cost oriented. The NLD terminating interconnection charge payable to the incumbent by the licensee for calls originating in the region could be a wholesale interconnection charge, as determined above. Similarly, for ILD calls originating in the region the licensee should pay the incumbent a termination interconnection charge based on the sum of 1) the wholesale ILD terminating interconnection charge (or, in its absence, the prevailing outgoing ILD consumer tariff less a discount to account for avoided costs; and 2) the applicable NLD wholesale termination interconnection charge. Appendix 3 further develops the illustrative 20% retail/wholesale discount.

4.6.2 Interconnection Charges payable to the Licensee by the incumbent

It is crucial that interconnection charges paid to the licensee be above the floor level consumer tariffs and interconnection charges.

- **Origination Interconnection Charges.** The originating interconnection charge that the licensee would keep either for inter-region NLD or ILD calls could be the same as the licensee's intra-region consumer tariff. that is, the same as the illustrative benchmark USD 0.10 per minute where this is used. Alternatively, in order for the operator to receive a reasonable allocation of the excess profits associated with ILD calling, the cost-based origination charge proposed above could be supplemented by a "revenue-share" of the above-cost profits. This makes sense because the corresponding calls constitute new incremental traffic that would not otherwise exist if it were not for the licensee.[17]

- **Termination Interconnection Charges**. There are at least three approaches with respect to the termination interconnection charges payable to the licensee by the incumbent summarized here. Appendix 3 further develop these concepts, including providing numerical examples:

    - **Set interconnection termination charges as a ratio of the consumer tariff.** For the reasons outlined in Appendix 3, this is not a suitable alternative.

    - **Set interconnection termination rates to recover corresponding costs**.This is one of the preferred options. Refer to Appendix 3 for further discussion..

    - **Set interconnection termination charges to be the same as the proposed consumer tariff**. This is perhaps the preferred option, as long as the proposed consumer tariff is set accordingly (for instance, along the lines of the illustrative benchmark of USD 0.10 USD per minute). . Refer to Appendix 3 for further discussion.

17 This argument was advanced by Dymond (2000) .Note that while the trend around the world is to cost-based interconnection charges, there is significant evidence that prices are well above corresponding costs. This is especially the case with respect to ILD calling, and in particular, international net settlements, in spite of the recent developments. Hence, within a particularly country, the policy question becomes which operator is "entitled" to receive the excess profits from incremental ILD calling. Wallsten (2001) found no evidence that international in payments are correlated with teledensity. On the other hand, the main goal of the Licensee is to expand the network in rural areas. Given this, it appears reasonable that the Licensee should receive a reasonable share of these excess profits. The alternative is that all of these excess profits be handed over to the incumbent.

Appendix 1: Selected Minimum Subsidy Results

In this Section we summarise the results of minimum subsidy results for the provision of new public payphones in the rural areas of Chile, Peru and Colombia. This information includes: the number of firms that participated in each competitive process, what were the actual, and winning subsidy bid for each process, including the maximum available subsidy. Where such information exists, we also summarize data to quantify the extent of any additional telecommunications investment as a result of the minimum subsidy projects. For each country, we also provide some summary socio-economic and telecommunications-specific data.

Chile, Peru and Colombia established USFs in the 1990's to provide one-time subsidies for the provision of public access telephone services in unserved rural and remote areas. In all three cases the subsidies are awarded based on public international bidding process. The qualified applicant that offers to provide the designated services at the lowest subsidy wins the respective process and is awarded that subsidy to implement the designated services. A common feature of all three countries is that a maximum subsidy amount available for the specified projects is established by the USF Administrator before the bidding process is concluded.

Chile

Table A1: Chile – Country and Telecommunications Overview

GDP per capita (2000, USD) = $4638	Population (2000, millions) = 15.2	Urban Population (2000, %) = 85
Area (2000, millions km^2) = 0.75	Pop. density (2000, pop. per km^2) = 20.3	Telecom Rev. / GDP (2000, %) = 3.6
Fixed lines (2000, millions) = 3.4	Teledensity (2000, fixed lines per 100 pop.) = 22.1	
Wireless subscribers (2000, millions) = 3.4	Wireless density (2000, subscribers per 100 pop.) = 22.2	
Public Telephones (2000, thousands) = 19.1	Public density (2000, public phones per 1000 pop.) = 1.3	

The Chilean USF, the *Fondo de Desarrollo de Telecomunicaciones,* (FDT) was established in 1994. The FDT is financed from the Chilean national government budget. Each year, a specific budget allocation is approved for FDT purposes.

Table A2 below summarises the results of the FDT bidding process from 1995, its first year of operation, to 1999, the last year the FDT funded only public access telephony (later the FDT also funded access to the Internet). Between this period, a total of 183 separate projects were auctioned and approved. These projects covered 5,916 localities and served a population of about 2.157 million. A public access telephone was required to be installed and operated in each locality. On average, each public access telephone provided service to about 365 people. Table A2 demonstrates that competition between bidders reduced the actual subsidies paid (US$21.04million), as compared with the maximum subsidies available (US$42.15 million). Overall, the actual subsidy per locality (public access telephone) was US$3.6 thousand.

Table A2: Chile Overview Results

Year	Projects	Localities	Inhabitants in Localities (000)	Maximum Subsidy (US$000,000)	Actual Subsidy Granted (US$000,000)	Actual Subsidy per Locality (US$000)
1995	34	726	240	3.18	2.11	2.9
1996	18	1632	762	4.20	0.90	0.6
1997	70	2146	772	20.36	8.10	3.8
1998	27	858	229	8.89	5.53	6.4
1999	34	554	154	5.52	4.41	7.9
Total	**183**	**5916**	**2157**	**42.15**	**21.04**	**3.6**

The winning applicants must generally install the required public access telephones within a period of 6 to 20 months. Table A3 below shows the year-by-year installation schedule of the 5,916 public access telephones to be installed.

Table A3: Chile – Installation Schedule

		Year of Installation					
		1997	**1998**	**1999**	**2000**	**2001**	**Total**
Year project awarded	**1995**	265	461				726
	1996		979	653			1632
	1997		111	1663	372		2146
	1998			258	600		858
	1999				41	513	554
	Total	**265**	**1551**	**2574**	**1013**	**513**	**5916**

Chile is divided into 12 regions plus a capital region (R.M.). The Regions range from I at the northern end of Chile to XII at the southern end. The central Regions IV to X are the most densely populated. Table A4 below provides a regional analysis of the auction results from 1995 to 1999. It indicates that the average subsidy per locality is significantly higher in outlying regions as compared to the central regions.

Table A4: Chile – Summary of Regional Results

Region	Projects	Localities	Inhabitants (000)	Actual Subsidy Granted (US$000,000)	Actual Subsidy per Locality (US$000)
I	6	72	13	2.14	29.8
II	9	27	5	0.62	22.9
III	6	53	17	0.97	18.2
IV	11	392	115	1.78	4.5
V	15	435	169	0.74	1.7
VI	9	490	250	0.79	1.6
VII	15	969	376	1.04	1.1
VIII	26	1008	313	2.64	2.6
IX	27	998	303	3.54	3.5
X	35	904	263	4.11	4.5
XI	12	50	19	1.46	29.1
XII	7	25	4	0.83	33.4
R.M.	13	493	314	0.40	0.8
Total	**191**[18]	**5916**	**2157**	**21.04**	**3.6**

Table A5 below provides a summary of the five firms that have won at least one project in the competitive bidding processes in Chile. Note that CTC, the incumbent fixed line operator in Chile, has won the largest percentage of projects.

Table A5: Chile – Actual Winning Applicants

Firm	Actual Subsidy Granted (US$000,000)	Actual Subsidy Granted (%)	Number of Projects	Percentage of Projects (%)	Number of Localities	Percentage of Localities (%)
CTC	5.92	28.1%	63	34.4%	1880	31.8%
CTR	3.32	15.8%	38	20.8%	1843	31.2%
GENEVA	0.43	2.1%	8	4.4%	153	2.6%
GVT	7.67	36.4%	56	30.6%	1737	29.4%
MEGACOM	3.71	17.3	18	9.9%	303	5.1%
Total	21.04	100.0%	183	100.0%	5916	100.0%

Table A6 below provides a summary of the analysis carried out in 2001 with respect to the overall investment impact of the public subsidies. Analysis suggests that as a result of the public subsidy of about US$21 million, the five firms involved have undertaken: 1) about US$30 million in additional investment in public access telephones, and: 2) about US$109 million in additional investment in other services (including residential and commercial individual access lines and value added services). This means that, to date, US$1 of public subsidy leveraged over US$6 of private investment in Chile.

18 The total number of projects is shown as 191, rather than 183 in the rest of the tables. This is because some projects cross regional boundaries and hence were counted in more than one region.

Table A6: Chile – Subsidy Investment Impact

	Estimates of additional private investment leveraged by Public Subsidy (US$000,000)		
	Private Investment	**Public Subsidy**	**Total**
Public access telephones	30	21	51
Other Services	109	0	109
Total	**139**	**21**	**160**

Peru

Table A7: Peru - Country and Telecommunications Overview

GDP per capita (2000, USD) = $2084	Population (2000, millions) = 25.7	Urban Population (2000, %) = 73
Area (2000, millions km^2) = 1.3	Pop. density (2000, pop. per km^2) = 20.1	Telecom Rev. / GDP (1999, %) = 2.9
Fixed lines (2000, millions) = 1.72	Teledensity (2000, fixed lines per 100 pop.) = 6.7	
Wireless subscribers (2000, millions) = 1.27	Wireless density (2000, subscribers per 100 pop.) = 5.0	
Public Telephones (2000, thousands) = 84	Public density (2000, public phones per 1000 pop.) = 0.033	

The USF of Peru, the *Fondo de Inversión en Telelecomunicaciones* "FITEL", was created in 1994. FITEL is financed through a mandatory contribution from telecommunications operators at a rate of 1% of gross revenues.

FITEL's program began with the Northern Frontier pilot project, which was awarded in 1998. This project was a test case used to verify the design of the program. The project included 213 localities, with a total of about 59,000 inhabitants. The project required the installation of one new public telephone per locality. The maximum FITEL subsidy for the pilot project was US$4 million. The public bidding process was won by a subsidy bid of US$ 1.66 million to serve the designated communities. This sum was equal to 41% of the maximum available subsidy.

With respect to additional investment, analysis suggests that, to 2001, the original US$ 1.6 million has resulted in an additional investment of about US$3.3 million. This means that, to date, US$1 of public subsidy leveraged over US$2 of private investment.

An innovation of FITEL is that bidders are encouraged to bid simultaneously on more than one project. The objective is to provide the lowest total subsidy for all corresponding projects. There may be synergies in providing service to different localities or across various regions. Hence, an operator's willingness to serve a market at a given subsidy will depend on whether the operator can also serve other areas.

The first complete bidding process was undertaken by FITEL in 1999, with three available projects, corresponding to the South, Centre South and Jungle North regions of the country. In this bidding process the winning firm made a combined bid for all three projects for a total of US$10.99 million. This bid was well below the maximum available subsidy of US$50 million. Actual subsidy per locality was around US$5.7 thousand. The operators are required to install at least one public access telephone per designated locality. Details are provided in Table A8 below.

Table A8: Peru – Summary Results for 1999 process

Project	Localities	Inhabitants in Localities (000)	Maximum Subsidy Available (US$000,000)	Actual Subsidy Granted (US$000,000)	Actual Subsidy per Locality (US$000)
South	534	136	14.00		
Centre South	1029	303	27.00		
Jungle North	374	141	9.00		
Total	**1937**	**580**	**50.00**	**10.99**	**5.7**

Table A9 below provides the actual bids received by FITEL for the 1999 process. Note that all three participating bidders submitted individual bids for the three projects being auctioned at the time. However as discussed above, the winning bid (which minimised the total subsidy amount) was a combined bid for all three projects.

Table A9: Peru – Actual Bidding Results for 1999 process

		Actual Bidders (US$000,000)		
	Project	**Global Village Telecom**	**CIFSA International**	**Telerep**
Individual Bid	South	21.31	5.16	3.94
	Centre South	25.52	8.70	6.43
	Jungle North	22.44	4.39	3.19
Combinatorial Bids	South and Centre South	38.76		8.43
	South, Centre South and Jungle North	53.27	16.90	10.99

The second bidding process was undertaken by FITEL in 2000, with another three projects. On a preliminary basis, the process was won by a firm that made a combined bid for all three projects (this is shown in Tables A10 and A11 **in bold text in dark grey shading)** of US$27.85 million. However, the firm was not awarded the corresponding operating licence by the relevant Ministry. Hence, the preliminary winner was not authorised to provide the designated service and hence was not eligible to receive the subsidy. FITEL subsequently decided to provide the subsidy to the next two lowest bidders. The total combined subsidy paid to these two was the same as that of the original bid, that is US$27.85 million. These figures are presented in the Tables A10 and A11 below ***in italicised bold text in light grey shading***. This bidding process is currently under the review of judicial courts.

Table A10: Peru – Summary Results for 2000 process

Project	Localities	Inhabitants in Localities (000)	Maximum Subsidy Available (US$000,000)	Preliminary Subsidy Granted (US$000,000)	*Actual Subsidy to be Granted (US$000,000)*	*Actual Subsidy per Locality (US$000)*
Centre North	582	318	15.13		***7.00***	***12.0***
Centre West	770	258	20.02		***20.85***	***12.2***
North	938	520	24.39			
Total	**2290**	**1096**	**59.54**	**27.85**	***27.85***	***12.1***

Table A11: Peru – Actual Bidding Results for 2000 process

		Actual Bidders (US$000,000)				
	Project	**C&G Telecom and Avantec**	**Gilat to Home**	**Telefonica del Peru**	**Telecomunicaciones y Representaciones**	**Cifsa Telecom and STM Wireless**
Individual Bid	Centre North	11.18 ***7.00***	11.20	15.12	14.40	13.63
	Centre West	14.12	11.52	19.98	15.84	17.32
	North	18.84	14.97	24.39	17.76	8.82
Combinatorial Bids	North and Centre North	29.20				
	North and Centre West	31.32	***20.85***			
	Centre North and Centre West	24.79				
	Centre North, Centre West and North	40.00	37.70	48.03	47.99	**27.85**

Colombia

Table A12: Colombia - Country and Telecommunications Overview

GDP per capita (2000, USD) = $1921	Population (2000, millions) = 42.3	Urban Population (2000, %) = 75
Area (2000, millions km^2) = 1.03	Pop. density (2000, pop. per km^2) = 40.7	Telecom Rev. / GDP (2000, %) = 5.9
Fixed lines (2000, millions) = 7.2	Teledensity (2000, fixed lines per 100 pop.) = 16.9	
Wireless subscribers (2000, millions) = 2.3	Wireless density (2000, subscribers per 100 pop.) = 5.3	
Public Telephones (1999, thousands) = 106	Public density (1999, public phones per 1000 pop.) = 0.025	

The USF of Colombia, COMPARTEL, was established in 1998. The USF is financed from mandatory sector contributions and national government finances.

The first complete bidding process took place in 1999. A total of 6 projects, consisting of 6,865 localities were auctioned. The operators were required to install at least one public access phone in each designated locality. The total maximum available subsidy for all 6 projects was US$70.6 million. The summary results of this process are presented in Table A13 below.

Table A13: Colombia – Summary Results of 1999 process

Project	Localities	Maximum Subsidy (US$000,000)	Actual Subsidy Granted (US$000,000)	Actual Subsidy per Locality (US$000)
North-East	1574	11.61	5.19	3.3
Atlantic Coast	861	10.40	4.62	5.4
Centre West	1561	13.92	6.20	4.0
South-East	362	14.95	7.14	2.0
Coffee Region	1074	3.05	1.27	1.2
East	1433	16.67	7.42	5.2
Total	**6865**	**70.60**	**31.84**	**4.6**

Table A14 below provides greater detail of the actual bidding results for the seven participating bidders that took part in the 1999 process.

Table A14: Colombia – Actual Bidding Results for 1999 process

	Actual Bidders (US$000,000)						
Project	**GVT and Gilat Satellite Networks**	**Telecom, Hughes Networks and others**	**EDATEL**	**Telefonía Social del Caribe**	**Orientel**	**ERT and Acuavalle**	**Emtelsa and Pereira**
North-East	5.19	6.97	6.50				
Atlantic Coast	4.62	6.76	8.25	7.99			
Centre West	6.20	8.35	13.40		11.38		
South-East	7.14	10.83				14.50	
Coffee Region	1.27	2.13					2.10
East	7.42	10.00					

Appendix 2: Indicative Contents of a Sample Request for Proposal

The following is a summary of the contents of a sample request for proposal. This request for proposal is based upon a specific model that features a reverse-auction minimum subsidy process for the extension of public telecommunications services in rural areas in LDCs. The model involves both the issuance of a licence and the award of the subsidy to the successful applicant through a qualification and eligibility evaluation, followed by a single round reverse-auction. Pursuant to the model, the Licence and the subsidy are awarded to the Applicant that both meets all eligibility and qualification criteria and submits the lowest bid for the subsidy.

The model contemplated in this request for proposal has three stages. First, all applications for licence (AFLs) are opened and evaluated. The AFLs of any applicant that does not meet the eligibility and qualification criteria are rejected. Second, the licensing authority issues a letter of intent to issue the licence (LOI) to the qualified applicant that has proposed the lowest subsidy. The successful applicant then has a set period of time in which it must comply with a number of requirements, including the submission of a performance bond. If the applicant fails to comply with the requirements, the USF Administration has the right to refuse to issue the licence. The third and final stage occurs when the applicant has complied with all requirements and the licensing authority actually issues the licence to the applicant.

The licence that is issued pursuant to this sample request for proposal grants the licensee the right to offer designated services in certain specified geographic regions. The model features network rollout requirements that are based upon a minimum threshold obligation. The licensee must install a specified minimum number of lines in a specified minimum number of geographic regions in each year of the licence. The subsidy consists of a one-time grant payable in a number of tranches that correspond to the network rollout obligations of the licensee.

The contents of this sample request for proposal are shaped largely by the model adopted by it. The contents of an request for proposal that is based upon a different model would likely take into account different issues in its contents.

Contents	Notes
Part I – Definitions	
Definitions	• Should repeat relevant definitions from laws, regulations, etc., to ensure regulatory consistency. • Definitions in other documents may be referenced, e.g. definitions in laws, regulations, regulatory guidelines. • In some cases, definitions are included as an Annex to the request for proposal
Part II – General Introduction	
Introduction	• Provides a brief background to the request for proposal, including identification of: • The type and number of licence(s) that will be issued pursuant to the request for proposal; • The regulatory body issuing the request for proposal and the funding agency (if any); and • The relevant statutes and regulations.
Schedule	• Provides a timetable for the request for proposal process, identifying the various events in the request for proposal process, the number of days between the event and the start of

Contents	Notes
	the process and the calendar date of the event. • Provision should be made for possibility that an event date falls upon a holiday.
Address for Correspondence	• Identifies addressee and address for all correspondence related to the request for proposal.
Part III – Background Information on National Telecommunications Sector	
Information	• Provides background information about the country.
The Incumbent Network	• Describes existing incumbent network, and may include identification of: current operator(s); number of lines; technology employed; and penetration rates.
Rural Telecommunications Service Policy	• Describes rural telecommunications service policy (if any) or universal services policy (if any). • Relevant policy statements in statute, regulations or policy documents may be annexed to the request for proposal.
Tariffs, Numbering and Other Licensees	• References may be made to annexes to the request for proposal which contain detailed information about tariff structure and policies, the current tariffs of operators, the numbering plan and other licensees.
Part IV – Rights and Obligations of Licensee	
Exclusivity	• Define precisely, including time limits of exclusivity (if any), grounds for termination of exclusivity, possible extensions of exclusivity and any pre-conditions for extensions.
Network Roll-out Requirements	• Define precisely the network rollout obligations, including the schedule of network rollout, the network rollout requirements in terms of services and geographic localities and the process by which the rollout will be verified (e.g. through certification of an independent technical consultant appointed by the regulator). • The measure of network rollout may vary, depending on the type of licence. Examples include: number or percentage of lines activated and number or percentage of localities served. The USF Administrator may also specify the geographic regions that must have priority in network rollout. • Clearly specify the consequences for failing to meet the rollout requirements, including applicable penalties. The request for proposal should contain a clause protecting the licensee from the application of penalties where rollout delay results solely from an event of *force majeure.*
Subsidy Payment Schedule	• Define precisely the schedule for the payment of the subsidy, including the nature of the subsidy (e.g. a one-time grant); the maximum subsidy that will be paid; and any preconditions for payment of the subsidy. • The disbursement schedule may be either front-end loaded or back-end loaded. See sub-section 3.9.2. • The subsidy may be payable in a number of tranches. In this case, specify the payment schedule for each tranche; the amount of each tranche, expressed as a percentage of the total subsidy payment; and the pre-conditions for payment. • Include a provision that grants the funding agency the right to choose the bank instrument used to pay the subsidy.
Service Quality and Availability Obligations	• Define specific obligations concerning service quality, including: • Specific indicators (e.g. call completion rates, fault rate per line per annum and fault clearance rates) and relevant definitions, if applicable; • Standards to be met by specified dates; and • Reporting procedures. • Define specific obligations concerning service availability, including: • Hours of operation of public call offices and communications of such hours to the public, and

Contents	Notes
	• Number of lines that must be activated and in operation in each geographic region for the duration of the licence. • Specify clearly the consequences of failing to comply with service quality and availability obligations. • May be addressed or supplemented in other documents annexed to the request for proposal.
Scope of Service	• Approaches to licensing may differ (e.g., licensing of facilities or services). • Define precisely the mandatory services that the licensee will be required to provide, where applicable. See section 2.2. • Depending on the nature of telecommunications regulatory environment, the licensee may be restricted from providing certain services such as NLD (national long distance services) or ILD (international long distance services). Any restrictions should be clearly specified, including the nature of the restriction and the duration of the restriction. • As an incentive to submit an application, licensees may be given the right to acquire licences for restricted services such as NLD or ILD after a certain period. Any such right should be clearly identified, along with the pre-conditions and qualifications on the right to acquire such licences. • Define precisely the optional services that the licensee will be authorised to provide pursuant to the Licence, including the region in which the licensee will be authorised to provide such services, where applicable. See section 3.6.
Regulation of Incumbent	• Indicates that the incumbent will be regulated by the national regulatory authority (NRA) in order to ensure a level playing field between the incumbent and the Licensee and the prevention of anti-competitive behaviour.
Interconnection	• Outlines rights and obligations to interconnect. • Documents pertaining to interconnection (e.g. rates, reference interconnection offer, policies, etc) may be annexed to the request for proposal. See discussion on respective interconnection charges in section 4.6. • Require applicant to provide best estimate of number and size of the interconnection circuits and point(s) of interconnection that it will require during first two to five years of operation.
Regulation of Licensee's Consumer Tariffs	• Outlines regulations governing the licensee's tariffs, including but not limited to: process of tariff approval; maximum tariffs allowable; restriction on charging tariffs higher than those approved by the regulatory authority; indexing formula, if any, to protect licensee from local currency devaluation; and a requirement to post tariffs. See sections 4.4 and 4.5. • Documents pertaining to tariffs (e.g. maximum tariffs permitted, statutory and regulatory provisions and policies) may be annexed to the request for proposal.
Authority to Construct and Use Facilities	• Outline rights and obligations of licensee to construct and use facilities for the provision of services, including: • General authorisation to construct and use facilities; • Identification of authorised technology and technical requirements; • Restrictions on equipment that may be used (e.g. type approval, equipment must be new when installed, etc); and • Rules on procurement procedures, if any.
Access to Public and Private Lands	• Outline rights of licensee to access public and private land, including expropriation rights, if applicable. • Cite legal authority for any such rights. • Include rules of access, if not stated elsewhere (e.g. payment, if any, public safety and convenience, aesthetics, compliance with applicable law).
Co-operation among	• Specific obligation to co-operate with the incumbent, other licensees and any other

Contents	Notes
Licensees	telecommunications service providers in order to ensure compatible and consistent types and quality of service to telecommunications users across the country.
Transfer of Control of Licence	• Rules and restrictions on the transfer of control of the licence and the change of ultimate control of the licensee. Cross reference to applicable statutory and regulatory provisions. • Often transfer of the licence and change of ultimate control of the licensee are not permitted (at least not without consent).
Compliance with Law	• Requirement to comply with all laws of the issuing country.
Term of Licence	• Duration of licence and renewal terms, if applicable. Pre-conditions for renewal should be clearly stated.
Fees Payable by the Licensee	• Specify all fees that licensee will be required to pay, including type of fee, when payable and basis on which fee will be calculated. See discussion in sub-section 3.7.
Frequency	• Spectrum is often licensed separately from licence issued pursuant to the request for proposal. • Specify process and fees for obtaining spectrum authorisations. This provides certainty for Licensees who will use wireless technologies. • Require applicants to specify the spectrum requirements of their proposed service, including frequency bands, number of channels and anticipated use. • Application for spectrum and any applicable policies and regulations may be annexed to the request for proposal.
Part V – Instructions to Applicants	
Selection of Successful Applicant	• Specify clearly the basis upon which the successful applicant will be selected for issuance of licence and the award of the subsidy.
Meaning of "Qualified Applicant"	• Outline clearly the criteria that applicants must satisfy in order to advance in licensing process. May cross-reference other sections of the request for proposal such as the eligibility and qualifications section and the grounds for disqualification section.
General Eligibility and Qualifications	• Describes general eligibility and qualification requirements for the application for licence and the applicant. See section 3.8 for a discussion of eligibility criteria. • There may be limitations on the number of AFLs that any one person may participate in. • Each requirement should correspond to an obligation to provide evidence in the AFL that the applicant has met the relevant requirement. The obligation to provide such evidence should be outlined in the section concerning the content and format for subsidy and structure requirements section.
Eligibility of Applicants	• Describes specific eligibility requirements for applicant. Requirements may include: legal status of applicant; national participation (may be done before or after the issuance of the licence); financing capacity; and operational experience, including field-proven equipment. See section 3.8 for a discussion of eligibility criteria. • Specify clearly what the applicant must demonstrate in order to satisfy the requirements and the evidence upon which the applicant may rely to demonstrate compliance. This promotes transparency and certainty in the request for proposal process. See section 3.8. • Each eligibility requirement should correspond to an obligation to provide evidence in the AFL that the applicant has met the relevant requirement. The obligation to provide such evidence should be outlined in the section concerning the content and format for subsidy and structure requirements section.
Period of Validity of Application	• Specify the validity period of the application from the closing date specified in the request for proposal. This prevents applicants from altering or withdrawing their applications midway through the licensing process. • May include a provision to extend the period of validity. Identify procedures for extending the period of validity, including the length of the extension period and whether the consent of the applicant is required.
Bid Security	• Clearly specify the amount of the bid security, the form of the bid security and identify

Contents	Notes
	which financial institutions will be eligible to issue the bid security. See section 3.9. • Specify mandatory validity period of bid security, including the possibility of extension. Identify procedures for extending the bid security, including length of the extension period and whether the consent of the applicant is required. • Specify when the bid security of the successful and unsuccessful applicants will be released (e.g. 30 days after the licence is issued) in order to promote greater certainty in the licensing process. • Specify clearly the conditions under which the bid security may be forfeited.
Grounds for Disqualification	• Clearly identify the grounds for disqualifying applicants. • Grounds may include: failure to register with the USF Administrator; failure to submit the application by the application deadline; failure to complete the application in accordance with the request for proposal; failure to comply with the procedures and requirements in the request for proposal; failure to submit the bid security; misrepresentation of facts in the application; illegal conduct; corrupt practices; and fraudulent practices. • Specify whether USF Administrator evaluation team will have discretion to disqualify applicants. • May subsequently disqualify a successful applicant and revoke the licence without compensation if evidence arises after the issuance of the licence of any of the grounds for disqualification.
Content and Format of Application for Licence (AFL)	• Set out the content and form of the application in general terms. • Generally includes two components: the "qualifications and service proposal" and the "subsidy proposal".
Structure Requirements	• Describe clearly the documents and information that must be included in the AFL. • All documents and information that are necessary to establish that the applicant has met the eligibility and qualification requirements described in the request for proposal should be a required component of the AFL. • Typical documentation and information may include: • Cover letter, including a description of the applicant and the proposed licensee; an indication of a firm commitment to apply for the licence and subsidy; the bid security; powers of attorney; and a formal application for the licence. • Information and documentation pertaining to the bid of the applicant, if applicable. • Information about the proposed licensee, including information and documentation about the proposed licensee's legal status and organization. • Information and documentation about the requirements pertaining to national participation; financing capacity; technical expertise and professional skills; equipment; and operational experience. • Network description. • Information about operations, including how the applicant proposes to run the business; a summary of any land that must be procured; a description of the proposed licensee's procedures and systems related to quality standards, performance monitoring, call metering and billing and maintenance. • Pro forma financial statements. • Proposed tariffs. • Interconnection requirements.
Subsidy Proposal	• Include Instructions on the required form for the bid proposal.

Contents	Notes
	• The bid proposal should be submitted in a sealed envelope clearly marked "bid proposal" in the AFL. • A bid proposal form may be annexed to the request for proposal.
Compliance Checklist	• Require applicants to complete a "compliance checklist" that lists all required information and documents, indicates whether the applicant has included the relevant material and cross references the specific parts and page numbers of the AFL with the required information and documentation. • Checklist should be included as an annex to the request for proposal.
Submission of the AFS	• Provide clear instructions concerning the submission of the AFL. • Instructions should include: • A summary of what documents and information comprise the AFL. • The number of copies to be submitted. • Particular instructions concerning the bid security. • Delivery instructions, including address for delivery. • Instructions concerning the labelling and sealing of the AFL package. • Closing date and time of submission. • Information about any pre-proposal information meetings. • The date, time and location for the opening of the AFLs.
Evaluation of Applications	• Specify clearly the procedure for the evaluation of the applications in order to promote transparency and certainty. • Specify when the bid proposals of applicants will be opened. Approaches vary. Sometimes the bid proposals are opened at the same time as the general AFL package is opened. Other times, the bid proposals of qualified applicants are opened only after the NRA has determined which applicants meet the qualification and eligibility requirements.• Specify the procedure to be followed in case of a tie between applicants.
Issuance of Licence	• Issuance of licence typically involves (a) the issuance of a letter of intent to issue the licence (LOI), followed by (b) the issuance of the licence, provided that the conditions of the LOI have been met. • LOI confirms the licensing authority's intention to award the licence to the proposed licensee of the successful applicant. However, the LOI makes the actual issuance of the licence contingent on the satisfaction of a number of conditions. For example, the licence may not be issued until the performance guarantee is submitted. All such conditions should be clearly specified. • Specify that the issuance of the LOI does not give the successful applicant the right to obtain the licence and subsidy. The successful applicant must comply with all provisions of the request for proposal and the LOI prior to the issuance of licence.
Performance Guarantee	• Outlines clearly the requirements for the performance guarantee, including the amount of the guarantee; financial institutions approved to issue the guarantee; the validity period of the performance guarantee; and the schedule for the release of the performance guarantee. Sometimes a certain percentage of the performance guarantee may be released prior to the end of the licence term if certain conditions are met. See section 3.9. • Identify the circumstances in which the performance guarantee will be forfeited. Such circumstances may include: the failure to meet the rollout requirements and the failure to meet the service quality and availability guidelines. • The form of the performance guarantee may be annexed to the request for proposal.
Attendance Register and Minutes of Meetings	• Outlines requirement of NRA to maintain an attendance register for any pre-proposal meetings, as well as for the meeting where the AFLs are opened. • Outlines responsibility of NRA to prepare minutes of such meetings.
Information Provided	• USF Administrator will try to ensure that all applicants are provided with the same

Contents	Notes
by USF Administrator	information during the application process. • Limitation of liability of the USF Administrator, its employees, etc with respect to use of information provided in respect of the request for proposal process.
Communications and Requests for Clarification	• Outlines procedures for communicating with the USF Administrator concerning the request for proposal process. • May include a procedure for posing questions of clarification to the USF Administrator.
Confidentiality of Applications	• Describes how applications will be treated with respect to confidentiality. • Approaches to confidentiality differ. For example, in some cases, applicants may claim total confidentiality. In other cases, the USF Administrator determines what information will be treated confidentially. • Sometimes, a hybrid approach is used. For example, applications are treated as confidential throughout the request for proposal process. After the issuance of licence, the USF Administrator may place some or all of the AFLs on the public record, but is required to provide the applicant with an opportunity to request that commercially sensitive or proprietary information be treated as confidential. • Typically includes a limitation of liability of the USF Administrator, its employees, etc in respect of any damages or harming resulting from a failure to maintain confidentiality.
NRA Use of Applications	• Reserves right of the NRA to use or reproduce ideas and information in an AFL without notice or payment to the applicant.
Cost of Application and Bidding	• Clearly allocates the responsibility for the costs of the preparation and submission of the AFL to the applicant.
Modification of the Terms of Licence	• Reserves the right of the NRA to modify the terms of the draft licence annexed to the RFA. • Once the licence has been issued, the licence may only be modified in accordance with the terms of the licence.
Reservation of Rights	• Reserves the right of the USF Administrator to modify or terminate the application process or to revoke the LOI at any time before the licence is actually issued. • Typically includes a limitation of liability of the USF Administrator, its employees, etc in respect of any damages or harm resulting from any action or decision taken in connection with the evaluation or disqualification of an application.
Legal and Formal Requirements	• Identifies the governing law of the request for proposal and any licence issued pursuant to the request for proposal. • Identifies the procedures to be applied to the settlement of disputes (e.g. the application of the UNCITRAL Arbitration Rules). • Identifies the languages in which an AFL, accompanying documentation and any correspondence with the USF Administrator must be. • Identifies the currency for payment of amounts identified in the request for proposal.
Part VI – Annexes	
Annex 1: List of Localities to be served	• Where the licence will be issued for a specific geographic region or for certain localities, include a list of such regions or localities.
Annex 2: Telecommunications Law	• Include an updated version of the telecommunications law.
Annex 3: Telecommunications Regulations (or Guidelines)	• Include any relevant telecommunications regulations or guidelines.
Annex 4: Telecommunications Policy	• Include any relevant telecommunications policies.

Contents	Notes
Annex 5: General Guidelines on Interconnection	• Include any guidelines on interconnection, if any have been developed.
Annex 6: Reference Interconnection Offer of PTT	• Include the current reference interconnection offer of the incumbent.
Annex 7: Tariff Guideline	• Include the current tariff guideline, if one has been developed.
Annex 8: Existing Consumer Tariffs of incumbent.	• Include the current consumer tariffs of the incumbent.
Annex 9: Map of Country	• Include a map of the country.
Annex 10: Description of incumbent network, including map/diagram switching/transmission network	• Include a description of the incumbent network. This may be included in the body of the request for proposal.
Annex 11: National Numbering Plan	• Include the national numbering plan, regional numbering plan and related documents, if applicable.
Annex 12: Subsidy Proposal Form	• Include a form for the subsidy proposal.
Annex 13: Application for Frequency	• Include standard application for frequency.
Annex 14: Bid Security Form	• Include a form for bid security.
Annex 15: Performance Guarantee Form	• Include a form for the performance guarantee.
Annex 16: Draft of Proposed Licence	• Include a draft of the proposed licence. • Terms of the draft licence should mirror relevant provisions in the request for proposal.
Annex 17: Compliance Checklist	• Include a compliance checklist, as discussed in the request for proposal. • Provisions of the compliance checklist should mirror relevant provisions in the request for proposal.

Appendix 3: Development of Illustrative Consumer Tariffs and Interconnection Charges

Appendix 3 further develops the illustrative consumer tariff of USD 0.10 introduced in section 4. It also provides greater detail concerning termination interconnection charges payable to the licensee, and conclude by presenting these findings in table format.

Level of Consumer Tariff

Sub-section 4.5 of Part II of the model notes that each USF Administrator should determine the applicable consumer tariff for its own Programme. Part II of the model also introduces an illustrative benchmark intra-region consumer tariff of USD 0.10 per minute. The sub-sections below summarize a methodology to develop this type of benchmark.

Comparable Consumer Tariffs

It is very likely that the proposed consumer tariff of USD 0.10 per minute is at or below a current regulatory or market-determined consumer tariff for comparable or similar services in the country. For instance, the proposed consumer tariff is below the average of the total payment (from the called party and the calling party) of a mobile cellular call in developing countries[19]. Similarly, new services such as WLL, VSAT, and other alternative technologies to a wired local loop are probably priced in these ranges. Lastly, the proposed intra-Region consumer tariff of US 0.10 is also probably similar to the existing NLD rates for relatively short distances (i.e. less than 250 to 500 kilometres).

Sub-section 4.2 argues that rural access is significantly more costly than urban access and that it may be as much as 6 to 10 times more expensive. It is also likely that the proposed consumer tariff of USD 0.10 per minute is significantly below the 6 to 10 multiples of the current local consumer tariff in urban areas in the country. This is all to say that the proposed tariff of USD 0.10 appears to be quite reasonable.

Willingness-to-Pay

The proposed consumer tariff of USD 0.10 per minute also appears to be consistent with the following very general "back of the envelope" willingness-to-pay ("WTP") analysis. Assume that each locality has an average population of approximately 371 people. Detailed analysis of actual calling patterns in Chile suggest that the locality would generate approximately 390 outgoing calls per month, or about 39 outgoing minutes per day (assuming an average call duration of three minutes and a 30-day month). At the proposed consumer tariff of USD 0.10, that amount of calling would mean total expenditures of US$3.90 per day per public payphone.

As noted above, international experience suggests that communities as a whole are willing to spend at least 2.5% or more of total community income on telecommunications expenses. As a very conservative figure, this Appendix uses 1.5%. Based on an income per capita benchmark of USD 500 per annum, 1.5% of community income is US$7.62 per day (371x$500x0.015/365). This

19 According to ITU (2002), the average subscription charge for cellular service is US$12.50 per month in "Low Income Countries". For Lower Middle Income Countries the average subscription is US$18.30 per month. An average peak 3 minute local call is US$0.43 and US$0.69, respectively. Assuming an conservative average of about 125 and 150 minutes of use per month, respectively, the effective per minute cellular tariff (including the subscription fee) is (12.50+(0.43/3X125))/125=0.243 and (18.30+(0.69/3X150))/150=0.352, respectively.

WTP figure is greater than the estimated expenditures resulting from the proposed consumer tariff. Even for the smallest of localities, those with 251 inhabitants, total expenditures per public payphone of about USD 3.50 per day would still be lower than the corresponding WTP of about USD 5.16.

Cost Benchmarks

The proposed consumer tariff of USD 0.10 per minute is consistent with comparable consumer tariffs in actual use in Latin America. In Colombia for instance, the operator may charge up to the following per minute consumer tariffs from its respective public payphones: USD 0.123 for local calls; USD 0.174 for intra-Region NLD calls; and USD 0.272 for inter-Region NLD calls. In Chile, local and intra-Region NLD calls are USD 0.11 per minute. Inter-Regional NLD calls are USD 0.11 per minute plus the corresponding long distance carriage charge and the termination charge in the destination network.

Discussion of Benchmark Consumer Tariff

As discussed above, rural telecommunications access service could be as much as 6 to 10 times more costly than urban service. Based on a similar analysis as that carried out above for cellular tariffs, and based on ITU (2002) data, the average effective per minute wireline call in Low Income and Lower-Middle Income countries is ($3.60+(0.08/3*3975))/375=0.036 and (4.00+(0.05/3*450))/450=0.026, respectively. Hence the proposed tariff of US$0.10 per minute is only 3 to 4 times the comparable effective consumer tariff. Note also that it is recognized that monthly subscription and local call tariffs are not cost-oriented and are often well below their respective costs.

One potential disadvantage of this benchmark approach is that the proposed consumer tariff of USD 0.10 could be below the floor level of consumer tariffs. In the absence of the relevant forward-looking cost data it is not possible to be definitive whether the proposed USD 0.10 per minute tariff is below or above the corresponding floor level. Based on comparable benchmarks to determine relevant costs (i.e. the Chile example), the proposed USD 0.10 per minute consumer tariff is very likely below the corresponding costs.

Termination Interconnection Charges

Sub-section 4.6.2 introduced three options with respect to the termination interconnection charges payable to the licensee. These options are further developed here, including with numerical examples, based on the illustrative consumer tariff of USD 0.10.

Set interconnection termination charges as a ratio of the consumer tariff

Under this approach, termination rates are set at a percentage of the consumer tariff. Where, for example, the consumer tariff is USD 0.10, and the applicable ratio 40%, the termination charge would be about USD 0.04. Where the consumer tariff is set below cost, however, this alternative runs the risk that in combination, these consumer tariffs and interconnection charges may be well below the floor level. Further, this alternative would imply that the licensee termination charge would be lower than and different from the licensee origination charge as proposed above – as such, this alternative could result in inefficient calling patterns based on arbitrage opportunities. For both these reasons it is not recognized as a suitable alternative.

Set interconnection termination rates to recover corresponding costs

This alternative implies that the termination service would not be subsidised. In the absence of relevant forward-looking cost data, we would have to rely on comparable benchmarks to determine comparable costs. In Chile other operators are required to pay an interconnection access charge of USD 0.187 per minute for terminating calls on the licensee's network. In Chile, unlike the licensee's consumer tariffs, which are subsidised, interconnection charges are calculated to recover all of the corresponding costs. Based on, *inter alia*, the Chile example, therefore, this charge could be in the range of US 0.15 to USD 0.20 per minute. This alternative would imply that the licensee termination charge (USD0.15 to USD0.20) would be higher than and different from the licensee origination charge. Hence, there could be a risk of inefficient calling patterns based on arbitrage opportunities. However, this alternative reduces the possibility that the interconnection charges fall below the floor level.

Set interconnection termination charges to be the same as the proposed consumer tariff.

This alternative would imply that the termination interconnection charge would be equal to the proposed origination interconnection charge. This alternative reduces the possibility that the interconnection charges fall below the floor level. Given that the origination and termination charges are the same, the possibility of inefficient calling patterns would be eliminated.

Discussion of interconnection termination charges

Another factor to take into account is to ensure that the total consumer tariff paid by consumers outside of the region who wish to call the designate public payphones does not approach the respective ceiling level. For many callers, a termination charge of USD 0.10 could mean a total NLD rate of over USD 0.20. This is based on the lower (second alternative) termination rate of USD 0.10 (plus any applicable retail premium on the wholesale termination rate), in addition to the incumbent standard NLD rate (for the call to be carried to the Point of Interconnection), which is likely to be in the vicinity of about USD 0.10.

The total consumer tariff of about USD 0.20 could rise to as high as USD 0.30 if the higher (third alternative) termination charge is chosen. The higher NLD consumer tariff of USD 0.30 to call the region is probably too high and may be approaching the ceiling level of consumer tariffs for people outside of the licensee's network.

This balance between the interests of the user's within the region and those outside should also take into account relative incomes and associated willingness-to-pay. For instance, a higher licensee termination rate may be justified in countries where urban dwellers are on average many times richer than their rural compatriots. That means that urbanites that call the region can better afford the higher consumer tariffs.

Table of Illustrative Consumer Tariffs and Interconnection Charges

Table 2 below summarizes the discussion of section 4 and Appendix 3 and presents in table format the illustrative consumer tariffs and interconnection charges.

Table 2: Illustrative Consumer Tariffs and Interconnection Charges

	Intra-Region Call originated & terminated on Licensee network	**Outbound National Long Distance (NLD) Call** originated on Licensee and terminated on incumbent (2)	**Outbound International Long Distance (ILD) Call** originated on Licensee and transited by incumbent (2)	**Inbound NLD or ILD Call** originated or transited by incumbent and terminated by Licensee
Basic Licensee Consumer Tariff (1)	$0.10	$0.10	$0.10	0 (zero)
Supplementary Licensee Consumer Tariff (1)	0 (zero)	The corresponding incumbent NLD wholesale termination interconnection charge plus a retail premium of 25% (8)	A) The corresponding incumbent NLD wholesale termination interconnection charge, where applicable to carry call to incumbent international gateway plus a retail premium of 25% (6) plus B) Incumbent's prevailing ILD consumer tariff.	0 (zero)
Interconnection (termination) Charge payable by Licensee to incumbent (1) (2)	N/A	The corresponding incumbent NLD wholesale termination interconnection charge	A) The corresponding incumbent NLD wholesale termination interconnection charge, where applicable to carry call to incumbent international gateway plus B) Incumbent's prevailing ILD tariff minus a wholesale discount of 20% (6)	N/A
Interconnection (termination) Charge payable by Incumbent to Licensee (1) (3)	N/A	N/A	N/A	$0.10 plus any supplementary "revenue-share" from profitable NLD or ILD calling

Notes:
N/A Not applicable
(1) All rates are in USD per minute, unless otherwise indicated.
(2) Paid by the Licensee to the incumbent or other operator, unless different a rate is mutually agreed.
(3) Consumer tariffs and interconnection to be indexed, as per note below.
(4) Termination interconnection charges discussed in text above.
(5) The 20% wholesale discount is the same as discussed in main text.
(6) The 25% retail premium is the equivalent of the 20% wholesale discount in (5) above.

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PART III: TELECENTRE OPTIONS AND STRATEGIES

"DRAFT"
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I. Introduction

This document is Part III of a three-part report (plus Annexes) that develops a recommended set of "model" policy provisions and methods for developing and least developed countries to promote expansion of access to information and communications technologies (ICTs), especially in low-income rural areas, and for historically disadvantaged populations. Part I of the report describes the model policy framework and recommended procedures for establishing and operating a Universal Service Fund (USF) as a central mechanism within a policy of market-oriented communications sector development. Part II addresses the processes for applying the Fund in soliciting competitive bids to construct subsidised new public access facilities in rural areas. This section Part III addresses the options for supporting Multipurpose Community Telecentres as a key resource for community access to basic and advanced ICTs.

The concept of community-based telecentres has recently gained widespread attention as a strategically vital response to the perpetual lack of access to information and communications technologies and services in the developing world. While telecentres are not an entirely new idea, the strong emphasis on this new policy option offers an intriguing and encouraging approach to overcoming the wide disparities of access in the Information Age, and opportunities for enabling societies and historically disadvantaged regions and populations to participate in the newly emerging social and economic orders.

Telecentres address two major concerns with respect to telecommunications and information access:

- First, while telecentres do not provide universal service to each household, they can offer universal access to basic telephone services–at a reasonable distance from the household--as a transitional options as universal service (i.e., teledensity) increases;
- Second, telecentres can also provide a myriad of ICT services, such as access to the Internet, computers and software capabilities electronic commerce applications and to many other public information services.

The telecentre models reviewed in this report offer numerous economic and social development opportunities for the communities they serve. While it is difficult at this time to quantify the exact impact of telecentres on the economic development of specific communities, it is clear that telecentres can have a vastly positive impact at the community level. For example, as a new small, medium and micro enterprise (SMME), a telecentre can not only provide access to basic telephones and ICTs, but can also facilitate other services, such as computer training classes or health education seminars. As a multi-purpose business, telecentres can help increase employment opportunities, cultural awareness, political participation, and overall empowerment of disadvantaged groups.

This new trend focusing on telecentres as a tool for economic development, influenced by the rapid development of communication technologies, such as the Internet, has put the telecentre concept at the central stage of telecommunications policy and regulatory discussions worldwide. This report considers telecentres as a point of access to basic communications services, as well as to other ICT services, and the role that Universal Service Fund (USF) support can play in encouraging and promoting telecentre programs.

II Telecentre Definitions and Models

In essence, telecentres are a means to increase access to telecommunications services as well as to the broader range of information and communication technologies (ICTs). Telecentres may differ in terms of size, services offered, technology used, and available infrastructure, as well as location, ownership, and relationship with other public facilities. It is precisely because of this flexibility that the concept of telecentres is so attractive as a tool for economic development, especially in rural communities. Instead of obeying to a rigid prescription, they can be shaped according to the requirements of specific communities, and based upon the available infrastructure. In addition, the concept of a telecentre will continue to evolve with technology, business opportunities, and the demand for services by the population being served.

2.1 Elements of a Telecentre: Supply and Demand

We define telecentres based on a supply and demand model. That is, a telecentre depends upon both those technologies and services that it is capable of providing to the public, and the demand for applications that will meet the needs of the specific community or market it targets.

The Supply Side

The supply side of the telecentre refers to what telecentres can offer, in terms of both infrastructure and services. The telecentre infrastructure also reflects the technological capacity available, which is a main determinant of the types of services that can be offered. The key supply elements of telecentres include:

- Hardware or physical infrastructure, including telecommunications access and backbone connectivity; electrical power; physical buildings; and technical equipment such as telephones, computers, and faxes;
- Software infrastructure, including available services and applications for users (interfaces, programs, as well as training materials), and also business management methods and materials for the telecentre managers;
- Human resource infrastructure, meaning the personnel who operate the telecentre, their degree of skills and resources, and the roles that they play in managing the telecentre, providing service to users, and contributing to training.

The supply side of a telecentre is particularly important in budgeting considerations. For example, management systems and training plans are some of the most crucial components of a successful telecentre, yet they are often neglected in the planning of a telecentre budget. These items may be less capital intensive, but if they are not properly included in the financial plan, the chances of success for the telecentre operation will be compromised. In addition, supply side inputs and resources must be evaluated on an on-going basis to remain aligned with the demands of the telecentre market.

Where Universal Service Fund (USF) support is utilised as a foundation for launching individual telecentres or networks of telecentres, the decisions on allocation of funds and evaluation of operating models must be consistent with overall USF objectives, as discussed in Part I of this model. This includes consideration of which elements of a telecentre's infrastructure and service should be financed by the USF. This point is discussed further in Section 3.2 below.

The Demand Side

The demand side is the primary driver of a telecentre project. For a telecentre to be successful, it must address the economic demand and social needs of the community and markets it serves.

Economic Demand Vs. "Needs Analysis Telecentre projects reflect two important policy goals: on one hand they are a means to increase universal access to telecommunications services, and on the other they provide an economic development opportunity to the communities and population they serve. These are compatible but not identical objectives, and the characteristics of each should be examined.

Viewing telecentres as a public service leads to the concept of "needs analysis": focusing upon the services that will bring basic communication capabilities to a community, to allow citizens to participate in national society, to have access to essential information, emergency services, and the ability to connect with family and colleagues around the country. These "needs" have been traditionally identified as a primary motivation for extending telecommunications networks to unserved areas, even if the service must be subsidised for persons who cannot pay the costs involved.

The second perspective recognises a potential business case opportunity in telecentres, by focusing on the notion of "economic demand" for communication services (and related offerings). "Demand" differs somewhat from "need" in the sense that demand measures the willingness and ability of the user market to *pay* for the services that they desire. This willingness to pay may derive from a perceived need for an essential capability, or it may reflect new business or other money-earning opportunities enabled by the communications services.

The differences between needs and demand are important for planning and management of the telecentre operations, and also for the USF's policy priorities. The mandate of universal service policies, in the first instance, is to supply citizens' *needs* for information and communications services, and the money from the USF is intended to support this objective. At the same time, however, if telecentres can offer services that customers are willing to pay to receive, and thereby generate profits for their owners and economic development within the community, they will be much more viable and self-sustaining operations.

The perspective of the telecentre as a business implies that the operator will not only respond to requests for service, but will actively investigate the market and promote its services to appeal to a broad user population. The process of defining the right mix of services and engaging potential customers will go a long way to determine the success of the telecentre. These will

certainly include access to basic telephone and information services, with subsidised prices for at least some users, to ensure that the fundamental universal service/access mandate is fulfilled. The challenge for telecentre operators will be to extend their business beyond this basic market, both to become profitable for themselves, and also to enhance the economic impact of telecentres throughout the community.

There are two general types of services that can be provided by a telecentre: basic services and value added services. The extent of potential demand for these types of services is fundamental in determining what type of telecentre model to implement in different locations and conditions. Demand for services is therefore the primary driver for telecentre implementation and should be considered one of the most important variables in determining the feasibility of a telecentre project.

Telecentre Services

The following sections summarise the types of services that can be offered within each category:

Basic Services

In general, Basic Services are services that are delivered using a common network infrastructure and software platform, such as the basic backbone telephone network, and standard voice telephone instruments. Basic services focus primarily on the goals of increasing universal access to information and communication technologies. These services meet the basic needs of the community, but are also likely to be a foundation for economic development. Basic services should be provided by the telecentre at specific, affordable prices and should contribute to the overall revenues of the business, but may not in all cases be profitable by themselves. Basic services generally consist of the following:

Box 1: Telecentre Basic Services

- Telephone. Access to working telephones for out-going calls 24 hours a day.
- Facsimile. Access to outgoing and incoming fax services, either self-service or with assistance of an attendant.
- Printing, Photocopying, Desktop Publishing. Access to various basic technical support services, either self-service or with assistance of an attendant.
- Computer services. Access to computers for numerous needs, such as word processing, spreadsheets, business and personal planning, etc.
- Electronic mail. Access to e-mail accounts provided by the telecentre or via the Internet; should include universal e-mail addresses.
- Internet Access. Access to Internet connections using the telecentre computers and infrastructure; potentially subject to some access restrictions.
- Voice Messaging. Access to voice mail service to guarantee access to incoming calls.

Telecentre Value Added Services (TVAS)

Telecentre value added services (TVAS) involve add-ons to the basic infrastructure and software platforms of the telecentre, and will typically require additional resources, both technical and human. TVAS add value by providing specific information, capabilities, and support to users, with the aim to stimulate other economic (and social) benefits outside of the realm of pure communication.

Some value added services will be supported by government departments from other public budgets, such as education and health services, to further particular public service objectives. Even though this type of funding may be from the government, from the perspective of the telecentre it is still a form of "revenue", and both the government departments and the end user populations can be considered the "customers" of these telecentre services. Other value added services will be directly aimed at the private sector, to support business opportunities and economic development, such as training in computer skills, financial and business support services, and electronic commerce applications.

Following are examples of some of the most prominent types of TVAS, although different telecentre operators may seek to develop their own ideas:

- Tele-Health
- Tele-Medicine
- Local broadcasting
- Tele-Education
- Government programs and information
- Electronic Post Office
- Electronic Commerce

2.2 Telecentre Models

The key objective of the telecentre implementation process, both as an overall policy and as a central objective of USF support, is to establish telecentres as viable and sustainable commercial opportunities that also provide essential community services. Therefore, it is crucial to allow telecentre models to be flexible, so as to shape them according to the needs and demands of the community where they are located. The telecentre models recommended here consider various degrees of local development (e.g., infrastructure available, economic development), community requirements, and available resources, in different locations in a country.

The strategy behind this telecentre implementation plan is one of applying different modalities of telecentre prototypes, applications and even services according to each situation. Consultation with government agencies and departments, with the private sector, and also with those with similar telecentre implementation experiences from around the world, has led us to the following categorisation of telecentre models or types. The table below provides a brief description of the proposed telecentre models.

Tele-shop or Micro-telecentre. Tele-shop is a micro-business providing access to an individual phone for community use, comparable to a public payphone. The tele-shop is modelled after the successful micro-enterprise business model developed by the Grameen Bank in Bangladesh. (www.grameenphone.com)

Mini-Telecentre. The mini-Telecentre is a one-person micro-business operation. The mini-Telecentre consists of a console which contains several ICT accessories, including:

- One or two telephone lines and instruments (wireline or fixed wireless);
- one full service personal computer, plus dial-up Internet access;
- one 3-in-1 or 4-in-1 device for printing, faxing, photocopying and/or scanning;
- an operational system and software for several services.

Standard Telecentre. A Standard Telecentre is a small business offering a variety of services in the community. A standard telecentre facility consists of the following:

- 4 to 6 telephone lines;
- 4 to six computers with software;
- one dedicated fax line;
- one dedicated Internet access line;
- an overhead projector;
- a large production printer/photocopier, in some cases colour;
- cash register machine.

In general, this model will evolve into, and be replaced by, one of the MCT model options.

Multi-purpose Community Telecentre. The Multipurpose Community Telecentre (MCT) is a medium to larger size business operation. An MCT is a full service telecentre facility that includes, at the very least:

- all of the services of the standard telecentre;
- additional capacity (telephone lines, computers, human resources, physical space, etc.) to expand the scope of usage; and
- potential additional facilities for local broadcasting, tele-health, tele-education, electronic commerce, tele-government information systems, and other value added services.

ICT Cooperatives. The notion of an ICT Cooperative is based upon the model of rural telephone cooperatives that exist in several developing countries. This is a developmental concept, which can be researched and evaluated by a given country as part of its overall telecentre implementation plan. The main characteristics to be explored should include:

- some degree of community/customer ownership of the business;
- provision of advanced ICT services, such as those contemplated for MCTs;
- connection of local businesses, institutions, and eventually private homes to the network, as an extension of basic telecentre services toward a true universal service model.

It is important to keep in mind that any telecentre model can evolve into another model or into a new model all together. This flexibility allows telecentre projects to be viewed as business cases that can develop with changing economic and technological conditions and community needs. As businesses, telecentres will respond to market trends, demand, and innovation.

III. Economic Analysis and Methodology

Telecentres can and should be *economically viable* entities. This principle reflects the evolving economic conditions in the telecommunications field, which increasingly support the finding that even advanced services in rural and low income areas can be self-sustaining, as well as reinforcing of broader economic growth objectives. It is also consistent with the objectives described in Part I of this modelI, which promotes market-oriented policies, with USF subsidies ideally serving only in a transitional, start-up capacity.

The need for analysis of the economics of telecentres is therefore twofold. First, an overview should be conducted of the ranges of costs and revenues that can be anticipated for the different categories of telecentres (i.e., as part of the development of an overall rollout plan for telecentres nationwide). Second, the process of examining telecentre economics in the aggregate supports the need for individual investors and operators, as well as the USF Administrator and other financing sources, to conduct in-depth studies of the specific economic conditions that will determine the appropriateness and viability of alternative telecentre options in different community settings.

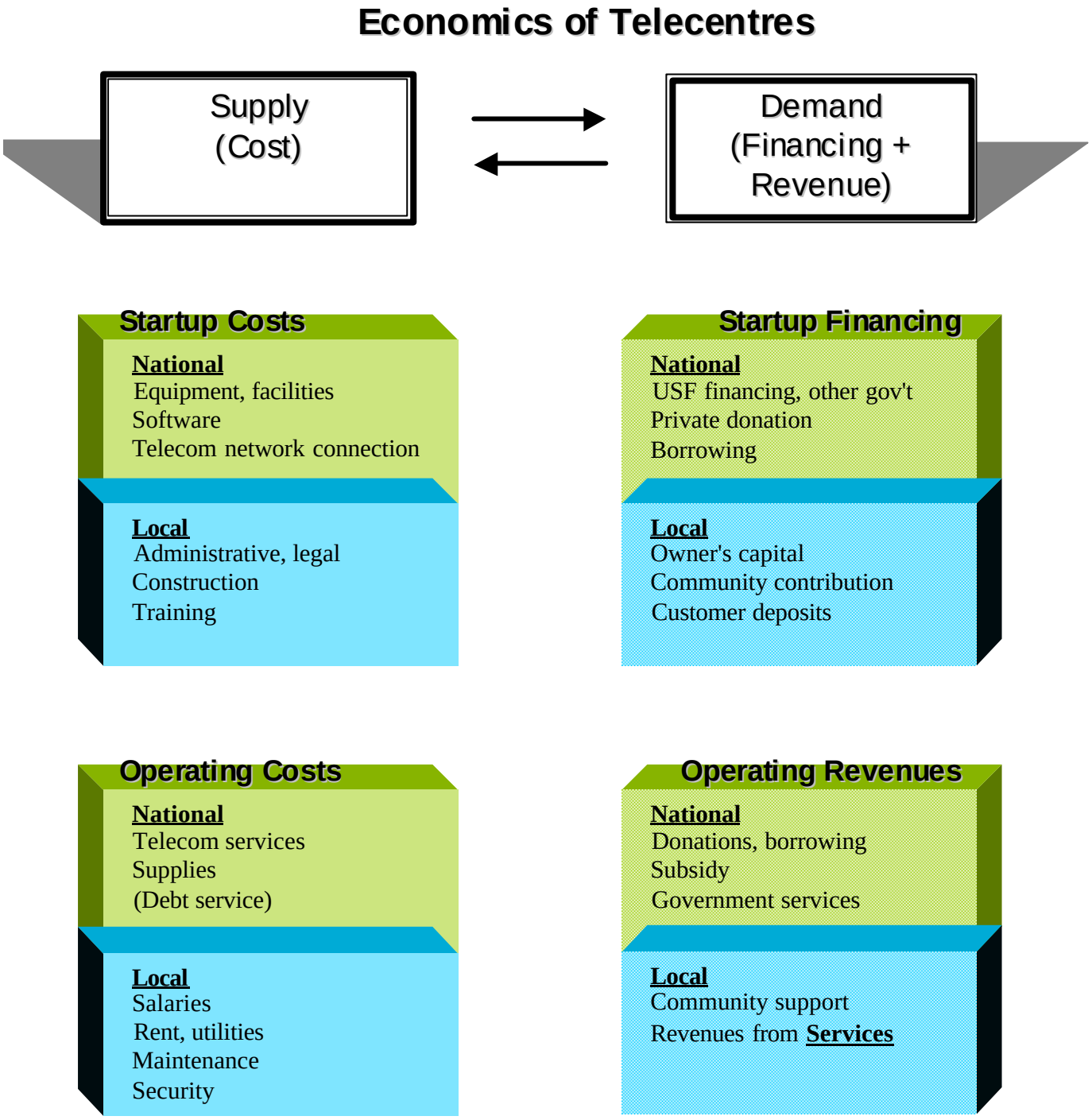
3.1 Economics of Telecentres

The following diagram illustrates the basic supply and demand side characteristics of telecentre economics. Its components are explained in the sections that follow.

Note that both supply and demand elements in the diagram are divided into "National" and "Local" categories. National costs are essentially costs that are determined at the national level, beyond the influence of any individual telecentre operator. Local costs are likely to vary across different communities, depending upon local conditions, and are mostly within the control of the telecentre operator.

National financing and revenues, as indicated in the diagram, are those that can typically be *obtained* at the national level, either from the government, from banks, or from donor agencies. Local revenue sources include community support as well as direct payments from customers for telecentre services.

Figure 1:


Economics of Telecentres
Supply (Cost)
Demand (Financing + Revenue)
Startup Costs
National
Equipment, facilities
Software
Telecom network connection
Local
Administrative, legal
Construction
Training
Startup Financing
National
USF financing, other gov't
Private donation
Borrowing
Local
Owner's capital
Community contribution
Customer deposits
Operating Costs
National
Telecom services
Supplies
(Debt service)
Local
Salaries
Rent, utilities
Maintenance
Security
Operating Revenues
National
Donations, borrowing
Subsidy
Government services
Local
Community support
Revenues from Services

3.2 Supply Side: Costs of Telecentres

Supply side factors affecting telecentre performance are relatively easier to anticipate than demand side factors. Costs to obtain equipment and build facilities, as well as to operate each type of telecentre, while they may vary from one location to another, can still be predicted with reasonable certainty upon market research. Ideally the USF Administrator should undertake such research on a general level when it is considering funding a telecentre program, while the entities seeking USF support and approval for telecentre projects should be required to prepare detailed cost estimates as part of their applications. These sections summarise the general components and cost levels required for the various telecentre models.

Start-up Costs

National. Most of the start-up costs of telecentres will originate from sources that are national in scope, beyond the control of the entrepreneur or investor who seeks to establish the business. The principle sources of these investment costs will be the facilities and equipment that will go into the telecentre, such as telephones, computers, facsimiles, and so forth, as well as much of the software that will be required to provide certain services.

Local. Local start-up costs are likely to involve primarily labour and services required to establish the telecentre. These can include various legal and administrative costs associated with starting any new business. Also, where facility construction is required, these costs will usually be paid to local contractors and workers, except where these may be provided by a community partner or donor. Training costs may also be required to support the preparation of the telecentre owners and employees; these costs may involve local or national sources, potentially including training courses that could be funded under a national or regional USF sponsored programme.

Operating Costs

National. Operating costs are incurred on an ongoing basis, and are necessary to keep the business running. To some extent, these costs may be directly tied to actual use of the telecentre's facilities. The most pertinent cost of this nature, and one of the largest ongoing operating costs, will be payments to telephone operators for the telecommunications services that connect the telecentre to the outside world. These charges will be set at the national level, either by the carriers themselves or by the national telecommunications regulatory authority. The actual amount of these charges will be a combination of *per-line* fees, which the telecentre must pay on a monthly basis for each connecting line regardless of how much the services are used, and *usage* fees, typically per-minute call charges, which will only be incurred when customers use the telecentre to make calls. Telephone charges will be required for basic voice telephone calls, as well as for Internet, e-mail, and other data services.

Other nationally-based operating costs could include supplies of various kinds that might be centrally procured, either through a joint purchasing programme of all telecentres (possibly sponsored by the USF), or individually from other sources. An additional form of ongoing cost

could also be debt service, i.e., payments to banks or other lenders in support of the initial financing of telecentre start-up costs.

Local. There are several types of operating expenses that are likely to be incurred at the local level. The most significant of these should be salaries for employees, especially for larger telecentres. For the smallest operations, salaries will be equivalent to profits, as the owner(s) are likely also to be the principal telecentre employees as well. But as operations expand, telecentres will have to add new employees to provide service to customers, as well as to perform administrative and technical functions. Other locally incurred operating expenses include all building-related costs, such as rent, utilities, maintenance, and security – the last category represents an important cost to prevent theft or vandalism, and ensure the confidence of both employees and customers.

3.3 Demand Side: Financing and Revenues

Estimating demand is one of the most difficult tasks in business planing. When considering historically disadvantaged communities, the task is even more complex, since demand for ICT services will vary depending upon price, local economic conditions, as well as perceptions about the value of the services. Despite these difficulties, there are various sources of information and methods that can be used to estimate current and potential demand, and the likely levels of revenues that a telecentre can be expected to generate.

Start-up financing

National. Telecentre operators will need to obtain sufficient up-front capital to pay for the facilities, equipment, services, and labor required to launch the business, and probably to operate it for some period until it begins to generate self-supporting income. A large proportion, but not all, of start-up financing will come from national sources. The USF will likely be the initial option for most telecentres, especially in the early stages of a national programme. The amount of this support will be limited by the USF's available budget, and the amount allocated to this type of service, as opposed to other initiatives (see Parts I and II of this report).

Other sources of initial financing could come from other government funds, outside donor organisations, and commercial loans. A potential telecentre operator's ability to solicit these types of funds will depend partly upon its ability to present a coherent business plan and community support, factors which can be enhanced by a certification programme under the auspices of the USF.

Local. Some amount of start-up financing may also come from local sources. In particular, the investors proposing to start the business should be prepared, in principle, to put some of their own money into the telecentre, although in many cases this may be a quite small amount. Telecentre owner-operators might be supported by other local investors, including businesses that may recognise the potential value of the telecentre to themselves and to overall community development. In this respect, the community itself might be a source of financing for a telecentre. Among smaller villages, for example, there maybe local funds available for minor projects, which

could be solicited to support establishing a community telecentre. If the telecentre project is to be communally owned, this type of financing would be especially important.

Finally, an important source of start-up capital can come from customer deposits. If prospective users are anxious for access to telephone and information services, they should be willing to make reasonable down payments on service accounts to help speed up the creation of the telecentre. Business customers in particular, should be able to provide such deposits in advance. In community models where the telecentre operation will take the form of a cooperative, customer deposits will be akin to shareholder equity investments.

Operating Revenues

National. Some amount of operating funds may continue to be available from national sources. Renewable grants and government support might be available, for example, and some amount of continuing USF funding may be utilised in support of certain targeted programmes, such as training. For the most part, however, telecentre operators will need to recognise that the ongoing viability of their business must primarily depend upon locally generated revenue sources.

Local. Again, there may be certain renewable sources of local funding, from the community and local businesses. But the bulk of the revenues that will be necessary to operate a successful (i.e., profitable) telecentre must come from direct customer payments for telecentre services. These include basic telephone calling, fax, Internet, e-mail, as well as computer, printing, and copying services, all of which will carry usage charges that should be commensurate with the cost to the operator of providing those services. Exactly how these prices will be set is an important policy issue, but on the whole telecentre service prices should be as cost-oriented as possible. This means that telephone calls and Internet usage, for example, should be priced in direct relation to the charges paid by the telecentre to telephone companies and Internet Service Providers, plus some mark-up to cover labor and overhead costs.

Similarly, value added services, where provided, should be charged according to the cost of the underlying facilities involved, as well as any extra employees or other costs required to provide the service. If government subsidies are provided to support particular value added services (VAS), these should ideally be used first to ensure that the service in question is itself financially viable, and then to support the overall infrastructure cost of the telecentre that offers the services.

Revenue estimates. Ultimately, the potential magnitude of operating revenues is the single most important variable in determining the ongoing viability of a telecentre as a business. In an environment where government or donor financing will be quite limited, each telecentre must be prepared to generate enough income from its day-to-day operations to fund its operating costs, and also to provide a reasonable enough salary/profit for the telecentre owners to want to continue to support the business.

At the same time, to estimate the likely range of revenues that a telecentre will be able to earn, and that all such operations will generate on a national scale, is the most challenging analytical exercise involved in creating either a local business plan or a national rollout and

implementation strategy. There are numerous uncertainties surrounding the factors that will influence demand, price of services, and the economic impact of telecentres upon communities, and there is very little practical experience with these technologies and services. The USF Administrator can assist with this process by establishing a basic framework for analysing a range of demand and revenue scenarios for each type of telecentre, in representative community settings. This foundation can help establish the parameters for both individual business plans as well as the national rollout forecast. This framework should be based upon the following principles:

- Total demand for services provided by a particular telecentre will be primarily a function of the total population in the community(ies) served by the telecentre.

- For a given population, willingness to pay for telecommunications and information services will be a further function of income levels, of both individuals and businesses.

- Realised demand for specific services will depend upon the prices for those services, as well as the value of (or "need" for) the services among the target customer population.

- Successful telecentres should be able to reinforce service demand over time, by helping to increase user value, and ultimately income, throughout the community.

With a better understanding of the community socio-economic environment, as well as potential market size, telecentre operation and financial plans can be based on realistic expectations and therefore more likely to result in successful business cases. The table on the following page provides an illustrative sample of an economic forecast for a standard telecentre. (The financial figures are expressed in South African Rand.)

Table 1:

Standard-Telecentre Business Plan Scenario

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Demand Assumptions (annual)						
Telephone usage minutes	72,000	93,600	121,680	158,184	205,639	267,331
Fax pages	6,000	7,800	10,140	13,182	17,137	22,278
Photocopying/printing pages	6,000	7,800	10,140	13,182	17,137	22,278
Computer services hours	1,800	2,340	3,042	3,955	5,141	6,683
E-mail minutes	27,000	35,100	45,630	59,319	77,115	100,249
Internet Access minutes	600	780	1,014	1,318	1,714	2,228
Voice Messaging messages	3,000	3,900	5,070	6,591	8,568	11,139
Usage Minutes Growth Rate		30.0%	25.0%	20.0%	10.0%	10.0%
Cost Estimates						
Initial Start-up Costs						
Physical Infrastructure	160,000					
Total Start-Up Costs	160,000	-	-	-	-	-
USA Subsidy	35.0%					
Total Loan	104,000					
On-going Capital Costs (Loan payments)						
On-going Capital costs	31,357	31,357	31,357	31,357	31,357	31,357
Operating Costs						
Salaries (@ least minimum wage) & Administrative expenses	43,200	47,520	52,272	57,499	63,249	69,574
Telecommunications expenses	63,120	75,972	93,998	116,311	143,936	178,140
Supplies (in support of basic services)	8,000	8,000	8,000	8,000	8,000	8,000
Maintenance and Repair	4,350	4,350	4,350	4,350	4,350	4,350
Building and Utilities expenses	2,500	2,500	2,500	2,500	2,500	2,500
Security and other expenses	5,000	5,000	5,000	5,000	5,000	5,000
Total Operating Costs	126,170	143,342	166,120	193,661	227,035	267,564
Total Expenses	157,527	174,699	197,477	225,018	258,392	298,921
Revenue Estimates						
Revenues from Telecentre Basic Services						
Telephone	43,200	56,160	71,183	90,224	114,359	144,950
Fax	9,000	11,700	15,210	19,773	25,705	33,416
Photocopying	6,000	7,800	10,140	13,182	17,137	22,278
Computer services	9,000	11,700	15,210	19,773	25,705	33,416
E-mail	27,000	35,100	45,630	59,319	77,115	100,249
Internet Access	600	780	1,014	1,318	1,714	2,228
Voice Messaging	1,800	2,340	2,966	3,759	4,765	6,040
Total revenues from Basic Services	96,600	125,580	161,353	207,349	266,499	342,577
Net income from basic services	(60,927)	(49,119)	(36,124)	(17,669)	8,106	43,656
Net Income from Value Added Services						
Government supported services	3,000	3,500	3,500	4,000	4,000	4,000
E-Commerce Services	500	600	600	750	750	800
Business support services	1,000	1,000	1,200	1,200	1,500	1,500
Financial Services	500	600	600	750	750	800
Training Courses	500	600	600	750	750	1,000
Total Revenues from Value Added Services	5,500	6,300	6,500	7,450	7,750	8,100
Combined Total Revenues	102,100	131,880	167,853	214,799	274,249	350,677
Combined Net Income	(55,427)	(42,819)	(29,624)	(10,219)	15,856	51,756
Combined Monthly Net Income	(4,619)	(3,568)	(2,469)	(852)	1,321	4,313

3.4 Community and macroeconomic impacts

If a telecentre programme (and the activities of the USF in general) is successful in its broader objectives, economic conditions at both the national and community level will ideally improve as a direct consequence of the activities of the telecentres and their users. This could result in a variety of impacts on the business prospects of the telecentres themselves, and hence on the forecasts. Telecentre operators should be prepared to anticipate and respond to these trends in their medium and long term planning.

Community impacts:

Potential economic benefits within the community served by a telecentre can include increased employment and a variety of income opportunities from applications of telecommunications technologies, for example for electronic commerce. The impact of these types of trends upon telecentre operations would be primarily on the demand side, increasing users' demand for basic and value added services, and also their willingness to pay for them.

Macroeconomic impacts:

At the national level, there can be numerous benefits due to telecentres, particularly through coordination of business activities and other communications across distant communities that may have previously been isolated. These impacts may also affect the demand side of telecentre operations, to the extent national employment standards and incomes improve with the growing economy. In addition, there should be an "externality" effect of increasing connectivity across the country's populations, with medium and long term benefits that are difficult to forecast, but certain to be substantial.

The stronger impact is likely to be on the supply side, however, due to economies of scale and scope in the operation of telecentres themselves, the shared experiences and marketing that can be facilitated by the combined efforts of telecentre operators, which the USF can facilitate through a coordinated national telecentre programme, and cost savings on supply of services and equipment that accompany broad market growth. Where these impacts occur, telecentre operators can anticipate lower equipment and operating costs over time than those estimated in our breakeven calculations. (Declining start-up costs should be factored into future budget estimates for telecentre subsidies.)

IV. Telecentre Implementation Processes

So far, this report has reviewed the objectives and vision for the development of telecentres, and the economic factors that will influence their operation. This section now turns to the essential functions that a USF administrator or national regulatory authority must perform to help launch and sustain a telecentre programme. Because most telecentres will ultimately be planned, financed, and operated by private or community individuals and organisations, the government's role cannot be one of directly establishing or sustaining telecentres. The government should be the *facilitator* by whose efforts the incentives and opportunities for private investment in telecentres should be maximised.

The USF Administrator can approach the development of telecentres from two general perspectives: either it can seek to establish a national strategy for launching a series of new telecentres, following common standards and criteria with pre-determined budgets and timelines, or it can make funding available to the general public for telecentre start-ups, and review each application on a case-by-case basis. The choice between these approaches should depend upon how much funding may be available specifically for telecentre support, the other activities that the Fund is sponsoring, and the resources and priorities of the Fund's officials.

Some of the key activities that the USF Administrator can undertake to promote a coordinated national telecentre programme include the following:

- **Publicity and Outreach** promoting the benefits, opportunities, financial options, and experience of telecentres, and the means by which interested citizens can participate in their development;

- **Business plan assistance and certification** of qualified proposals to establish new telecentres that meet the USF's guidelines and serve the objectives of universal service, lending the credibility and shared resources of the telecentre programme to the prospective telecentre operator;

- **Financial support** for a portion of the start-up costs of certified telecentre proposals that will be located in areas designated as most in need of universal service subsidy funding; the USF can also assist operators to solicit other sources of start-up and operating funding;

- **Training and support services** for all certified telecentre operators under USF-sponsored training programmes, to provide them with the maximum technical skills and business knowledge necessary to be successful;

- **Research and development** in relation to market trends, economics, and technical considerations, as elements of the long term evolution of the telecentre strategy;

- **Monitoring and evaluation** of the experience of different telecentre operations, and sharing of success stories, strategies, pitfalls, and ideas among the national (and international) community of telecentres.

In addition to these public agency responsibilities, those individuals or organisations that are interested inbecoming telecentre operators must take a number of steps to transform the goal into a working reality. Ultimately, they must formulate a working business plan to support the initial investment and ongoing operation of a viable telecentre.

Box 2: Elements of a Telecentre Business Plan

- Statement of Purpose (or mission)
- Governance and Legal Structure
- Organisational structure: management and human resources structure (recruitment and training)
- Community Description, its role and participation in the telecentre project
- Type of telecentre model, including infrastructure and equipment needs
- A five-year strategic plan (can include such ideas as potential expansion, introduction of new services, new programmes, etc.)
- A summary of main findings from a community/market research study to assess needs and demand for services
- Software infrastructure needs
- Human Capital and Training requirements
- Products and services: list all products and services and targeted markets
- Budget and financial projections
- Marketing Strategy
- Networking strategy
- Evaluation and Monitoring Plan

The type of financial forecast shown in the previous section should also be developed as part of this business plan.

V. Policy and Regulatory Issues

The effective development of the telecentre strategy also crucially depends upon a strong coordination of different players at the levels of policy and regulation. These policies should support the economic viability of telecentres, while also helping to integrate the telecentre concept with the broader evolution of the national information and communications infrastructure. Part I of this report recommends that the USF Administrator be integrated with the national communications regulatory authority, a step which would help ensure appropriate regulatory attention to these concerns.

5.1 Infrastructure

Connectivity

Telecentres will serve little useful purpose without being connected with the national telecommunications network infrastructure. The fact is that the areas where information and communication technology (ICT) services are most lacking, and thus where telecentres can provide the most benefits, are locations where often there is little or no telecommunications infrastructure currently available. (Indeed, other types of physical infrastructure may also be lacking, including electric power, roads, water, and so forth, and these, too, need to be addressed in a coordinated manner.) Clearly, the policy maker and regulator's policies concerning the deployment of backbone network and access facilities needs to address these gaps effectively, to ensure that all telecentres that might be established will be able to connect fully with the national network.

For those cases where network infrastructure is not available to provide immediate access connections, some form of policy needs to be established to ensure that access can be obtained in the most affordable and timely manner possible. Such a policy, in general terms, could encompass any of the following options:

- Direct cost-based funding of the infrastructure as part of the telecentre plan: Under this scenario, the cost of extending the network would be considered a component of the start-up cost of the telecentre, to be financed from the same sources as other equipment and facilities (the telephone operator might have to be reimbursed by the telecentre investor if funding is channeled through the telecentre).

- Universal Service Obligations (USO): This scenario assumes that the national full service operator and the other carriers can be required, under their USO requirements, to build out their networks to areas where telecentres will be built at no cost to the telecentre itself. USOs may need to be modified accordingly. Alternatively, a process such as that described in Part II of this report could be established, utilising the USF, specifically to secure connectivity for telecentre locations through a competitive bidding process.

- Government subsidy, and/or integration with other infrastructure projects: It may be possible in many instances to fund a large portion of telephone network expansion costs in connection

with other public infrastructure initiatives in rural areas (e.g., including coordination of such network expansion with rural transportation or electricity projects). Advanced planning is key in this regard.

- Market incentive policies: Incentive-based policies may be used to encourage carriers to build infrastructure into many telecentre locations, with the incentives relating to future potential customers and revenues generated by telecentre activity. In a competitive market scenario (see below), carriers could be granted franchise rights to connect telecentres in given areas in exchange for their future traffic.

Quality

Even where basic network infrastructure access is either already or potentially available, the successful development of the telecentre plan depends upon the capacity or quality that infrastructure as much the simple presence of telephone wires in a community. Many of the value added services envisioned for all but the most simple telecentres (the Tele-shops) anticipate access to reasonable quality data transmission capability, especially including Internet access, as well as connectivity to government information networks, and the like. To provide these types of services at even their least complex levels requires connectivity via telecommunications facilities that can transmit data at acceptable speeds (e.g., at least 14.4 kbps, and preferably far higher), with reasonable reliability, maintenance, and technical support by the network operator. For full-service MCTs, these requirements are even greater, and form a critical aspect of the viability of their operations. Policy makers may need to authorize MCT operators to use alternative technologies such as very small aperture terminals (VSATs) or wireless local area networks (WLANs) to ensure adequate Internet bandwidth. VSATs could also be used for a international gateway services, enabling MCT operators to sell international voice services.

In general, the same range of options exists to address this issue. Where no network access is in place, certainly the policy must promote not merely minimal "access," but sufficient network capacity, quality, and service support to meet both immediate and potential expansion needs of telecentres in the area. Where there is already some degree of existing network access in a location designated for a telecentre, there should be a process of collaboration among the telephone operators, the regulatory authority, and the prospective telecentre management, to ascertain the adequacy of the present network facilities to support the telecentre's short and long term service plans.

5.2 Tariffs

Tariffs (prices) for telecommunications services are also a regulatory issue. Part II of this report presents a detailed discussion of tariff related issues as they affect new rural telephone service operators generally. This section addresses how these issues affect telecentres in particular. Specifically, there are two types of tariffs that may need to be examined:

- tariffs charged by the dominant national full service operator or other telephone network operators for (wholesale) connection services provided to telecentres; and

- tariffs charged by the telecentres themselves for (retail) services provided to their customers.

Telephone network connection services

All telephone calls and other services such as data transmissions that are provided from a telecentre need to be connected to the national (and international) telecommunications network, and will typically incur charges from the carrier, usually the national full service operator or a cellular operator, that provides the connection. Ideally, preferential tariffs should be provided by all carriers to all certified telecentres, to support the goal of affordable and universal service, in keeping with broader national policy mandates as discussed in Part II.

Tariff policies for telecentres should also not be adversely affected by the rebalancing of the national full service operator's tariffs. The national regulator should undertake an analysis of the long run incremental costs (LRIC) of providing connectivity to telecentres in general, and should consider the minimum charges that can be economically sustained, either on a fully rebalanced basis, or through explicit cross-subsidies if necessary. [1]

End user telecentre services

Most of the services provided by telecentres will require users to pay some charge, and as discussed previously these charges need to provide telecentre operators with their main source of recurring revenues. However, telecentre service prices should not be set too high, which could discourage use of their services and limit universal access. One key policy question is who should be responsible for reviewing and regulating these telecentre tariffs, the national regulator and/or the telecentre operators themselves.

Telecentre managers should be in the best position to know what prices their market can afford, and also what charges are needed to cover operating costs. On the other hand, leaving tariff setting entirely to telecentre operators could result in at least some cases of excessive or unfair pricing practices. The best course of action might be for the regulator to establish general rules and procedures for telecentres to set their prices, along with review policies for cases where operators may be found to impose inappropriate prices on their customers.

5.3 Market liberalisation

Finally, the policies to be defined by the national policy maker concerning the liberalisation of the national telecommunications industry will have profound impacts on the long-term prospects for telecentre development. In a competitive market, in which new carriers may be licensed to provide all forms of telecommunications connectivity, access, applications, and technologies, there are likely to be a variety of new ideas and opportunities to integrate the telecentre concept with other market-based entrepreneurial initiatives. To the greatest extent

[1] For a further discussion of LRIC, see Trends in Telecommunication Reform 2000-2001: Interconnection Regulation.

possible, the national policy maker should support the potential for experimentation and innovation in the market, once the dominant national full service operator's basic service monopoly franchise is terminated.

Some of the possible new market arrangements that could occur in a liberalised environment include:

- Joint ventures between new licensed operators and telecentre owners to provide enhanced infrastructure and services;

- A consortium of telecentre operators applying for a license to offer national and international telephone services, with the profits flowing back into the telecentre businesses;

- New USOs for license applicants, including connection of telecentres to high capacity networks and services;

- Joint ventures between telecentres, new telecom licensees, and other investors such as e-commerce entrepreneurs to offer full-service ICT access, content, and business venture options to rural communities;

- Specialised start-up companies, such as public payphone providers, Internet Service Providers, VSAT operators, etc., establishing new telecentre models, with USF certification, based on open-market, profit-oriented incentives.

These scenarios are merely ideas that could occur in the wake of an opening of the broader market for the provision of telecommunications in any given country. The national policy maker's liberalisation policy could be structured to encourage the most beneficial of these kinds of activities, tapping the vast potential of the unserved and under-served markets to create the most appealing incentives for those with ingenuity and vision to bring both economic development and social equality to all citizens.

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NEW PERFORMANCE INDICATORS ISSUES FOR CONVERGED SERVICES

A REPORT FROM THE ASIA-PACIFIC TELECOMMUNITY (APT) FORUM ON TELECOMMUNICATION POLICY AND REGULATION HELD IN KUALA LUMPUR, MALAYSIA FROM 17-18 MAY 2002

Introduction and Background

The APT Forum on Telecommunications Policy and Regulation was hosted by Malaysia from 16–18 May 2002. The issue on the need for new performance indicators brought about by convergence were discussed at the Forum and this led to a recommendation that the APT establish a Consultative Group on Performance Indicators to consider issues and initiatives in the Asia-Pacific region.

The discussion on new performance indicators focused on the impact of service convergence due to rapid technological changes that has blurred the traditional performance indicators. The discussion also touched on the use of indicators and the approaches in managing and supervising the industry for consumer protection as the industry move forward in competition, liberalisation and self regulation. In considering performance indicators for the new converged services, the aspects of identifying, implementing, updating and monitoring were discussed.

Inputs to this study were from the views recorded at the APT Forum during a panel discussion on the subject matter as well as follow-ups through e-mails. The views provided below covered issues on performance indicators in terms of quality of service (QoS) and market or industry performance.

General observations on performance indicators for converged services

APT countries are in various stages of market competition and maturity, liberalisation, as well as experiencing various levels of service convergence in their market place. Although there is such a diverse market and regulatory environment, some views and initiatives from APT members may be observed that may provide us with the way forward on performance indicators for the complex converged services environment.

The general observations are:-

- Performance indicators must be meaningful to the consumers so that they may make informed choices and be aware of their rights. It must describe the attributes of the market accurately for the regulators to act on the indicators and set benchmarks to protect the consumers as well as to manage for the common good of all stakeholders;

- The traditional performance indicators and approaches in managing performance may need to be reviewed or revised in the light of convergence and rapid technological changes for a more accurate picture of the industry and its appropriateness to reflect the socio-economic and demographic profile of a country;

- Convergence has blurred the traditional indicators which we have been used to. New applications services that have emerged out of convergence is complex to handle due to continuous evolution and innovation taking place. A light handed regulatory approach may be the way forward in this environment;

- Moving to technology neutral performance indicators may also provide a way forward to handle rapid technological changes;

- Consumer centred approaches in quality of service issues such as availability of consumer protection mechanisms, consumer education and awareness, consumers service guarantees and consumer satisfaction study or surveys may provide a way to manage the complex converged services environment; and

- Ensuring QoS guarantees or promises to consumers are sustainable, they need to be supported by mechanisms such as service level arrangements (SLAs) and quality systems to be in place such as ISO quality management systems.

Comments on the issues by some APT member countries

1. Australia

Australia's experience is similar to Hong Kong's. In the convergence environment and increased competition, old performance indicators such as penetration rates are not enough for the future. We need new indicators to firstly, assist regulators in carrying out their jobs. Secondly, to explain to the community what progress was made and what is useful to them in their execution of choice as consumers.

Different types of indicators available would appear to be appropriate for different countries, depending on the socio-economic and demographic profile. It is important for there to be a range of indicators available, so that a 'skewed' picture is not presented because of, for example, a developing country using an indicator that is more appropriate for a developed country. The idea of a *'universal indicator'* (particularly in relation to assessing qualitative improvements in service or penetration) may be difficult to find, but perhaps not impossible.

On service performance issues, Australia has a Customer Service Guarantee made by law and incorporated in the Act. It sets minimum performance standards for basic services and it gives consumers automatic credits on their accounts if a telecommunications supplier has taken too long to repair or connect a service.

2. Bangladesh

In addressing the issue of performance indicators, it was noted that in the era of convergence there is a great degree of divergence in member countries. Therefore common benchmarks should be set for member countries to achieve in terms of bridging the digital divide. The community or holistic approach is necessary, so that countries which are on the advantageous side of the digital divide can come forward and help countries which are on the other side of the divide to bridge the digital divide. GDP development is an important performance indicator, but using the benefits and opportunities of the telecom, ICT sectors for bridging the economic and social divide between countries and within countries is also very important.

3. Hong Kong SAR, China

Performance indicators in the narrowband environment should have its counterparts in the broadband environment. The regulator had often received complaints that the performance of broadband is not as fast as expected. Another kind of performance indicator is needed to measure the effectiveness of policy, regulation and competition in markets and the benefits to consumers.

4. India

Performance indicators need to be based on appraisal benchmarks involving consumers and other stakeholders. New parameters for performance indicators are needed and factors such as shortfalls and the reasons for them should be examined in developing them.

In rapid changing era of technological and market convergence, there is a need to revise performance Indicators which are currently based on traditional pattern. These should be an effective performance appraisal system based on comparison with established bench markers, finding variations, reasons for shortfall allowed by corrective measures. This should be with the active involvement of consumer organizations.

5. Malaysia

Malaysia is in the process of developing new sets of performance measures to address convergence and changes brought about by the new convergence legislative framework. The new performance indicators and benchmarks will cover the areas of quality of service and market performance. The indicators and benchmarks will be used holistically towards managing a competitive and liberalised industry to ensure its health for the benefit of consumers. A holistic approach is envisaged to nurture strong and able service providers who will more likely be able to maintain the promised quality of service to the consumers.

In the pre-convergence legislative framework, performance indicators were technologically focused and micro in approach. Such performance measures were difficult for consumers to comprehend and contribute little to consumer awareness of the level of quality that they should get and assist them in choosing a service. Thus technology dependent definitions of service quality are becoming less relevant as service convergence sets in. Malaysia is thus moving away from this for a more technology neutral and consumer focus approach to performance.

Generally, Malaysia will further review performance indicators and benchmarks that are commonly used for macro and micro monitoring and supervision of the industry. At the industry level (macro), areas of performance indicators may include:

- Service take up rates – service penetration,
- Rates or charges/pricing for services,
- Timeliness in policies and issuance of regulatory instruments and standards/benchmarks
- Cost, revenue and efficiency – infrastructure costs , growth in revenue /GDP
- Customer satisfaction
- Quality of service and network performance; and

At the licensee level (micro), performance indicators and benchmarks may include:

- Financial performance (Revenue, Number of subscribers/users and Average Revenue Per User) of licensee
- Customer satisfaction of service provided by licensee
- Quality of Service and Network Performance of licensee's network
- Availability of internal quality standards on service processes or practices (ISO)

The issue of the rapid technological changes and its impact on cost and the way applications and network services are tailored and delivered complicates measurement of macro and micro performance indicators as existing benchmarks become blurred. For example service substitution or cannibalization between mobile and fixed telephone services makes the traditional benchmarks for fixed telephone penetration as a measure of digital divide or wide spread accessibility an inaccurate measure.

The new convergence legislations has organized the communications and multimedia market into four separate vertically separated markets i.e. for the provision of network facility, network service, applications service and content applications service. The framework being technology neutral put further twist to the traditional performance benchmarks which are technology based. Thus existing performance benchmarks need to be reviewed to address the four separate markets.

In consumer focused QoS for example, performance indicators tend to define the service quality at the interface between consumer and the offered applications service. Thus for QoS performance requirements to trickle down, there is a need to have SLAs (Service Level Agreements) between parties in the service delivery chain. Malaysia has set some consumer focused basic mandatory standards for quality of service in traditional services. However in addressing the complex converged services, Malaysia intends to use a light handed regulatory approach to allow for evolution and innovation to take place while depending more on consumer self regulation and consumer satisfaction studies to monitor the market.

In addressing digital divide in the convergence environment, new benchmarks need to be set so that universal service programs may be planned. Malaysia is now using basic access to telephony and internet as our new benchmark for universal service.

The costs involved in the data collection and reporting of performance indicators need to be considered when considering the number and range of performance indicators to monitor. Some performance indicators (especially in quality of service) also need to be measured. A balance in the number of performance indicators monitored and the cost involved need to be obtained so as not to overly burden the industry but effective for the job. In Malaysia such requirements to keep and report on the data are provided for in the legislation. Audit on its records will also be applied.

Non compliance to either record keeping and not compliance to specified performance benchmarks attracts a penalty in the legislation.

6. Philippines

The bottom line for having performance indicators is to measure consumer satisfaction. In the regulator's view, less consumer complaints is a greater measure to indicate good quality of services.

7. Singapore

Singapore takes a pro-active approach in anticipating emerging trends 3-5 years ahead and assessing their implications on national infocomm strategies and policies. Singapore began monitoring the evolution of the convergence of the 3Cs - Compute, Conduit and Content, since the mid-80s. When the time was ripe, one of the first concrete steps Singapore took to address convergence at the policy and regulation, and industry development spheres was in 1999, when the government agencies in charge of IT and telecommunications were brought together to form the Infocomm Development Authority (IDA). In November 2001, the IDA was further transferred to the restructured Ministry of Information, Communications and the Arts (MITA) to allow better co-ordination with her sister agency overseeing the broadcasting industry. In the past year, under the leadership of MITA, the IDA and the Singapore Broadcasting Authority (SBA) has been working together with a view to align Singapore's telecommunication and broadcasting policy, regulatory and legal frameworks to facilitate delivery of convergent-type services (including digital media).

Indicators provided by IDA

Today, IDA publishes 3 categories of indicators/information to inform industry players and businesses, as well as educate consumers on the state of development in the telecommunication industry:

(a) Indicators on growth of Singapore's telecommunication industry

IDA monitors and publishes indicators such as subscriber bases and penetration rates of key telecommunication services, usage figures of certain telecommunication services and the number of licences issued by IDA. These basic indicators help IDA monitor the growth of the telecommunication sector.

(b) Indicators on service quality performance for key services

IDA has established a set of minimum quality of service (QoS) standards for key telecommunication services. Service providers of these services are required to comply with the minimum standards set and IDA monitors their performance to ensure compliance. IDA also publishes the QoS performance of the service providers to help educate consumers and to help them make informed decisions when choosing the service providers they wish to subscribe to. Separately, IDA also conducts consumer surveys to gather further feedback from consumers.

(c) Information on competition management and enforcement decisions

IDA publishes its investigation and enforcement actions taken on licensees for breach of IDA's regulations, licence or any legislation. The purpose is to inform industry players of the types of activities that are found to be anti-competitive or are in breach of IDA's regulations, licence or any legislation to prevent other licensees from committing the same act in the future.

Moving Ahead

IDA constantly reviews the relevance of the performance indicators in the light of changing technologies, changing regulatory environment, phase of development of the telecommunications industry and markets, and impact of emerging trends such as convergence. Performance indicators that are no longer useful are retired and new ones are introduced as and when appropriate.

8. Sri Lanka

In Sri Lanka, performance indicators have been designed following a consumer survey on subscriber attitudes towards the service attributes such as service acquisition, network efficiency, billing, call handling and overall service level. It is important that the regulation realizes the importance of consulting the public in the process of adopting the performance indicator.

One key performance indicator should be the accessibility to the people in terms of cost per phone and cost per call. In an environment of perfect competition, prices should progressively reduce reflecting the efficiency of the operations. Is this happening? Cost consideration should be a macro indicator.

Micro level indicators based on modes of telecommunication facilities such as payphones and the cost of these should be taken in consideration in terms of density measurements. In other countries, other community factors should also be considered.

Improving quality of service to increase customer satisfaction

With the growth of the telecommunications services brought about by liberalising and restructuring the market, subscribers were concerned about the quality. Their main concerns were on service acquisition, network efficiency, billing, fault handling and overall service level supplied by the operators. Therefore, the regulatory body of Sri Lanka had to pay attention to keep the quality of the telecommunications services at a standard level. As an initial step, recognizing the importance of the public consultation in regulatory decision making the Commission handled a survey to identify the existing situation of the quality of the fixed services.

Based on the findings of that survey a set of standards developed by the regulatory commission and was presented to the public through a series of Focus Group Discussions and later were adopted as the performance standards.

Fixed operators are expected to submit their performance on monthly basis for the review of the Commission. For the other operators, they shall comply with quality of service standards conforming to international norms and standards as specified by the authority.

9. Thailand

New performance indicators may be divided into 4 perspectives: financial, customer satisfaction, process efficiency and human resource development. From the perspective of human resource development, there should be some indicators that reflect the era of convergence. In term of customer satisfaction and process efficiency perspectives, individual connectivity and customer switching cost might be indicators.

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DEBEVOISE & PLIMPTON, LONDON REPORT TO THE INTERNATIONAL TELECOMMUNICATION UNION (ITU) GLOBAL SYMPOSIUM FOR REGULATORS, 7-8 DECEMBER 2002:

FEEDBACK TO REGULATORS FROM INVESTORS

Telecommunications in Crisis: Perspectives of the Financial Sector on Regulatory Impediments to Sustainable Investment

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I. Introduction and Preliminary Observations: A Sector in Crisis

Telecommunication operators and service providers around the world, almost without exception, are now facing an extraordinarily adverse climate for generating the financing required to maintain and expand their operations. Some of the reasons for this very adverse environment are quite obvious; others are more complex. Regulating the sector in light of this environment presents challenges that merit a revaluation of a number of aspects of traditional regulatory approaches.

In the two years leading up the high water mark of the Internet bubble in March 2000, investors' enthusiasm for what seemed to be a dynamic sector extended to the staid group of former telecommunication monopolists. Often previously regulated on a rate of return basis with their public utility counterparts in the energy and transport sectors, investors valued the traditional operators in the market with price/earnings ratios like newly minted Internet start-ups – as multi-billion dollar ventures on the basis of mere promise of future revenue and earnings streams. As market appraisals of the Internet sector collapsed, valuations of traditional telecommunication operators also collapsed with a vengeance to more historic and conventional levels. Acquisitions and business strategies based on elevated market evaluations of these operators' securities became exposed to increasingly hard assessments. The attention of investors and their financial advisors is now focusing again on the real dynamics and prospects of diverse market segments in the telecommunication sector. The future financial viability of converging telecommunication, media, and Internet sectors is now subject to unprecedented levels of uncertainty as a result of the combination of collapsing expectations about the prospects of the Internet, the mobile sector's plans for third generation (3G) services, and core fixed line telecommunication services as well as the breakdown of confidence of investors in corporate disclosure and accountability mechanisms. Staggering revelations about the accuracy of the financial reporting of an increasing number of publicly traded companies in the telecommunications sector in the United States and even some other markets have dealt a heavy blow.

Assessments of the potential for growth in the telecommunications sector, the possibility of renewed investment flows, and comparison of the operational and financial results of telecommunication operators depends significantly on the underlying constraints applicable to such operators, and, in particular, to the various regulatory and governance-related arrangements applicable to their operations. This paper is intended to provide some insights from the standpoint of the financial community about how regulation overall, and some specific regulatory policies, may affect the flow of investment into the telecommunications sector and the overall dynamics of growth and competition in the sector. Investment banks and commercial banks play a key role in the conduit of financing to meet investment needs, and in doing so they assess the prospects for returns on investment in light of the scope for market growth and restrictions on such growth.

This paper is not so much based on a scientific survey of the views of investment bankers or financial advisors as on a series of discussions with a range of investment bankers and investment analysts who deal with national and international investment in both developed and developing markets as well as on the experience of its principal author both as a regulatory advisor and then for the past ten years as international legal advisor to a range of telecommunication companies raising debt and equity financing in the international capital markets. The views expressed in this study are those of the authors and may not necessarily reflect the opinions of the ITU and its members. The focus of the paper—given the breadth of the issues addressed—is thus necessarily anecdotal in orientation and reflective of the views of

members of the financial community through the prism of the author's own experience. Nevertheless, the paper will hopefully contribute to further and ongoing exchanges of views among regulators and financiers about how regulatory frameworks and policies can be structured and focused to ensure access to the financial capital necessary for the long-term development of the telecommunications and related sectors of the global economy. The paper focuses both on many issues that would have been a matter of concern irrespective of the condition of financial markets as well as on some views concerning how regulators may have to reassess their task given the current crisis facing the sector.

One of the premises of this analysis is that a fresh new look at the impact of regulation on investment is imperative given current conditions in global financial markets and the views of investors about the prospects for the overall sector. A common theme arising from the discussions with the financial community concerns whether the regulatory community takes a sufficiently broad view of the sector as a whole, as opposed to fragmented application of focused economic theories and social policies to various specific markets within the sector.

A second core theme of this paper concerns the need for regulators to adjust some of the premises of regulation to take into account the rapid changes to the structure of the market resulting from the introduction of competition, whether resulting from the removal of incumbents' exclusivity rights or from the use of alternative technologies (e.g., in the case of fixed line retail services, the substitution effects of mobile services, and use of call-back services and Internet telephony). A key priority in attracting investment is increasingly to ensure that operators and service providers will have the necessary flexibility to adapt to changing market conditions and not be constrained by traditional models that no longer reflect the reality of the competitive market.

II. Regulation From the Investor's Perspective

Financial Analysis and Business Planning

As intermediaries between the sources of capital in the international financial markets and the deployment of that capital to identified business opportunities, investment and commercial bankers play a key role in evaluating the viability of investment in the telecommunications sector. The financial community's various methods of comparing different investment opportunities offer insights into the types of factors that affect the attractiveness and cost of investment, and how management of those factors by governments and regulators might be improved so as to increase investment flows.

An essential part of the work of investment bankers involves monitoring carefully the performance of a wide spectrum of market participants and benchmarking their results on the basis of operational and financial indicators. These indicators include: information about the existing structure of, and potential for future growth in, the market, such as penetration, usage and churn rates, and market share; efficiency measures such as average revenues per subscriber ("ARPU") and employees per line; leverage and capital adequacy measures such as debt/equity ratios; and various income statement measures such as earnings before interest, depreciation, taxes and amortization ("EBITDA").

Table 1: Selected indicators used by investors

Operating Statistics/Ratios	Financial/Operating Ratios	Financial Statistics/Ratios
Subscribers (or lines)	Average revenue per user (ARPU)	Operating revenues
Employees per subscriber (or line)	Revenue/minute	EBITDA (Earnings before interest, taxation, depreciation and amortization)
Minutes of use per subscriber (MOU/Sub)	Subscriber acquisition costs (SAC)	EBITDA margin (EBITDA over revenues)
Churn rate	Enterprise value (EV) per subscriber (EV/Sub)	Free cash flow (FCF)
		Debt/EBITDA
Country penetration	Capital expenditure (Capex)/Sub	Debt/market capitalization
	Capex/Minutes of Use (MOU)	Enterprise value (EV)/EBITDA
		Capex/revenues
		FCF yield
		Price/earnings (P/E) ratio
		Earnings per share (EPS)
		Return on equity (ROE)

Source: Debevoise & Plimpton, London

Whereas operating income and net income are standard line items in a company's income statement, EBITDA is a presentation of selected information derived from the income statement. A company's operating income is comprised of its income from its operations (providing services or selling goods) less the expenses of such operations, such as salaries, maintenance, costs of purchasing services and products required to offer the services or sell the goods, annual license fees, marketing expenses, as well as depreciation and amortization. Depreciation is an annual charge on the income statement of an amount that over time reflects the gradual reduction in value of an asset, for example network assets, over the asset's lifetime. Amortization is an annual charge on the income statement that spreads out a one-time up-front payment for an asset, such as a license, over the lifetime of the license. Operating income is the result of subtracting such costs from the income, before calculating the income tax due. After calculating operating income, a company will calculate its net income by further subtracting its financing costs (e.g., interest on loans), its income tax, as well as other extraordinary charges resulting from particular events or programs, such as asset write-downs or work force reduction programs.

EBITDA is the calculation of a company's earnings without taking into account costs such as interest, taxation, depreciation and amortization. EBITDA has been particularly useful to investors in assessing the cash flow from operations from one period to another without taking into account the expenses related to the original investment (interest, depreciation and amortization) which obscure the trends in the direct revenues and expenses of the actual operations themselves.

EBITDA has the disadvantage that it does not reflect the actual cash flows available to the business for liquidity purposes since interest and taxation expenses are not included in the calculation. In the late 1990s, EBITDA trends were particularly encouraging and EBITDA projections were excessively optimistic, and although some financial regulators such as the United States Securities and Exchange Commission cautioned companies against focusing investors on EBITDA and required such companies to include disclaimers as to its appropriateness as an indicator of cash flow and liquidity, EBITDA and EBITDA projections have been and still are used extensively by financial analysts in valuation of companies. More recently, because of increasing regulatory and market scrutiny, the focus has shifted to more conventional measures of liquidity and cash flow. Investors and financial advisors are making increasing use of valuation methods that rely less on the growth potential of the business and more on its ability to generate cash. Thus there is more focus on operating cash flow yield, the yield dividend and cash flow/earnings ratios. This increases the importance of companies being able to demonstrate their ability to generate cash themselves to fund their investments, and therefore makes it all the more important that regulators consider the impacts of regulation on cash flows.

Future estimates of such indicators are the raw data used by the financial sector in evaluating investment opportunities. Estimations of the net present value ("NPV") of companies' operations, valuations of their discounted cash flows ("DCF") and methods using multiples such as price/earnings ratios and enterprise value/EBITDA ratios typically focus on the key drivers of future revenues and costs, and discount these in relation to investment risks and opportunity cost over the investment horizon. Such valuation methods assist in determining the cost of investment, and ultimately whether a given investment opportunity is worthwhile. Whether an investment is financed in the form of equity or debt also makes a difference to the discount rates applied. Debt, ranking ahead of equity in most bankruptcy systems, is lower risk and therefore costs less for an operator to raise than equity finance.

Business plans prepared for investment decision-making in the telecommunications sector, as with most infrastructure-intensive businesses, typically take a long term view, modeling the business over five to twenty years. How quickly investment is required to turn a profit depends partly upon the availability of external finance for on-going investment, working capital and liquidity, as well as the speed with which services can commence commercial revenue generation, the predictability of market conditions and flexibility to adapt the core economic terms of the business in response to changes to market conditions. The greater the uncertainty in the market, for example as a result of the possibility of competition and technological innovation, the more important it becomes for investors to know at the time of investment that the operator will have the flexibility to adapt its core economics (prices, for example). If such flexibility is not signaled by regulators, it may become more important from a risk management point of view to achieve profitability on a shorter time scale, or the cost of capital for a given investment opportunity is likely to be higher. To the extent that external sources of finance are unavailable, as is now generally the case in today's capital markets, it becomes more important for companies to be able to use their own cash flows for liquidity and continuing investment, and therefore that they begin to realize profits on a shorter investment horizon.

This paper therefore is not only concerned with the ability to attract capital from external sources, but also – particularly given the current state of the financial markets – the capacity of telecommunication operators and service providers to finance their investment needs from their own cash flows. Indeed, this capacity is also relevant to the attractiveness of operators and service providers to the capital markets, since debt/equity ratios and the impact of debt servicing costs on cash flows have a significant bearing on credit ratings and whether a company can attract further investment. Until it becomes foreseeable for the capital markets to recommence funding the investment needs of the telecommunications sector, it will be important that the sector as a whole be afforded the flexibility to use cash flows from higher revenue generating businesses, such as mobile services for example, to fund its investment needs.

The ability to fund investment from cash flows becomes all the more crucial in developing countries which may find it even harder than operators and service providers in developed markets to access international financial markets. The higher the risk profile of the business, the more important it may become to be able to finance its own investment from its own cash flows. For example, the nexus between price regulation and investment requirements becomes particularly strong where developing country governments seek commitments from strategic investors to ensure increased investment in incumbent operators. Those strategic investors will consider carefully the extent to which projected cash flows will suffice to satisfy the investment needs and may otherwise be unlikely to guarantee the investment commitments required by the governments.

Regulatory Factors Affecting Projected Revenues, Costs and Risks

In estimating projected revenues and costs associated with investment opportunities, and in weighing the risks associated with such investments, investment bankers will analyze a range of likely and contingent factors and influences, and their impact on the bottom line of the business. This paper discusses a sample of factors which come within the realm of governments and regulators, have a significant influence on the fundamentals of the business, go to the heart of the valuation of investment opportunities and therefore have a determinative impact on the viability of capital deployment. The paper is ultimately concerned with the role that governments and regulators can play in improving the viability of investment in the sector. Where governments remain major shareholders in a sector, relevant factors will also include dividend policies and the likelihood of a government using its shareholding to effect sector policy goals. At the broadest level, valuations will take into account governments' taxation policies towards the sector such as general corporate tax rates and exemptions from customs and excise duties, and accounting policies such as relate to depreciation and amortization, and expensing of capital costs. These broader issues are not the subject of this paper, which focuses more on regulatory-specific issues of particular interest to countries whose telecommunication sectors are in the process of reform and development. A number of investment analysts and financial advisors go so far as to say that telecommunications sector regulation is the single most important factor affecting a country's ability to attract investment.

While discussion of telecommunications sector reform in developing countries often focuses on formal and institutional issues such as the introduction of a new legal framework, the establishment of new independent regulatory bodies and the liberalization of licensing policy, there is often inadequate focus on the conditions affecting the economic bottom line of business planning and capital raising. Formal and institutional matters are important primarily from a risk-assessment point of view. Signals concerning regulatory stability and indications that the sector will be governed according to the rule of law and not be subject to expropriation and policy making that may be vulnerable to political change reduce the

discount that an investment analysis will place on its NPV and DCF valuations, and for that reason such factors are important.

What must not be missed, however, is that the fundamental sector economics must be right for the business plan to be viable in the first place. For example, the independence of the regulator will not improve investment prospects where the regulator's – even independently regulated – price controls leave operators without the assurance of realizing a commercial return on retail or interconnection services. More fundamental than the mantra repeatedly delivered by advisors to regulators stressing the importance of creating a stable investment environment is the importance of creating an economically attractive investment environment. It is imperative that policy makers and regulators have this basic tenet of regulatory wisdom at the front of their minds in framing the design of the regulatory regime and the approach to day-to-day regulation.

On the revenue side of the income statement, discussed in Part III, regulatory factors influencing investment include the presence or absence of an articulated vision for price regulation that reflects competitive realities and the structure of the market, focusing in particular on price controls on basic retail services in light of the substitution effects from the mobile sector. Investment analysts monitor carefully tariffs applicable to specific services such as local, long distance and international call charges, post-paid and pre-paid call charges, as well as roaming, termination and interconnection rates, as well as watching likely causes of change to those rates. The paper discusses concerns among the financial community about the narrow vision of traditional price regulation of fixed line operators, particularly at the retail level. Not taking into account the substitution effects from the mobile sector and the emergence of a genuinely competitive market results in disparate regulatory treatment between the fixed and mobile sectors. Unnecessary and outdated price regulation of fixed retail services may produce distortions that ripple through wholesale pricing, and undermine unbundling initiatives and attempts to introduce high speed access at the local retail level. Regulatory pressure on narrowly defined market segments may reduce the financial flexibility of the sector as a whole to pursue otherwise economically viable opportunities and to weather the current crisis.

On the cost side of the income statement, Part IV of the paper discusses the significant impact on the viability of investment that can result from regulatory policies that affect initial costs of capital deployment, as well as on-going costs. The paper discusses concerns in the financial community about how essential public resources are made available to telecommunication sector operators and how this affects the ability of telecommunication operators to finance their needed on-going investments. The paper also comments on other cost-related issues such as universal service obligations and infrastructure sharing.

Investment bankers will typically focus on a number of risk factors – many common to developing markets – in assessing the attractiveness of investment, and determining suitable discount rates to apply in analyzing the NPV and DCF of a given investment opportunity. Many of these risk factors are discussed extensively in literature on sector reform, and include broad concerns about growth forecasts of the economy in question, political risk, stability of the legal regime, and the independence and mandate of the sector regulator. Part V of the paper focuses on some less obvious examples of systemic complexities that may raise the overall risk profile of the telecommunications sector, particularly as it goes through regulatory transition in a reform process. Investment risks relating to the effect on the income statement of changes in institutional structures are discussed, as are some risks that can arise in the process of transition from an old licensing or concession-type regime to a new licensing regime. Taking a broad view of increasingly cross-border and regional investment trends and the increasing internationalization of regulation through global and regional regulatory

initiatives (e.g., World Trade Organization (WTO), the European Union (EU), and a number of regional harmonization regulatory projects), the paper discusses some of the systemic complexities and risks that arise, drawing on lessons from federal and federal-like regional structures such as the United States and the EU.

Part VI of the paper explores some ways in which a more "holistic" approach to sector regulation could be encouraged, including through the use of industry forum structures designed to air views and concerns among policy makers, regulators, market participants and investors, increase transparency and bringing together inter-related issues for negotiation, regulation and dispute resolution among key parties. Part and parcel of such an approach would be increasing usage of informal and alternative dispute resolution techniques designed to focus on consensus building in an inclusive manner that would take into account the imperatives of the investment constituency. Taking this exploration further, the paper refers to a recent discussion paper prepared by one of the authors of this paper entitled, "Discussion Paper on the Use of Alternative Dispute Resolution Techniques in the Telecommunications Sector" (Bruce & Marriott 2002) for the World Bank published as a document number 12 of the Global Symposium for Regulators.

By way of illustration throughout, the paper borrows examples of some key issues being faced in a number of different national and regional markets. The primary intention of the paper is to deal with issues facing regulators in emerging markets, although the discussion suggests that the experience in Europe or North America, where some regulatory and sectoral issues not yet experienced in emerging markets occupy center stage, may provide useful insights to regulators in emerging markets. Regulators and policy makers in developing markets have the opportunity to learn from the experiences of more developed markets, including how not to repeat their mistakes.

III. Regulatory Issues Impacting Projected Revenues

This section discusses some significant potential impediments that may result from current approaches to regulation that affect, directly or indirectly, the projected revenues of proposed investments and asks whether there may be a need, both in light of the current financial crisis facing the sector and the effect of direct and indirect competition, for a new approach to regulation affecting the revenue side of the income statement. The section suggests re-evaluating traditional price controls on fixed retail services in light of mobile service penetration, and discusses distortions affecting fixed wholesale services, as well as the potential effect of applying competition policy to individual market segments without taking into account the overall state and needs of the sector.

Traditional Fixed Line Retail Price Regulation in a Competitive Market

Policies relating to price regulation of fixed line telephone and telecommunication services undoubtedly have a clear and dramatic impact on the bottom line performance of operators who provide these services and on their ability to raise capital to finance their operations.

Traditionally, of course, in an era when telecommunication operators were considered to be natural monopolies at least with respect to fixed line switched telephone services, they were subject to traditional rate of return public utility regulation, at least in North America. In other countries, price regulation has also focused on rates of return on capital invested in the core business. In many countries, and especially as competition was introduced into the fixed line telephone business in Europe and elsewhere, various forms of price cap regulation were introduced to allow telecommunication operators increased flexibility to make pricing

adjustments – especially in the relationship of their long distance and international rates as opposed to the rates charged for local exchange services. It has not been unusual, however, to impose additional caps on the amount of adjustment that could be made to local exchange tariffs, particularly in view of the apparent impact of such price changes on a wide spectrum of consumers. To the extent that governments had traditionally controlled the price levels of local exchange services, price regulation continued to ensure that significant and politically unpopular price increases were unlikely to occur.

The necessity for significant rate rebalancing adjustments in traditional price structures is now well understood by telecommunication regulators and policymakers around the world. Traditionally, international services, and sometimes national long distance services, were priced well above their costs, and the substantial margins generated by such services were expected to be made available by telecommunication operators to keep the retail price of local telephone services low. The rationale for such pricing structures was, and is, undermined by the inexorable impact of competition in the provision of long distance services which eroded embedded cross subsidies. It has been evident as well that even in markets where *de jure* exclusive rights have been maintained on the part of incumbent operators, there are practical limitations on the full enforcement of these rights. Private networks bypass public networks and erode the revenues generated from the largest users of incumbent operators which have been responsible for the significant part of historic embedded cross subsidies. Call back, IP telephony, or services provided through mobile operators also chip away at an incumbent operator's market share and effectively render it subject to some competition even though in a formal sense regulators or national policymakers do not acknowledge that competitive conditions already exist.

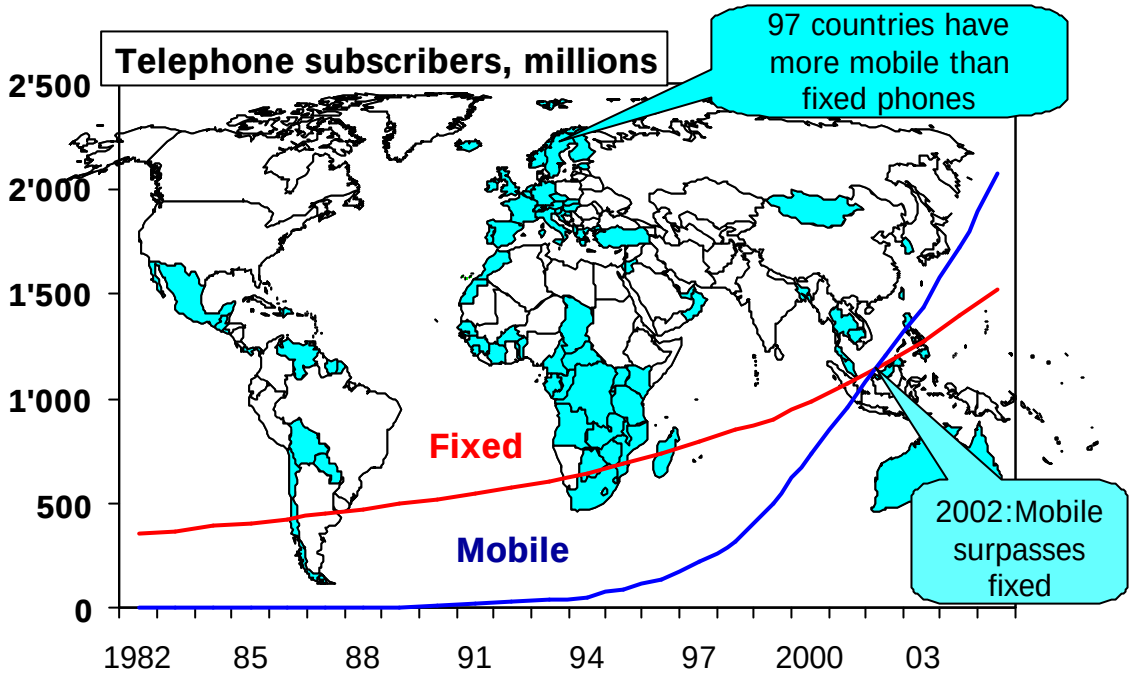
One of the concerns of investment bankers or financial advisors who advise governments in transition is whether policymakers are making realistic appraisals of real competitive conditions and permitting incumbent operators sufficient flexibility to adapt their pricing in anticipation of *de jure* market opening. Likewise, there is concern that other regulatory conditions more appropriate for monopolistic markets are retained in place too long and effectively hinder the ability of an incumbent to adapt to new market realities.

The Reality of Competition From Mobile-Fixed Substitution

With just short of a billion subscribers at the end of 2001, mobile subscribers are expected to exceed the number of fixed lines in 2002. In 1991 less than one percent of the world's inhabitants had a mobile phone; and only a third of countries had cellular networks. At the end of last year, over 90% of countries had mobile phone networks with one in six of the world's inhabitants having a mobile phone. More than 100 countries had more mobile than fixed line subscribers[1]. Much of this success was achieved, in contrast with the fixed line sector, with very little if not with no significant intervention from government and regulators with respect to price regulation.

[1] World Telecommunication Development Report (WTDR): Reinventing Telecommunications 2002, ITU.

Chart 1: Telephone subscribers increase and countries with more mobile than fixed phones



Source: World Telecommunication Development Report (WTDR): Reinventing Telecoms 2002, ITU.

Perhaps more important than substitution effects in access, there are increasingly substitution effects in usage. Traffic on mobile networks comprises an increasing proportion of total traffic, with countries like Japan and Korea leading the way in developed markets and Chile leading the way in Latin America. The importance of substitution effects to investment is a key focus of the financial community, which regularly analyzes the effects of competition between mobile and fixed line services on traffic. For example, some investment bank analysts are assessing market tends in Latin America, projecting future traffic and revenues and ascertaining the viability of investment in that region based on the assumption that every two minutes of growth in mobile traffic will "cannibalize" (be at the expense of) a minute of fixed line traffic. Given the significant levels of penetration of mobile services which are effectively not subject to any price regulation and increased usage substitution effects, it is hard to see the justification for continued traditional forms of retail price regulation such as price cap regulation with respect to fixed line services.

Some of the most dramatic instances of unrealistic conditions for price regulation – and the "lag" in the appraisal by regulators – can be observed in markets where significant mobile penetration is being achieved. For example, in a given country, after the privatization of the incumbent telecommunication operator, as a standalone fixed line operator, the Government was hesitant to acknowledge that mobile operators in the market were diverting significant international traffic both through conventional mobile for fixed call substitution as well as through various techniques for bypass of fixed access facilities to provide access to the mobile operator's gateway. As a practical matter, there was little that the government could do to enforce the incumbent operator's exclusive rights. However, the Government continued to insist, albeit within a fairly flexible price cap regime, on a very deliberate approach to regulating the incumbent's fixed line pricing as if it had effective exclusive rights.

Other interesting case studies are offered by two Arab States operators. In one case, the incumbent has been granted exclusive rights to provide international services. However, as a practical matter, the incumbent has become subject not only to conventional pressures generated by private networks, IP telephony and call back but it also faces significant competition from mobile operators—the incumbent's mobile affiliate and its competitor, whose subscriber members compare with those of the incumbent's fixed and mobile subscriber numbers taken together. The mobile operators together now have more mobile lines than the incumbent has fixed lines, and there is discussion at a policy level of introducing a third mobile operator to the sector, as well as making more spectrum available to the existing mobile operators. The competitor's network is near to full capacity due to demand for its services resulting from its successful customer-oriented marketing and the pricing competition that resulted from the introduction of incumbent's mobile operator, in 2000. Increasingly, these mobile operators, especially in situations with underdeveloped fixed line infrastructure, represent a real alternative to fixed line service for many customers. Indeed, users of mobile services are increasingly likely to originate long distance and international calls using their mobile phones as opposed to their fixed lines. However, a key question that investors will ask – in connection with the incumbent's Initial Public Offering (IPO) – is whether the price regulation scheme applicable to the incumbent's fixed line services allows sufficient flexibility to respond to these new competitive conditions as they continue to develop.

In some countries, the growth in mobile subscribers has even raised problems. This paper discusses later the fractured nature of government policy concerned on the one hand with making infrastructure widely available to the public while, on the other hand, seeking to impose limits on and penalties for installing too many lines. Mobile services are increasingly used in these countries as a substitute for fixed line services, proven by the high mobile usage rates. Mobile call prices are, however, subject to entirely different, and more relaxed, pricing regulation than fixed services.

Another compelling case of this dichotomy in price regulatory frameworks has resulted from the fact that in several countries, it is easier and quicker to get a mobile line than to have a fixed line installed. Some countries continue to have waiting lists in the hundreds of thousands and delays of months to get a new fixed line. Effectively, mobile and fixed lines have become substitutes; and the rates applicable to mobile lines operate as an effective market-based cap on fixed line rates. Nevertheless, the focus of price regulation continues to be on fully controlling the level of all fixed line rates even though by contrast mobile operators will typically offer an array of pricing packages aimed at different segments of the market ranging from large business and residential users to users who are keen to budget their mobile bills through pay-as-you go schemes.

The pricing of mobile services generally remains higher than retail fixed line services in most countries since price controls on retail fixed line services have artificially prevented the full impact of competition between the two types of infrastructure from becoming a complete reality. Yet pre-paid schemes have illustrated in numerous markets, including developing countries, the scope for mobile services to offer competitive packages to low-income users. Those skeptical about the reality of substitution effects between mobile and fixed services in terms of price comparability might focus on the most price-sensitive segments of the market. In fact, it is these very demographic groups – students, young couples and other low-income users – which tend increasingly to subscribe to pre-paid mobile services rather than obtain a fixed line and pay its monthly rental fees. Indeed, mobile services are so competitive with fixed line services that users are prepared to pay higher prices for mobile services compared with their fixed line equivalents. Furthermore, the financial community is increasingly noting that fixed line services become more expensive relative to mobile services

as usage declines and access charges increase. Fixed line operators typically charge a much higher proportion as a monthly access fee, reflecting higher fixed investment with lower marginal costs.

That the fixed and mobile markets are regulated so differently may be more a historical anomaly than a result of present rational policy making. Basic mobile services are comparable to those offered on the fixed networks. Mobile network infrastructure now compares favorably with fixed networks in terms of service coverage, at least for the purposes of retail voice services. Indeed, in many developing countries, mobile networks extend beyond the coverage of the fixed networks and provide an essential connectivity not otherwise available. Bangladesh offers an example of micro-finance being used to provide mobile telephones on a basis comparable to fixed line payphones in other countries. To the extent that substitution effects are not fully apparent in comparative pricing, then, it may be due to the effects of disparate regulatory treatment itself, resulting from the fact that fixed line operators have, before privatization, usually been regulated as state-held monopolies for decades whereas the mobile companies have been new arrivals funded by private investment, entering the market under concessions or licenses in a more liberalized environment.

Slow Recognition of Changing Conditions in Western Markets

It is not surprising that policy makers in emerging markets have been reluctant to conclude that there are significant substitution effects between fixed and mobile services when their counterparts in highly developed markets with significant levels of mobile market penetration still consider fixed and mobile to be separate market segments for the purpose of regulation. Some regulators are beginning to review mobile-fixed substitution effects with a view to determining whether the two markets form a "relevant market" for the purposes of applying competition law but have so far argued that since reductions to fixed line pricing results in only small changes in customer use of mobile calls, there is only a weak demand substitutability[2]. Comparative pricing is, however, only one aspect of competition between services, with accessibility and convenience featuring as important factors in users' choices of service alongside pricing packages.

There is reason to question, especially in the current distressed market, environment whether such an orthodox stance with regard to fixed and mobile substitution is warranted. Most European markets have more mobile than fixed telephones[3]. Substitution effects are particularly apparent in markets like Finland, where about a fifth of households have mobile phones but no fixed line connection.

The United States too is experiencing considerable growth in its mobile sector, with the accompanying substitution effects on the fixed line sector. Some estimates suggest that the number of mobile users in the United States will increase by 50% by 2006, with mobile phones being used more than fixed lines for personal calls.

Regulators remain skeptical about the real substitution effects between fixed and mobile services. However, investment bankers might point them to the Management Discussion and Analyses that are included in the Annual Reports or offering documents of major European telecommunication operators. These reports, which provide detailed assessments of the existing state of and trends in companies' business and financial conditions,

[2] Oftel, *Effective competition review: mobile*, September, 2001; and Oftel, *Protecting Consumers by Promoting Competition*, January, 2002.

[3] ITU WTDR 2002.

indicate that there are a number of evident impacts of mobile services on the revenues of fixed line operators. First, there is increasing evidence that growth in the number of fixed access lines has begun to slow and the number of lines even to decline. Many operators would note that the impact of these changes is most dramatic on the part of younger demographic groups, as noted above. Students or couples that are starting families or have not established themselves in a home find it more convenient – and evidently sufficiently price competitive – to subscribe to a mobile line. More significantly, as the number of mobile phones and penetration level overall increases, there are a significant number of mobile-to-mobile calls that do not ever connect with the fixed line network, particularly as mobile operators develop their own infrastructure that does not require leasing capacity from the fixed network. Additionally, mobile phones originate an increasing part of the overall number of national long distance and international calls thus diverting this traffic from fixed line networks.

Diversified telecommunication operators across Europe are experiencing a decline in the nominal amount of revenues from the traditional fixed network voice telephony business, as well as a decline in the percentage that that business contributes to total revenues. While in some countries a substantial portion of the decrease has resulted from competition in and regulatory pressure on pricing of fixed retail services, it is also a result of the increasing popularity of mobile phones. Those operators which have mobile businesses have benefited from an increase in mobile services' contribution to the share of total revenues. Thus, for example, Deutsche Telekom's fixed network business reflected about 61% of its total revenues in 1999, but this declined to about 49% in 2000 and to about 40% in 2001. Its mobile business, on the other hand, contributed more each year to total revenues, reflecting about 15% of total revenues in 1999, 22% in 2000 and 27% in 2001. Deutsche Telekom reported in its June 2002 annual report for the 2001 fiscal year:

> "Due to declining tariffs for mobile voice telephony services in Germany, which have both resulted from and contributed to increased demand for mobile telephony services, mobile phones increasingly compete with Deutsche Tekekom's traditional fixed-network voice telephony business, particularly in the market for local calls."[4]

Similarly, revenues from France Telecom's standard telephone services in France declined by about 6% in the first quarter of 2002 compared with the same period in 2001 while its French mobile business continued to grow. Explaining the decline in revenues from its French fixed line, voice and data services as a whole, France Telecom said that in addition to price decreases and competition from long distance carriers, such revenues were also "negatively impacted by the growth in wireless services…"[5]

As a general matter, diversified telecommunication operators face a daunting environment. Many are heavily debt-ridden and have experienced significant loss of value of both their Internet-related and their mobile operations for reasons discussed in greater detail below. Increasingly, these operators' fixed line operations are not viewed as an obsolete part of the overall business but as the stable base for generating cash required to finance future expansion of broadband and mobile services that are still in the process of proving themselves in the market. Nevertheless, traditional approaches to regulating the fixed line business have not yet fully adjusted to new competitive realities.

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[4] Deutsche Telekom, *Annual Report on Form 20-F for the Fiscal Year Ending December 31, 2001*, June 2002.

[5] France Telecommunication, *Annual Report on Form 20-F for the Fiscal Year Ending December 31, 2001*, June 2002.

Many regulators in developed markets may take the position that the overall framework of rate regulation for fixed line services is no longer relevant because the process of rebalancing international, long distance, and local rates has effectively been completed. National regulators in the EU have more or less consistently maintained this stance since it has been a condition of the EU regulatory framework that rebalancing be completed within the timetable for opening all markets to competition. However, it is not clear that rebalancing is complete in all EU member states. The European Commission, for instance, has brought complaints against a number of countries including Italy, Germany and other countries with respect to the process of rate rebalancing. Similarly, Telefónica de España reported in its annual report for 2001 that its "rates…are generally higher than those charged by the other principal European operators for domestic long-distance calls and lower for local calls. This reflects the failure to complete the rate rebalancing prior to the liberalization of the fixed-line telecommunications market in accordance with European Union directives."[6]

Though virtually all these countries claim that the process has been completed, it is effectively difficult for the European Commission to verify these claims. It is interesting in fact to compare the levels of local rates in most EU countries. Notably, for example, the level of local exchange rates in Germany is significantly below the EU average notwithstanding the fact that there may not be compelling evidence to support the view that German costs are below average in the EU. In fact, there are a number of knowledgeable observers of the German market environment who believe that local rates in Germany have been maintained at their current levels out of concern about potential adverse political reactions to rate increases. Some maintain even that relatively low local exchange rates have been maintained at their levels as a result of strategic competitive concerns about local entry. Similar concerns have been voiced about the viability of investment in Spanish local loop infrastructure given the relationship between retail connection prices offered by the incumbent Telefónica de España and wholesale prices offered to potential competitors.

Many of the same observations offered about the European market are increasingly applicable to the North American telecommunications market, and to the United States' market, in particular. In the United States, local exchange services continue to be subject to various forms of rate regulation by fifty public utility commissions. However, as is the case in Europe, mobile services are beginning to represent a pervasive alternative to fixed line telephone services. In fact, there is an increasing tendency toward consolidation around six national service providers who offer consumers not only local access services but national and international services increasingly on a postalized per minute basis. Even more than in Europe where international roaming charges still apply to calls originated outside the national market in which the basic mobile phone service is provided, cellular service is becoming a real substitute for a fixed line connection over voice telephony services. Thus, there is a real rationale for a major reassessment of the current scheme of price regulation of basic fixed line voice services and, in particular, the complexity imposed on the operations of increasingly regionalized telephone operating companies by separate state-based regulatory jurisdictions. Traditional retail level price regulation of fixed line voice services may no longer be justified, especially given the wide availability of unregulated mobile service offerings. Some commentators in the financial community believe that, given the lower cost of mobile infrastructure compared with fixed network infrastructure, and the effect of competition in the mobile sector, prices for mobile calling are likely to be reduced with the result that more voice calling will migrate from fixed to mobile networks. Such migration from the fixed networks will put pressure on the fixed networks, effectively raising their costs per unit. The

[6] Telefónica, *Annual Report on Form 20-F for the Fiscal Year Ending December 31, 2001*, June 2002.

combination of lower mobile call prices acting as a competitive ceiling on fixed line pricing and higher per unit costs of the fixed network make the argument for relief from fixed network price regulation all the more compelling.

Negative Effects on Investment of Residual Retail Pricing Controls

The stark disparity of regulatory treatment between fixed and mobile services may itself be partly responsible for the levels of investment that have been and are being made in each of the sectors. Mobile operators, without pricing controls comparative to the fixed line operators, have been able to roll out infrastructure, develop new services and increase user numbers and usage at rates that leave the fixed line operators – which lack the ability to raise capital and generate working capital due primarily to pricing constraints, particularly on the retail business – far behind. This dynamic becomes all the more acute as successful competition and price rebalancing reduces tariffs of cash generating services such as long distance and international calls without permitting operators sufficient flexibility over local retail service pricing.

An ironic result of residual forms of de facto rate regulation in Europe is that it may have maintained market-wide price levels that were not favorable to new investment in local infrastructure. In this respect, the residual populist aspect of local rate regulation may well have contributed to choking off investment to local infrastructure providers who are now widely regarded in the European market as very unattractive targets for new investment.

Governments have insisted on maintaining strict price regulation of fixed line services but permitted an essentially unregulated regime for the expansion of mobile services. In many countries the dichotomy between the price regulatory framework for fixed and mobile services—tightly regulated in the case of fixed line services and virtually no price regulation for mobile services—has resulted in expanding mobile infrastructure while fixed infrastructure remains static and under-funded.

Affordable Access and Tariff Regulation

An underlying concern of local retail price regulation – quite apart from control of a public utility monopoly – has historically been to ensure the widespread availability of affordable services to the population at large. As the telecommunication market has developed, the blanket regulation of local retail pricing, and even price regulation of service baskets can be clumsy, over-reaching the target of ensuring availability of services to those otherwise unable to afford them.

Targeting particular groups can also become administratively burdensome and produce residual anachronistic effects as the market develops and as definitions of particular groups lose relevance. The drag imposed on investment as a result of these effects can result in structural investment disincentives which impair the development of a healthy market in services for the economy as a whole. In many markets where price levels for fixed line telephone service have been maintained at very low levels, price regulation has tended to introduce significant entitlements to rate preferences based on the background or characteristics of an individual user. Such a scheme of entitlements can gradually expand beyond reasonable administrative control. Users who may not require rate preferences or discounts enjoy reduced rates despite their ability to pay. Special treatment for governmental authorities which traditionally exercised degrees of regulatory and price control over local telephone companies imposes significant operational penalties on local operators and impairs their ability to finance their future expansion. Therefore, along with increased flexibility on the part of fixed line companies to set retail pricing, there is a need for simple and easily

enforced schemes of limited use tariffs in place of intrusive and comprehensive schemes of regulation of all retail tariffs.

Moreover, there is a need to ensure that regulatory initiatives relating to universal service obligations do not impose undue burdens on telecommunication operators' ability to finance their future expansion. As discussed below in Part IV, establishing the right market-driven approach to retail pricing may have a more beneficial impact on the build-out of networks generally and access to services in rural communities and low income city areas than burdensome universal service obligations and complex fund mechanisms. Thus, concerns about universal service should not provide a "back door" rationale for imposing price regulation on telecommunication operators' fixed line services. Broadly speaking, investors and financial advisors strongly favor policy initiatives which provide broad flexibility to operators to decide how and when to expand the scope of their infrastructure investment. Obligations that are insufficiently defined and provide regulators with broad discretion to require new investment priorities that are not economically justified are ultimately likely to limit access to financing from domestic and international capital markets.

In emerging markets or even in developed markets where removing traditional price controls could significantly disrupt users' ability to absorb potential price increases, regulators might alternatively focus attention on price regulation of a minimum service offering that is available to users regardless of their economic capacity or any traditional claim for special entitlement to reduced rates. Such a minimum regulatory package would represent a non-discriminatory offering of a basic service without imposing the pressures on pricing that hinder investment.

Revenue Impact of Regulating Fixed Line Wholesale Services

For many incumbent telecommunication operators now operating in a competitive environment, revenue from the provision of services on a wholesale basis to competing carriers including various interconnection and network functionalities is becoming an increasingly important part of their total revenues and contributor to the cash flow generated by their operations. Thus, regulatory controls that affect the pricing of these services can be a very important factor influencing how effectively such operators can access capital markets to finance future infrastructure.

The pricing of interconnection services as well as various unbundled elements of local networks has, of course, long been viewed as a make-or-break concern for new entrants that is likely to determine the future financial viability of their businesses. The impact of regulatory practices on the financial viability of telecommunication operators is not of exclusive concern to new entrants, it is equally grave a concern for incumbent operators who may be mandated to provide existing infrastructure and services at regulated prices that do not provide adequate incentives for new infrastructure investment.

The discussion above regarding regulatory constraints on pricing of retail services is highly relevant in the context of wholesale services. Retail and wholesale price regulation are closely inter-linked. Interconnection prices that are based on unbalanced or distorted retail prices are likely to put incumbent operators in the financially unsustainable position of providing services and infrastructure at prices that do not adequately recover the costs of providing such services. Price regulation of retail services can therefore have a profoundly disruptive impact on the pricing of wholesale services that are required to develop fully competitive markets. It is all too common for regulators in developing countries to focus on overall price rebalancing while underlying distortions remain between retail and wholesale

services, restricting the viability of initiatives such as local loop unbundling and the opening of genuinely competitive markets.

Regulators in developing countries can draw lessons regarding such distortions from the experience of pricing the unbundled elements of local exchange facilities in Europe. In many markets, and the German market provides a useful case in point, the wholesale price for basic copper wire loop has been set at a level in excess of the retail price. Among the reasons cited for this is that retail tariffs for local access have been set at artificially low levels. In such a situation, an incumbent telephone operator must either charge its actual costs in the provision of local loop facilities or it is being required to sell below costs and effectively subsidize entry by potential competitors and eviscerate its own capital base. New entrants seeking to provide local exchange services on a competitive basis claim, of course, that they are victims of a price squeeze in which the input costs of required facilities provide no reasonable margin for providing service.

In the European Union, there has been a notable lack of success in encouraging the provision of unbundled local access services. At a symposium held in Brussels in July 2002 (a public hearing on Local Loop Unbundling organized by the Competition Directorate General of the European Commission), many incumbent operators argued that local loop unbundling had been unsuccessful primarily because of the adverse financial climate affecting new local entrants as well as the sector as a whole. Many incumbents argued for policies that were designed to stimulate competition in the provision of alternative access platforms rather than mandate the provision of unbundled network elements. Some incumbent operators emphasized, however, that a movement toward ending regulation of retail tariffs would create a more favorable environment for the provision on a wholesale basis of the required infrastructure. Such an approach would tend to minimize the likelihood that incumbent operators would be required to undertake uneconomic investments in local infrastructure. More flexible pricing for local access services would be likely to create more favorable conditions for investment on the part of alternative infrastructure providers and new entrants. Many incumbent operators as well as new entrants expressed a hope at the Brussels regulatory roundtable on local loop unbundling that arrangements could be structured in a more normal commercial environment with less intrusive regulatory involvement. We discuss below potential steps that might be taken to reduce the likelihood for contentious proceedings and judicial involvement that creates delay and uncertainty for both incumbents and new entrants alike. See the discussion of cancellation and alternative dispute resolution techniques in Part VI.

Though it is clearly difficult to determine how to determine the basis for setting wholesale prices of local network elements, it may be easier at least on a transitional basis to establish incentives for the provision of services on a wholesale basis if retail pricing can be set on the basis of market-related considerations. On an interim basis then, wholesale prices can be set using some scheme of benchmarking retail-wholesale margins. Such a scheme could be maintained at least until there are better conditions and economic incentives for investment in new local infrastructure.

Alternative approaches to regulating the price of local access have potentially very significant disadvantages. If future public policy does not encourage investment in new local infrastructures, i.e., either cable television infrastructure or satellite-based access as an alternative to xDSL services provided by incumbents, and does not encourage market-based retail pricing, then the only alternative for regulators is to focus close attention on traditional utility style regulation of local network infrastructure. Such initiatives imply resort to well-known practices of cost-based regulation of local infrastructure that are dependent on the formulation and implementation of detailed cost allocation and accounting systems. Such

systems are time consuming and costly to administer both from the standpoint of regulated firms and regulators. The effective management of such systems in a myriad of different jurisdictions may not be a practicable option. Many developing countries lack personnel skilled in the subtle and complex legal and economics aspects of cost accounting. Particularly where there is a real need for transition from a culture of centrally controlled cost management to market-oriented business practices, focusing such human resources as do exist on detailed justification and accounting of costs may well hinder development. The telecommunications sector could become subject to an undesirable process of re-bureaucratization. To the extent that new entrants require to understand and use such cost accounting methods and regulation in order to argue for lower wholesale prices for services they are buying, this may also be a drain on their resources. Hence, neither incumbent operators nor new entrants are likely to benefit from pricing for wholesale services that does not focus on encouraging growing levels of investment within the sector as a whole.

One related alternative to traditional accounting-based regulation that appears to be the subject of more intensive discussion, especially at the European Commission's recent roundtable on local loop unbundling, is to move increasingly in the direction of structural separation of incumbent carriers' retail and wholesale operations, with the fixed network infrastructure held by one company, "netco", while retail services are offered by another entity. Such drastic remedies are hardly likely to generate any significant public support in the midst of the current financial difficulties facing the telecommunications sector in general and an increasingly large group of incumbent fixed line operators in particular.

Though the option of structural separation of the wholesale aspects of fixed line operators is unlikely to meet threshold tests of practicality and political acceptability, it may still be useful to examine in some further detail the public policy implications of such a proposal. Opponents of structural separation, especially those in the United Kingdom, are quick to point out the parallels between the proposal for a fixed line "netco" and the much lamented and now bankrupt Railtrack organization that was central to the United Kingdom government's framework for privatizing rail services. In the rail transport privatization, the British government separated the rail infrastructure from the train service providers and has experienced confounded financial problems ever since, with Railtrack, the infrastructure company, being taken into administration proceedings in 2001.

A "netco" model for the telecommunications sector clearly raises basic questions about who would own such a utility, how it would be regulated, and whether it would be able to generate the financing necessary to expand and develop the wireline infrastructure. It would also require policymakers to wrestle with the scope of the "netco" model and whether it was based on an entity with exclusive rights to provide local infrastructure and whether it could diversify beyond a core set of services into the provision of wireless access or multiplexing over the copper wire network. Instead of representing any kind of solution to current policy questions about how to ensure the ready availability of local network infrastructure, a structurally separate "netco" may only generate a new host of regulatory challenges for regulatory lawyers and economists to wrestle with and potentially end up being entirely unable to generate financing in current or expected future financial markets.

The important point to emphasize is that from a financing standpoint, policies with respect to the regulation of pricing of wholesale and/or interconnection services that involve less detailed regulatory intervention seem likely to be significantly more favorable to generating an increased flow of investment into the telecommunications sector. Retail pricing flexibility is likely to create a better environment for the use on a transitional basis of benchmarking for wholesale pricing by incumbent operators. In turn, a fully rebalanced set of retail prices will not impose artificial constraints on potential investors in new local

infrastructure. Such artificial constraints can arise when local retail prices are kept artificially low by regulation or a combination of regulatory and strategic justifications that incumbent carriers may rely on to discourage new entry in local access markets. As alternative access infrastructure develops either through the expansion of cable television or wireless infrastructure, the rationale for detailed regulation of pricing of the fixed wireline network also diminishes commensurately. Given the importance of increasing the availability of local infrastructure, for example, policymakers may want to increase the priority that is attached to permitting the rapid expansion of wireless Local Area Network (LAN) capabilities based on the United States Institute of Electrical and Electronics Engineers (IEEE) 802.11(b) standards notwithstanding potential concerns that might be raised on the part of holders of 3G licenses.

Regulating Mobile Wholesale Services: the Need for Cash Flow

ITU reports document that the rapid expansion of the mobile sector is perhaps the most stunning aspect of the current international telecommunications scene. Mobile services represent a growing part of the overall revenues of the telecommunications sector as well as an increasingly significant component of the revenues of incumbent fixed line telephone operators. We examine below how regulation has impacted the flow of investment into the mobile sector and how it might affect prospects for future investment.

As a preliminary remark, and noted above in relation to the extraordinarily successful growth of mobile services in the last ten years, it should be stressed here that the investment flows to the mobile sector and the uptake of services occurred in the context of minimal regulation of mobile pricing at either retail or wholesale levels.

Arguably what now confronts the future development of the mobile sector is a very real and demonstrable threat to the flows of investment that until now financed the huge expansion of infrastructure of mobile infrastructure. In other words, what has happened in the past two years with 3G Licensing is an enormous extraction of resources on the order of $100 billion—that could be seen as a gigantic portion of full cash flows—by Ministries of Finance and Chancellors of the Exchequer (e.g., $33.5 billion in the United Kingdom and $45.8 billion in Germany) to finance an unproven next generation of mobile technology. Instead of waiting for the future promise of new technologies to be fulfilled and proven against competitive technologies like wireless LAN services, for example, governments have snatched a golden egg even before it has hatched. Governments have put themselves beyond the risk of whether future cash flows generating tax revenues would be realized and have shifted risks to operators and investors resulting not only in deflated prospects for 3G services but for the telecommunications sector as a whole by generating a liquidity and financing crisis of the first order. We discuss the implications for investment of choices relating to licensing below in Part IV.

The financial state of the mobile sector since the licensing of 3G services provides the backdrop for other regulatory initiatives – some driven by competition policy likely to affect substantially the provision of mobile services that until recently have been subject to a relatively light-handed regulatory regime.

The beneficial effects of applying competition policy to the telecommunications sector are plain, for example, from the surges in subscriber numbers and drops in prices in the mobile sector resulting from the issuance of new licenses. What is particularly important to note is the success in attracting investment into the telecommunications sector. It is the vast amounts of investment in the mobile sector in the last decade, for example, that have transformed the use of telecommunication services. It is important, however, that competition policy remain an enabling factor and not a stifling factor in terms of attracting renewed investment. It is quite

possible for competition policy application to tend towards an ever-increasing level of detailed definition and analysis of relevant market segments, identifying distortions at more and more micro-levels resulting from lack of competitive effects. Where regulators used to focus on mobile services as a whole, they are increasingly focusing now on the next level down – roaming and termination charges. In addition to identifying market segments and seeking improvements in pricing and quality from the point of view of the consumer, however, it is important that competition policy remain fundamentally geared toward ensuring that the sector as a whole is attractive to investment.

Roaming and Termination Charges

The traditionally hands-off approach by European regulators seems likely to change as attention is increasingly focused on the level of termination and roaming charges in Europe. Notwithstanding the effective substitutability of fixed line and mobile services that seems likely to warrant limited regulation of both fixed line and mobile retail prices, there is increasing momentum behind putting regulatory pressure on retail pricing of mobile services through efforts to reduce charges for terminating calls on mobile networks and roaming charges. Importantly, the European Commission has identified these as "relevant markets" for the purposes of competition policy attention[7]. National telecommunication regulators and competition authorities too are increasingly interested in introducing price controls for such services, prompted by public pressure to reduce the pricing. For example, Oftel in the United Kingdom has proposed further inflation linked price controls designed to reduce termination charges by CPI–12% over the next four years[8].

In European markets, termination charges typically contribute to about a quarter of mobile operators' revenues, and roaming typically contributes between 10-15%. Termination and roaming charges tend to have high margins, generally due to the calling party pays ("CPP") principle which insulates the mobile network receiving the call from direct competitive pressure from the ultimate customer and creates what economists call a "bottleneck facility"[9].

Questions are raised in the financial community about whether increased regulatory focus on these markets reflects a narrow focus of competition policy upon too specific a sub-segment of the market and inadequately considers the sustainability of meeting the sector's overall investment needs, particularly given the sunk costs of the 3G license fees. Some analysts' sensitivity analyses have suggested that the potential impact on operators' financial condition if termination and roaming rates are each cut by 30% could be so severe that some operators' EBITDA could be reduced in 2003 by as much as 25% (estimates have suggested 2-8% reductions in EBITDA in 2003 resulting from 10% cuts). Some believe that new pressures on termination and roaming charges would be misplaced given the overall financial turmoil facing mobile operators and the need for mobile operators to be able to generate cash flow to finance highly risky investments in next generation services.

Competition policy tends to focus on the smallest market that can be successfully monopolized, with reference to notions of demand substitutability, supply substitutability and analysis of the effect on customer behavior of "small but significant non-transitory increases

[7] European Commission, "Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services", *Official Journal: OJ C 165/03, 11/07/2002*, 2002.

[8] Oftel, *Review of Price Control on Calls to Mobiles*, February 2001.

[9] M. Canoy, P. de Bijl and R. Kemp, *Access to telecommunicationmunications networks*, September 2002.

in prices" (the "SSNIP" test). A number of arguments suggest that the definition of termination charges as a "relevant market" may be too narrow, inadequately considering the scale of fixed costs in an infrastructure-based capital-intensive industry such as the telecommunications sector, as well as the fact that services are customarily provided and purchased in bundles of services rather than as a single service[10]. (In the case of mobile services, consumers are purchasing access, call origination, call termination, SMS facility and roaming.) Companies which offer a bundle of services in the presence of high exogenous sunk costs will commonly charge higher margins for those individual services within the bundle which have lower demand elasticity. That termination charges have particularly high margins need not necessarily be viewed as determinative of market power and require definition as a "relevant market" and consequently increased regulation. The purpose of this paper is not, however, to take a position on the complexities of economic analysis of market definition pursuant to well-developed theories of competition policy. Rather, it is to emphasize the importance of regulators retaining an overall focus on the impact on investment flows that an increasing focus on regulating ever more narrowly defined markets may have. There have been suggestions from industry leaders that regulation of termination and roaming charges will only require mobile operators to recoup the costs from other sources, with the possible result that services like pre-paid which cater to low income users services may see higher prices.

There are substantial differences in the way in which roaming charges are evolving in the United States and European markets, with mobile pricing in the United States gravitating toward uniform or postalized per minute charges on a nation-wide basis. It is questionable, however, whether there is a need for explicit regulatory intervention to force European operators to move in the direction that market trends may be likely to take them in any event, with competition in pan-European roaming services increasing pressure on pricing.

It is not entirely unexpected that competition officials might take a more limited, controversy-specific view of the mobile sector. The primary objective of competition policy, however, should be developing a more pragmatic and specific understanding of relevant product and geographic markets—the contours of which provide the legal basis for the use of competition law related remedies – in the context of the sector as a whole. Competition officials who have been dealing with the telecommunications sector for many years now certainly have had significant opportunities to develop sector specific know-how, but this may be less likely to be the case in countries which do not have long traditions of competition law enforcement. One option available to competition officials and sector regulators is to provide leeway for an overall adjustment in business models and strategies to reflect emerging business practices in the sector. It may be possible for regulators to encourage such an evolutionary approach through consultative procedures involving key industry participants and regulatory officials such as have been outlined in Part VI of this paper.

The idea of national, regional and international industry fora for consensus building - as discussed in Part VI — may provide a real opportunity for both sector specific regulators and competition officials to heighten their understanding of the commercial dynamics of fast developing industry sectors. New industry fora may assist in generating flexibility to apply both traditional telecommunication regulatory and competition law-related norms and might alleviate the potential for fragmentation of policy. Though the end result of such procedures may be adjustment of business and pricing models in the middle or long-term, the fact that changes can be driven by service providers and operators rather than by regulatory mandate may contribute significantly to a more favorable investment climate. Such an approach may

[10] J. Gual, *Market Definition in the Telecommunications Industry*, September 2002.

acknowledge that regulatory issues facing the mobile sector cannot be dealt with on a segmented basis but have to be addressed in a broader context that takes full account of important past industry developments as well as the various business scenarios facing mobile service providers. What is needed is a regulatory posture that more effectively and openly acknowledges the risks facing the sector.

Regulation of Mobile Wholesale Services Provided to Mobile Virtual Network Operators (MVNOs)

In the same way, it may be unnecessary to impose specific requirements on mobile operators to make network capacity available to third parties or mobile virtual network operators (MVNOs). The results of the 3G licensing process in Sweden which denied a 3G license to one of the major second generation (2G) players in the market, Telia, have resulted in cooperative marketing ventures between Telia and another designated 3G licensee. Likewise, in the United Kingdom, Virgin has successfully entered the 2G mobile market as a MVNO using T-Mobile's spectrum. The emergence through commercial negotiations and market pressures of various service provider arrangements in Europe is likely to provide a benchmark that will open opportunities in other markets without explicit regulatory intervention. A scheme of regulation that is primarily dependent on effective commercial negotiations rather than regulatory compulsion is likely to minimize the perception of investors that there are substantial risks and uncertainties introduced by regulation into the business operations of cellular operators.

The alternative to a light-handed, market driven approach to the regulation of MVNOs may be a slow slide in the direction of increasingly detailed regulation of access to mobile infrastructure. In an extreme situation, it is possible to imagine the emergence of advocates for a "mobile netco", an infrastructure holding company separate from service providers, a mobile equivalent of the regulatory model that some advance as a panacea for potential concerns with ensuring access to unbundled capabilities of the local wireline work (see above the discussion of wholesale fixed line service regulation). If advocates of the principle of technological neutrality of future regulatory initiatives mean that mobile and fixed network infrastructure should be subject to equivalently intrusive regulatory initiatives, then the principle of technological neutrality of regulation is a profoundly double-edged and worrisome basis for future regulation of the telecommunications sector. Clearly, there are now some structural differences between current fixed and mobile infrastructures given the fact that in most markets there are at least two or three providers of basic mobile infrastructure. That diversity in the numbers of mobile infrastructures should by itself undermine any rationale for detailed regulatory intervention. However, all the drawbacks associated with detailed, accounting-based regulation of the fixed wire network militate against reliance on traditional utility regulation of mobile infrastructure. In addition, nothing could more undermine the confidence of investors in the future of mobile services—already laden down by 3G licensing costs and the overhang of precipitous regulation of roaming and termination charges—than a future prospect of utility type regulation of mobile services.

IV. Regulatory Issues Impacting Projected Costs

The prospective costs facing the telecommunications sector are enormous, particularly in light of the investment required to roll out networks for 3G services after the immense amounts already spent acquiring licenses. A number of mobile operators have already concluded that such costs are beyond their ability to recover, and have abandoned 3G plans. Some members of the financial community are predicting consolidation of the mobile sector in many countries, suggesting that most markets will naturally end up with three mobile

operators, and smaller markets may even have only two. The mobile sector's cost hangover is not only a matter of historical amounts used to purchase licenses. Taking into account the burden of the past, it is imperative that the sector be regulated with a forward-looking approach to its ability to meet on-going costs of investment. The viability of investment flows will depend upon the costs of initial and on-going investment, as well as expected current expenses. In projecting such costs, the key capital investment-related indicators are depreciation and amortization, and interest expense. The cost of investments in tangible assets less their estimated residual value will typically be depreciated annually over the projected life of the asset, typically from the date they are brought into use, based on a straight line method. Similarly, license fees will typically be capitalized and amortized over the term of the license, with amortization often commencing on commercialization of services.

The financing burdens associated with all such requirements raise further the overall costs associated with investment. Interest on debt incurred for the purpose of tangible capital investment is typically either treated as an expense as incurred or capitalized with the assets acquired with the proceeds and then depreciated over the lifetime of the asset. Similarly, interest on debt incurred for the acquisition of intangible assets, such as 3G licenses, may be expensed as incurred or capitalized and amortized over the life of the license.

To the extent that operators are subject to regulatory requirements governing their investments with the result that these projected costs do not bear a commercially viable relationship to associated projected revenues, these requirements may reduce the overall attractiveness of investment in and entry to a sector. In addition, regulatory signals concerning the likelihood of renewal of licenses can affect the severity of amortization of license fees.

Operators' costs are severely affected in a time of crisis since assets are typically accounted for in relation to the economic reality of recovery of value on their sale and revenues expected from their use. In current market conditions, where the values of assets purchased at the high end of the market have plummeted, many companies have recorded severe write-downs of their network assets as impairment losses booked as extraordinary expenses on their income statements.

This section discusses some examples of regulation that have a substantial effect on projected costs as potential investors weigh investment opportunities. Examples of regulatory policy decisions that are likely to have the largest effects on the cost side of the income statement include: factors which raise the initial cost of access to essential scarce public resources, including the method chosen to price such access; requirements to meet specific investment programs and the cost resulting from requirements to build out infrastructure and provide services where such investment and services would otherwise be uneconomic (e.g., universal service obligations); schemes requiring operators to contribute financially to the cost of other operators' costs of meeting universal service obligations; and the extent to which operators are permitted to reduce their burdens by sharing infrastructure.

The Impact of Licensing Methods on Investment

A key issue facing regulators in a number of countries with under-developed telecommunication sectors concerns the licensing of new services. Policy makers and regulators will frequently contemplate the introduction of new operators into the market in order to introduce competitive dynamics, and indeed if they have signed up to WTO commitments under the basic telecommunication services agreement, they will have agreed to open the licensing of services more generally. Liberalization measures frequently involve the introduction of a new licensing regime under which networks and services may require individual or class licenses, or simple registration or authorizations. The choice of licensing

method for specific networks and services may be the subject of considerable discussion in designing the new licensing regime. Whether or not to focus licensing on networks and services separately or together, or to focus on more technology neutral methods of licensing services only and permit the use of any chosen technology is also a matter of some debate in advisory circles.

Investors will, predictably, generally prefer less intrusive regulatory instruments. In addition to the various administrative burdens usually contained in licenses such as information reporting, the key concerns of those considering the viability of investment will be those matters that affect the underlying profitability of the business. The effect of price regulation, universal service obligations and build out requirements often included in licenses are discussed elsewhere in Parts III and IV. This section discusses the impact on investment flows of the decisions relating to how licenses are issued.

The choice of license issuance method becomes all the more important where exclusive use of scarce resources is offered, such as use of the public telecommunication network or use of frequency spectrum, since the exclusive nature of the rights offered makes the optimal choice of licensee a matter of public interest and permits competition among investors for such rights. Policy makers and regulators weighing choices among beauty contests, auctions, hybrid methods and direct negotiations for licensing have to consider a range of issues including maximizing overall sustainable investment in the sector and specific new services, optimizing the speed with which infrastructure can be rolled out and services can be commenced, ensuring that investors are sufficiently qualified in terms of experience and know-how, as well as potential revenue to the government.

It is understandable why developing countries are interested in large license fees, with the high amounts gained in recent years in auctions in countries such as Tunisia and Morocco, expectations of the amounts that may be gained rose in a number of other developing countries.

Learning from the European 3G Licensing Debacle

Although there are obviously attractive reasons to allow investors to price the present value of exclusive rights through auctions, investment flows are likely to serve the telecommunications sector and overall economy best where they are sustainable. The pricing of licenses in the European 3G context offers some useful lessons for policy makers and regulators assessing how to license new services in developing markets. The lessons to be drawn are not so much that auctions are an inappropriate method of granting exclusive rights over scarce resources as understanding the overall importance of focusing on the ability of the sector to sustain the investment needed to develop networks and services, and not to grant licenses in a way that drains the sector of liquidity and has a destructive impact on investment flows.

The mobile sector around the world has grown at an extraordinary pace and, as noted above in relation to price regulation of retail fixed line services, increasingly represents a credible alternative to the fixed network. In spite of the success in providing basic voice telephony services, mobile operators face a much more uncertain future as they aspire to offer higher speed Internet-related services and develop next generation mobile services. Third generation mobile licenses have now been awarded in virtually all the major countries of the European Union. A table showing the award of these licenses and the prices paid by operators is set forth below:

Table 2: Allocation of 3G mobile licences

In selected countries worldwide

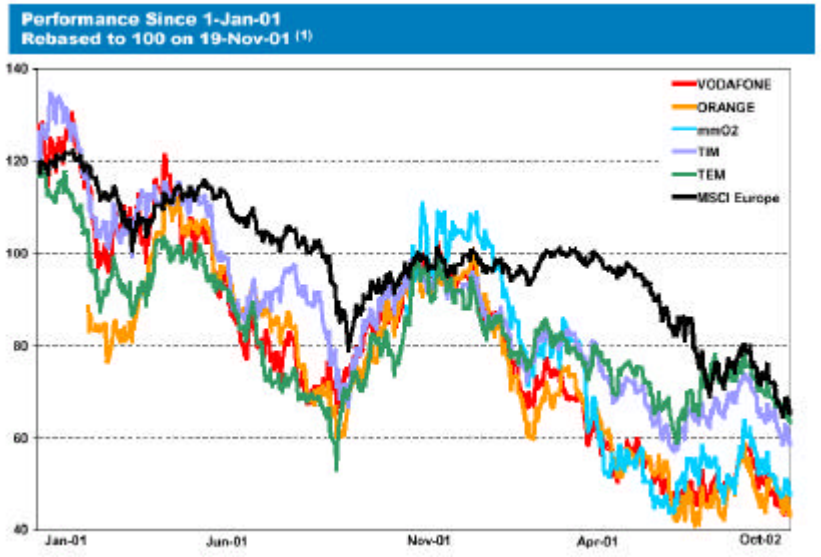
Country	No of licences	Mobile incumbents	Method	Date awarded	Sum paid, US$ million
Australia	6	3	Auction (regional licences)	March 2001	610
Austria	6	4	Auction	November 2000	618
Belgium	4	3	Auction	March 2001	421.2
Czech Republic	2	2	Auction	December 2001	200
Denmark	4	3	Sealed bid Auction	September 2001	472
Finland	4	3	Beauty contest + nominal fee	March 1999	Nominal
France	4 (2 still to be issued)	3	Beauty contest + fee	July 2001	4'520 (subsequently reduced to 553 each)
Germany	6	4	Auction	August 2000	About 7'690 each
Greece	3	3	Beauty contest + auction	July 2001	414
Hongkong SAR	4	6	Hybrid	September 2001	Minimum 170 each plus royalties
Israel	3	3	Beauty contest + fee	December 2001	157.1
Italy	5	4	Hybrid	October 2000	10'180
Japan	3	3	Beauty contest	June 2000	Free
Korea (Rep.)	3	2	Beauty contest + fee	August 2001	2'886
Malaysia	3	3	Beauty contest	December 2001	Nominal
Netherlands	5	5	Auction	July 2000	369 to 667 each
New Zealand	4	2	Auction	January 2001	59.9
Norway	4	2	Beauty contest + fee	November 2000	88
Singapore	3 (+1)	3	Cancelled auction	April 2001	165.8
Slovenia	1	2	Cancelled auction	December 2001	82.2
Spain	4	3	Beauty contest + fee	March 2000	480
Sweden	4	3	Beauty contest	December 2000	44.1
Switzerland	4	2	Auction	December 2000	119.8
UK	5	4	Auction	April 2000	6'100 to 9'100

Source: ITU "Licensing of 3G Mobile", European Commission and 3GNewsroom.com (at: http://www.3gnewsroom.com/index.htm)

The table above demonstrates in quite dramatic fashion that the approaches taken in different countries varied considerably. The highest payments and prices per member of the population (pop) were extracted in the British and German markets and amounted to about €600 per pop in the United Kingdom and Germany. By sharp contrast, only €20 per pop was initially paid in France in a combination of public tender and auction that resulted in only two licenses being awarded. Ultimately, the French Government determined to reduce the price in order to attract additional bidders. In countries such as Portugal, Finland, Spain, and Denmark essentially only nominal fees for the 3G license were paid apparently as a result of the desire of the respective governments to see next generation services deployed on a rapid basis and at affordable prices, since higher license fees would likely mean higher tariffs. The disparity in prices per pop has led to many commentators pointing out how divergent licensing policies within the European market have produced less than a level playing field for the development of services on a cross-border basis.

As is now well known, the very high licensee fees, together with the expected capital costs of installing third generation systems, have combined with various technological concerns relating to the refinement of operational software and the availability of third generation handsets to cast an extraordinary pall over prospects for 3G deployment. Some estimates suggest that 3G will have to generate EBITDA margins similar to current 2G margins for more than 10 years on average in Europe before covering their costs. Many operators have been focusing on the rollout of 2.5G handsets and services; however, the take-up of these services has been disappointing to many analysts in the sector. Collapsing expectations have resulted in sharp downward assessments of the share price of most European mobile operators as is indicated in the chart below:

Chart 2: Performance of selected companies' stock market, from January 2001 to October 2002



(1) Date of mm02 stock market listing
Source: Factset

European regulators are beginning to have to deal with the consequences of spectrum licensing policies that were attuned to a very different environment in the financial markets toward major cellular operators. At the time of the original issuance of licenses in the United Kingdom and Germany, the financial markets reflected the high expectations

about the necessity of leading operators ensuring their future viability through obtaining 3G licenses. Indeed, the bidding process for such licenses was undoubtedly influenced by the expectation that a failure to obtain 3G licenses would result in a huge adverse impact to bidders' share prices and hence to their ability to use their shares as a currency for acquiring new mobile operators and related providers of content or gateway services. Ironically, the bidding for 3G licenses produced its own catastrophic impact on most mobile operators' share prices.

At this point, it is apparent to most observers that little can be done to unwind the dire consequences of the 3G bidding process. Indeed, from the standpoint of most regulators, government officials, and policy advocates of the auction process, there is little second guessing of the results and much attention on the misguided nature of corporate decision-making during the 3G bidding process. Industry participants have, it is suggested, no one to blame for their current economic plight other than themselves.

This view is being subjected, however, to some further reassessment, including in the financial sector. The European Commission commissioned a particularly insightful report on lessons to be learned from 3G licensing by EU member states[11]. As illustrated in the table above detailing the allocation of 3G Mobile Licenses, not all European regulators and policymakers decided to auction spectrum through a one-time bid. In some countries, licenses were awarded through an administrative proceeding or combination of beauty contest and payment of license fee. Subsequent to the completion of the 3G licensing process in Europe, moreover, other policymakers decided to target bidding more narrowly on fees to be paid on an annual basis. In this way, the bidding process alleviated some of the upfront financing for licenses but still required operators to make bids in an environment of extraordinary uncertainty about future prospects for 3G services.

The choice of auction method for the issuance of licensing may have the merits of encouraging competition so that a scarce resource will be used efficiently and not wasted, allowing investors to bear responsibility for determining the current market value of the spectrum based on projected cash flows from business plans, as well as providing revenues for the finance ministries. There are increasingly questions, however, about whether, in governments' structuring of 3G auctions, such priorities overshadowed other extremely important factors, including the uncertainties about demand for future services, the viability of the technologies, the possibility of competing technologies entering the market, and a vastly over-inflated enthusiasm widespread in the market. There are concerns, including in the financial community, that inadequate attention was provided to these investment-related factors in structuring the licensing method in countries such as the United Kingdom and Germany, where governments received particularly high revenues from the 3G licensing. Indeed, the wide disparities of payments for licenses in auctions across different countries emphasize the possibility that these investment-related factors can overwhelm and render irrelevant the advantages of using auctions exposed by economic theory. It is certainly apparent that the auction process selected by these countries required operators to make a bet on the future based—in retrospect—on unreliable information about the market for services and technological conditions.

[11] McKinsey, *Comparative Assessment of the Licensing Regimes for 3G Mobile Communications in the European Union and their Impact on the Mobile Communications Sector,* June 2002.

Some argue that the auction structures used in Germany and the United Kingdom in effect created an environment in which potential future tax and other revenues were pre-paid and effectively set at a guaranteed level. Obviously, the amortization of pre-paid license fees offsets revenue flows that might otherwise have been paid into national treasuries in the future in the form of corporate tax payments. Some believe with the benefit of recent experience that government decisions were taken that overstretched a new industry sector in return for short-term political advantages of bolstering governments' traditional social welfare agenda. Future economic prospects were heavily mortgaged by a scheme of upfront one-time payments for mobile licenses.

Governments and regulators defend themselves from criticism, of course, arguing not only that auction bids were willingly submitted by major mobile operators but also that there is a kind of self-regulating spectrum market that provided inherent checks and balances on the 3G licensing process. The massive one-off allocation of spectrum to an untried brand of services, rather than permitting incremental introduction of new technology and capacity, and the prohibition in some countries on spectrum sharing, combined to intensify the pressure on operators, who had to make their offers in the "now-or-never" atmosphere of the market. The sequential bidding processes in multi-round auctions employed by some member states only served to intensify further the operation of game theory and the prisoner's dilemma. There is also reason to question whether governments' exclusive rights with respect to control over the spectrum market is vulnerable to the influence of traditional political agendas. A number of observers are questioning whether the licensing process in many European countries genuinely reflected effective expert judgments about spectrum deployment or were influenced by more short-term concerns with improving the state of current year budgets. The success – in those terms – of the United Kingdom's 3G licensing process clearly produced emulative responses on the part of other governments which came under increased domestic pressure to create equivalent short term economic advantages.

Distortions Resulting from the 3G License Process

Not only has the sector's ability to invest in the network, technology and services been fundamentally undermined by the scale of financing required for the 3G license fees, but the process of auctioning 3G spectrum has likely created significant distortions with respect to the pricing of other spectrum resources previously granted, as well as with respect to future decisions about the deployment of new spectrum-based services. Distortions resulted within the EU from the widely different amounts paid in different member states, as illustrated above. Further, the 3G auction process resulted in mobile operators paying significantly more for spectrum than has been paid by holders of broadcasting spectrum as well as other spectrum resources that can be used for services with similarities to 3G such as wireless LANs. Likewise, there are disparities in the conditions of use for spectrum for these different services. Indeed, some of the potential uses of spectrum to provide services competitive with those of 3G licenses were not fully anticipated and disclosed in connection with the spectrum bidding process. The fact that such uses were not fully visible to bidders is not necessarily a function of the potentially conflicting interests of government in drafting "prospectuses" for services that are being put on offer; it is also a result of the fact that some potential services and technological applications had not yet clearly emerged in the market.

Although bidders will have been aware of the pace of technological change, the overall build up of exuberance for 3G spectrum should have put policy makers and regulators on alert as to the damaging distortions that would be introduced to the market by

virtue of unrealistic bidding for 3G services as other unregulated new technologies began to emerge. Examples include the use and deployment of wireless LANs (Wireless Fidelity (WiFi)) using IEEE 802.11(b) standards. Such networks have been deployed in various fixed locations such as airport lounges, coffee shops and other public places and provide Internet access at considerably higher speeds than is possible with the most advanced version of 3G services. Such services are not strictly speaking mobile and permit only a limited form of roaming to the extent that a user is able to log onto to an 802.11(b) network, authenticate himself and pay for the use of Internet connectivity. Although WiFi services do not offer the mobility advantages of traditional cellular services while journeying, to the extent that WiFi services proliferate in public spaces, they may become an effective substitute for a significant portion of the 3G market – particularly if they are priced competitively due to the low infrastructure costs and absence of high license fees. Significantly, at least in the United States, such wireless LANs do not use licensed spectrum and hence the business model is based on an assumption of "free access" to spectrum.

It is increasingly being noted that this could have a significantly distorting impact on strategic plans for deploying 3G services since many users may opt to connect to wireless LAN networks where available in the event that instant access is not essential. Some estimates suggest that between 12% and 64% of the 3G market's revenues could be taken by such technologies over the course of the next four years. Thus, a competing technology could significantly impair the anticipated future market for 3G services and undermine important market related assumptions originally made in evaluating the 3G bid prices. That technological development would result so quickly in the 3G licenses becoming what some might call "stranded assets" is not entirely surprising in retrospect given the rapidity at which IT-based telecommunication services have evolved in recent years.

In light of such developments, governments and regulators face a potential dilemma. They can permit technologies with important public benefits to become available to consumers in the market. Alternatively, they can respond to concerns of 3G licensees that ready and easy deployment of wireless LANs should not be encouraged by administrations that did not fully disclose their intentions to do so. Either the public is denied access to a readily accessible source of high speed Internet connectivity or 3G licenses are dealt another blow as a result of the fact that a government-driven licensing process required upfront one-time payments in an extremely uncertain but buoyant market. Thus, not only is there severe damage to the industry resulting from having had to rely on unreliable assumptions in a wildly excited market, but the result is problematic also for regulators on an on-going basis.

A number of suggestions have been made for specific changes that might be made as a result of lessons learned from the 3G licensing process. Briefly, they include: spreading license fees more evenly across the lives of licenses rather than taking enormous one-off upfront fees; not engaging in multi-round auctions but rather simpler licensing processes; setting fees to reflect the regulators' costs of administrating spectrum rather than auctioning them as a market-priced asset; relaxing coverage and service commercialization targets in the initial years of the licenses; restraining the cost of supply through control of the number of licenses issued and permitting spectrum trading and infrastructure sharing; moderating the suddenness of such costs and the scale of the impact of uncertainty associated with untried services through permitting pioneer licenses followed by staged issuance of new

licenses (rather than all at once); and linking licensing strictly to specific technologies[12]. The purpose of this paper is not to take a position on each of these proposals but to draw broad conclusions about the fundamental approach of government to the sector in the licensing process.

In the case of 3G, the difficulties created by the licensing process might well have been avoided had there not been a focus on licensing spectrum for a new service and on making access to such spectrum key to the provision of next generation services. Even in the European Union, mobile operators have been able to evolve their existing 2G services into higher speed offerings. However, in other major cellular markets, such as the United States and Brazil, operators are constrained by their existing authorizations to offer higher speed services. In the Russian market, the government is now considering whether to issue licenses for new generation services or allow existing 2G licensees to expand their operations on the basis of market demand. The latter approach is proving to be a more practical way to infuse additional value into existing operators that will require access to financing for current as well as future service offerings. Extending spectrum to operators based on market demand may offer the benefit of narrowing the knowledge gap between the decision today to invest and the future prospects for financial returns on the investment.

It may be important also to bear in mind the extent to which governments have traditionally used their economic ownership stakes in state-owned telecommunication operators to their economic advantage and that there may be substantial pressures for governments to exploit any valuable rights they hold with respect to licensing operating rights or access to spectrum. The 3G auctions may only be an example from developed markets of a phenomenon that is more widely reflected across the range of governments' relationships with the telecommunications sector in less developed markets also. For example, concerns that governments may reap immediate revenue benefits from the choice of licensing structure without adequately weighing the difficulties operators face when assessing uncertain future conditions arise similarly in revenue sharing concessions and other arrangements which have often been used in the telecommunications sector for the build out of infrastructure, particularly in less developed markets. Percentage revenue sharing arrangements used in such mechanisms may advantage government ministries over, for example, mobile service providers since it is virtually impossible to assess what the impact of various revenue sharing arrangements may be on the future financial performance of mobile operators. Indeed, the structure of revenue sharing arrangements, often designed to ratchet up governments' percentage share as capital investment is depreciated, has led to disputes between governments and operators when the operators' returns have proved higher than expected. See Part V for further discussion of some risks related to structural complexities arising in connection with concessions and licenses.

A number of valuable lessons may be drawn by policy makers and regulators in developing markets concerning how to approach licensing. The financial sector generally takes the view that structures, mechanisms or policy commitments that hold in check potential aspirations to take short-term advantage of a sector closely entangled with governmental interests are likely to increase the ease with which telecommunication operators can access international capital markets. The key issue is that it is crucial in designing mechanisms for market entry that these take into account not only the conditions

[12] McKinsey, *Comparative Assessment of the Licensing Regimes for 3G Mobile Communications in the European Union and their Impact on the Mobile Communications Sector,* June 2002.

for market entry but also sustainable market development over the course of the initial years of licenses. This is all the more pressing given the potential for imbalances on the revenue side resulting from competition from technological change.

Permitting Economics of Scale: Infrastructure Sharing and Other Cost Reduction Initiatives

An old and obvious tension exists between the policy aspirations of improving choice, pricing and quality of services through competition on the one hand and the conditions necessary to attract investment in the sector on the other. To some extent, however, the former is dependent on the latter. Without substantial investment, the network development and service innovation that have been the central driving force of competition in the telecommunications sector will not continue to have such an impact. Particularly at a time when the sector is in extreme financial crisis, it is important to ensure that the conditions for investment are fundamentally sound. Part III of this paper discussed the need for those making investment decisions to be assured of flexibility on the revenue side of their business plans, particularly in terms of price controls. Similarly, to the extent that rigidly applied competition policy results in infrastructure development costs that make the original investment simply unviable (in the case of 3G networks, for example), it may be appropriate to reconsider the appropriateness of such policies.

In the initial stages of efforts to respond to changed conditions in the mobile market after the European 3G license auctions, operators and regulators focused on how the costs of operations could be reduced and how the timetable for deployment could be stretched out. Many European regulators did begin to deal with the crisis by assessing options for sharing of infrastructure among mobile licenses. Overall, there has been a cautious approach to infrastructure sharing with the focus being on common use of towers and sites for radio transmitters rather than on shared use of frequencies or operational capabilities. Only recently has the European Commission's competition directorate general signaled its willingness to permit an infrastructure sharing agreement for 3G networks between operators O2 and T-Mobile in the United Kingdom. Prolonged doubt about its position on this issue left the industry with considerably increased uncertainty about the ability of operators to finance the build out of 3G networks and the viability of planned investment and not all uncertainty has been resolved. There have been concerns that the fragmented approach of a competition policy that inadequately takes into consideration the state of the industry as a whole could undermine the possibility of many operators ever being able to establish a viable 3G service.

It may be true that sharing of infrastructure by operators reduces some competitive effects. Thus, for example, if O2 and T-Mobile divide some of the United Kingdom into regions in which one or the other – but not both – will construct and own the 3G network and offer use to the other at agreed roaming rates, then the competitive incentives to maximize choice of services, service quality, coverage and overall efficiency at the level of network construction, operation and maintenance may be reduced.

A number of developing countries considering new rounds of licensing services, as well as those more developed markets which have issued licenses but still require investment to roll out networks, are having to weigh the benefits and costs of rigorous application of competition policy in light of the basic conditions required to attract investment. For example, a number of countries now positively encourage duct and pole sharing in order to develop wireline networks, particularly in low population density areas

where such capital costs are high. There are close parallels here with mobile network infrastructure. To the extent that governments are beginning to contemplate licensing 3G services, there may be more room to consider the cost savings of permitting infrastructure sharing beyond the traditionally accepted limits of sharing only base stations and masts. The key concern is that regulators not lose sight of the overall investment climate and the dynamics applicable to specific investment decisions when applying competition policy. There is little value in a rigorously applied competition policy which significantly reduces investment into the sector. In this respect, it is important that both telecommunication regulatory authorities and competition authorities cooperate closely to retain a common vision of the overall need to ensure that the basic conditions are in place that will attract investment. Careful consideration needs to be given to regional disparities, since for example the economies of scale resulting from infrastructure sharing tend to be much stronger in rural areas, another factor that suggests that lighter regulation may benefit universal service policies as discussed elsewhere in this paper.

Even permitting some increased level of infrastructure sharing may not have substantial anti-competitive effects. For example, in the United Kingdom, even if O2 and T-Mobile are permitted to share networks outside the initial build out area, there will still be competition at the network level from the other three 3G operators. Indeed, it is not clear that the British market would not benefit from infrastructure sharing between other operators also. Competition among all licensed operators will exist at the retail level, and although mobile services may have been traditionally more affected by competition at the network than the retail level, the value added aspect of 3G services suggests that the retail level may be a greater competitive driver of service innovation and pricing than was the case with 2G services. Indeed, even with respect to 2G, operators such as Virgin are demonstrating the value of retail level competition. It is important that regulators weigh the sometimes minimal incremental benefits of competition policy in light of the desperate overall need for investment in the sector.

Infrastructure sharing can even on some occasions be not so much anti-competitive as a pre-condition to developing competition. To the extent that infrastructure sharing may be crucial to give new entrants a viable business plan, it may even sometimes be appropriate for regulators not only to permit but positively to encourage such sharing in the similar vein as essential facilities are required to be made available by incumbent network operators and others having significant market power. For example, even with relaxed network coverage and build-out obligations, introducing a new mobile operator to small markets such as Jordan or Bulgaria may not present a compelling business case unless the new entrant is assured the use of the existing networks on the basis of roaming at a fair price for at least an initial period while building its own infrastructure.

The on-going discussion about the exclusive use of infrastructure raises analogous issues relating to the exclusive use of essential resources, such as frequency spectrum. As a result of the decision of Telefónica and Sonera to write off the large scale value of their 3G licenses and abandon their plans to develop greenfield 3G operations in Germany, Austria, Switzerland and Italy, attention is being directed at the conditions in which un-utilized spectrum could be sold or transferred to third parties or other 3G licensees.

There is particularly strong concern about restrictions on spectrum trading in Germany, for example, where it is prohibited under the German Telecommunications Law. Spectrum trading is viewed by a number of investment analysts as the only means for industry consolidation required to reduce costs and make 3G viable given the enormous

costs to acquire the 3G licenses. Yet merger of two 3G German mobile operators would require one to return its 3G spectrum to the government without compensation for the enormous license fee payments.

Impact of Network Build-Out Targets and Required Investment Programs on Investment Flows

In many developing countries emerging from a tradition of state-controlled investment in the telecommunications sector, there may be a residual tendency for their governments and regulators to impose detailed requirements on operators to build out their networks and develop their infrastructure. For example, licenses may contain specific digitalization targets and monetary investment requirements over determined periods.

There may indeed be a greater justification for imposing build-out and development requirements on operators which have secured exclusive rights to resources, whether mobile operators which enjoy exclusive rights to assigned frequency spectrum or fixed line operators who have exclusive ownership of the public fixed telecommunication network (and sometimes the exclusive right to provide basic services), since there is less assurance that relying on competitive effects will result in the networks necessary to provide services becoming available on an accelerated basis.

Nevertheless, it is important to consider the possibility that such requirements may have a negative impact on investment flows. It is entirely possible that, instead of succeeding in compelling the investment as intended, overly intrusive involvement of regulators in investment programs may actually reduce the attractiveness of a sector to investors in the first place.

A core policy aspect of privatization is the transfer of investment risk from the public sector to the private sector. To the extent that this involves sourcing investment from private sector sources, it becomes increasingly important that judgments about how such funds are deployed be made by those bearing the risks associated with the investment. This is particularly so in a turbulent supplier market, and where new technologies are quickly changing the competitive landscape and may reduce the urgency of previous coverage ambitions. While investors will understand that policy makers and regulators appropriately impose certain minimal public service oriented targets concerning coverage, pricing and quality of service, excessive involvement of regulators – who do not bear the risk of the investment – in how those targets are met can make it less desirable to enter the market in question.

The nexus of this concern with price regulation is particularly obvious, and even more so given the scarcity of capital in today's market. To the extent that large scale investment is needed in developing markets and is mandated by regulation or license terms, investors will be wary of entering such markets unless it is apparent that they will be afforded sufficient flexibility on the revenue side to generate the cash flows required to fund such investment. Being required to take on large financial commitments without assurance about the commercial viability of the investment may result in investors not even bidding for assets, or reducing bid prices.

It is important that policy makers and regulators bear in mind the lack of flexibility they may encounter at a later stage when build out obligations prove not to be viable and operators seek relaxation of the obligations. For example, competitors for licenses who withdraw from contests because they judge a given timetable for network development,

geographical coverage and commercial launch of services to be unviable may be in a position to challenge the grant of licenses to wining bidders who later benefit from a relaxation of the requirements due to the discovery at that later date that indeed they were unviable. This sort of problem, which has been raised in the context of 3G services in Europe, needs to be anticipated prior to the licensing process by keeping focused on the importance of ensuring that investment commitments are sustainable.

Investment and Universal Service Obligations

Ensuring access to telecommunication services across geographic and income boundaries remains a central goal of policy makers and regulators, particularly in developing markets. There is extensive literature on the subject of universal service obligations, addressing questions about which services should be provided universally, what proximity of access to services is appropriate, who should bear the obligations of providing such services in uneconomic conditions or have the opportunity to receive subsidies for so doing, who should fund any such subsidies and on what basis contributions should be paid, how subsidies should be administered, as well as complex issues relating to retail and interconnection pricing given the higher cost of providing networks in rural areas compared with higher density urban areas. The purpose of this section is not to address these subjects comprehensively but to make some observations and raise some issues related to encouraging investment in the telecommunications sector as a whole, and in particular in less economic or uneconomic areas.

A variety of techniques may be used to achieve universal service policies, including: requiring telecommunication operators to pay access deficit charges to incumbents directly, or through an administered fund mechanism, to cover their unrealized costs of serving uneconomic areas pursuant to mandatory coverage obligations; permitting incumbent operators to cross-subsidize services in high cost areas from revenues from higher margin areas and services; and market-based reforms encouraging competition and permitting cost-based pricing, as well as leveraging private investment through targeted subsidies.

Perhaps the most interesting factor to note at the outset of the discussion of universal service policy making is the difference that the growth in mobile services has made to access to basic voice services over the last decade. Not only is it valuable to understand that growth in the overall mobile service sector has largely been in the context of minimal price regulation and without obligations to provide universal services, but specifically the benefits enjoyed by lower income users (e.g., through innovative pricing techniques such as pre-paid services) may only have been possible in light of a hands-off regulatory approach whose role primarily was simply to make licenses available to generate competition. The quick availability of mobile services has effectively cut through waiting lists of incumbent fixed line operators, with countries like Uganda and Kenya evidencing the value of mobile communications for serving low income areas. With successful returns realized from higher income customers, mobile operators turned to low income users as a viable market segment. Thus probably the most successful universal access results in recent years have come not from complex administrative mechanisms but – perhaps rather inadvertently as far as regulators were concerned – from allowing operators sufficient pricing flexibility to determine their own economic risks. We are not suggesting that unregulated mobile services have sufficed to fulfill all universal service policies but rather are drawing attention to the basic trend and tendency of enormous investment and extension of services – even to previously un-served population groupings – to have a close relationship with light-handed price and other regulation.

In telecommunication sector reform advisory circles, trends suggesting an emerging consensus on universal service policies focus on establishing a universal service fund to be drawn from a percentage of telecommunication service providers' revenues or other sources, to be administered by the telecommunication regulatory authority or another new institution in close coordination with the telecommunications ministry and/or regulatory authority, and for such funds to be designated to subsidize and provide an incentive to those operators for some or all of the losses incurred in serving geographical areas and population groupings that are otherwise uneconomic to serve[13]. Variations of this have been implemented, and with some notable success in Chile and Peru in recent years[14].

In Chile, operators' revenues contributed to a fund from which subsidies were made available for the purpose of developing payphone networks on a reverse auction basis – i.e., with operators bidding for the lowest amount of subsidy. A key priority in evaluating whether or how to institute a universal service fund is evidently not so much to focus on funding the cost gap – as estimated by the regulators – of providing services in uneconomic areas but rather to focus on the ability of a universal service fund to leverage private capital investment. Chile's program is indicative not so much for the amounts of the subsidies as the amounts of private investment that were induced into the sector through its universal service program.

Effective universal service funds are not common, however. For example, even though the European Union has introduced a comprehensive framework for the provision of universal services, it has been actually implemented only in a few countries: Italy, France, Spain and the United Kingdom. Although these countries have calculated net universal service obligation costs, not all have established a cost-sharing mechanism. Such programs are viewed by knowledgeable observers as being administratively complex and creating a risk of providing incentives for expansion of infrastructure that do not have a sound financial rationale. In markets that have traditionally suffered from low penetration and under-investment, there is good reason to believe that establishing the right market-driven approach to retail pricing for fixed line telephone services is the best way of rapidly widening access to such services.

From the point of view of those making investment decisions, a number of factors are of particular importance. Although higher inventory levels of suppliers has somewhat reduced capex costs, with the telecommunication sector in financial crisis and general skepticism in the sector, the cost of capital is higher and the threshold tolerance of the risk of bearing unprofitable obligations has lowered. Increased scrutiny of investment decisions may reduce the tendency of investors to view universal service obligations as an incidental externality in incumbent operators' business plans, and there may be less inclination for new entrants to fill the universal service gap, however that gap may be defined.

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[13] H. Intven, Telecommunications Regulation Handbook, an InfoDev project carried out by McCarthy Tetrault, 2000; ITU-CTO, Model Universal Service/Access Policies, Regulations and Procedures, *Part I: Universal Service/Access Policy, and Creation and Operation of Universal Service Funds*, D. Townsend, 2002; Trends in Telecommunication Reform, Effective Regulation, 2002, ITU.

[14] B. Wellenis, "Extending Telecommunications beyond the Market", *Public Policy for the Private Sector*, March 2002; B. Wellenius, Closing the Gap in Access to Rural Communication: Chile 1995-2002, November 2001; G. Crannock, "Telecommunication Subsidies: Output-Based Contracts for Rural Services in Peru", *Public Policy for the Private Sector*, June 2001; C. Lawson and N. Meyenn, "Bringing Cellular Phone Service to Rural Areas", *Public Policy for the Private Sector*, March 2000.

In addition to the overall condition of the sector, a number of other variables suggest that the telecommunications sector might benefit from regulators drawing on increasingly flexible methods of achieving universal service aims while keeping focused on the economic fundamentals of investment. The proliferation of technologies that may offer a potentially suitable alternative to extending the public fixed network in rural areas and low income parts of cities introduces the possibility of a range of business models with different capital investment costs and break-even horizons. Services such as analog Nordic Mobile Telephone System (NMT) wireless systems, Global System for Mobile Communications (GSM) and Personal Communication Services (PCS) mobile networks, very small aperture terminals (VSAT), wireless local loop (WLL) and perhaps wireless LANs may be more feasible than laying miles of cable and switches and indeed may be particularly useful for Internet connectivity in addition to basic telecommunication services. A variety of financing structures aimed at developing viable rural networks are available, including direct investment from international and domestic telecommunication operators, encouragement of local entrepreneurial resources, use of franchise structures, as well as multilateral agency micro-finance schemes. Thirdly, an ever-increasing range of retailing techniques has been successfully tried in numerous countries, perhaps most strongly led by the use of pre-paid mobile services. Sales of mobile handsets in brand retail outlets and local kiosks, charging of minutes through scratch cards, local community arrangements to share basic telecommunication and more advanced ICT services in telecenters, local women with tariff print-outs offering use of mobile handsets as payphones, combinations of technologies, financial structures and retailing methods permit a wide variety of models.

With market liberalization, the possibility – and desirability – of other operators entering the market with competing technologies makes it all the more important not to box sources of investment into one or other model but to ensure that the overall conditions offer a sound basis for investment. The higher level of capital required to develop and maintain networks in rural areas due to geographical breadth and lower population density, and the lower levels of revenue to be expected due to low income in rural areas and poorer parts of cities, are the principle concerns taken into account by investors in preparing the business plans used to assess investment opportunities. The cost structure of establishing networks in and serving rural areas sets a high floor, and traditional price regulation sets a low ceiling, between which operators in such areas have very little room for maneuver, with narrow margins (if any positive margins are attainable at all) raising the overall risk profile.

As mentioned above, much discussion of universal service obligations has focused on the problem of regulatory pressure on the cost side – imposing penetration targets, maximum kilometer distances to the nearest telecommunication services and quality of service targets – and has proposed solutions in the form of subsidies intended to alleviate that cost burden. It may be, however, that easing regulatory pressure on the revenue side would make the argument for investment more compelling, particularly to the extent that investors – who bear the risk of the relationship between costs and revenues – are permitted greater control over that relationship.

The lower costs, higher revenues and therefore lower prices that result from the higher incomes, population densities and competition in urban areas, combined with the desire of policy makers and regulators to apply tariffs on a national basis and to ensure that low income areas do not suffer the additional hit of having to pay higher prices, means that rural areas tend to be subject to an uneconomic ceiling on potential revenues. Given the availability of financing methods and technological possibilities with different cost structures, however, it may be questioned whether offering support on the cost side that may

only further distort the relationship between costs and revenues – and therefore investment incentives – is more appropriate than introducing more flexibility on the revenue side, permitting cost-reflective access charges.

The key revenue drivers for rural areas are rates applicable to retail services and interconnection. Interconnection has been identified as the most important regulatory issue for the commercial viability of rural services in Chile, with the emergence of a regulated rural interconnection access charge (i.e., for call termination on the rural networks) far above the access charges of non-rural companies and below, but comparable to, the access charges of the mobile companies. Limited price regulation at the retail level has also been identified as a factor that contributed to the success of the Chilean universal service program, with rural operators being free to set all retail prices for their services except for payphone calls within the primary calling area. Similarly, urban operators in Uganda pay terminating operators in rural kiosks higher termination fees than elsewhere in the country. Also, permitting operators to charge higher rates for calls from urban areas to rural areas would reflect such higher interconnection rates.

The traditional regulatory concern that monopolies may abuse their control of the market to charge high prices may have less weight in low income areas where users are limited in terms of what they will be able to pay for services: generating revenues will require offering low enough prices for usage to grow. Indeed, a surprising aspect of development of mobile services in many countries, exemplified by the Uganda case study undertaken by the ITU, is that there may often be a latent market demand for telecommunication services[15]. It may also be possible to introduce incentives to encourage operators to focus on increasing usage so that they cover their costs and generate margins by encouraging higher usage levels by more users at lower prices, rather than lower usage by fewer users at higher prices. Furthermore, to the extent that national incumbent operators are expected to bear universal service obligations, a lighter tariff regime at a national level might ease their ability to provide the needed investment in those areas where costs are higher and revenues lower.

In ensuring that populations across developing countries are not priced out of access to essential services, regulators might focus the universal service obligation on a basic package of minimum services and low user schemes. Beyond such packages, it may be that signaling the release of pressure on revenues through lightening tariff regulation would attract greater investment to the sector as a whole. That is not to say that government should withdraw from pro-active policies geared towards achieving the important priority of ensuring that all members of the population have access to telecommunication services. There may be combinations of innovative technologies and innovative financing structures that can be used to improve the prospect of achieving such aims. For example, it may be possible to encourage the development of wireless LAN based telecenters on the basis of a national or regional franchise system. Where, for example in Eritrea, there exists backbone infrastructure but there is a lack of local infrastructure to offer connectivity, it may be possible to offer local investors or communities a franchise right to develop wireless LANs – offering basic as well as advanced telecommunication services – on the basis of 802.11(b) technologies. The principal investment outlay for such a structure would be the hardware and software designed to manage the connection and usage of customers, and handsets

[15] The Internet in an African LDC, the Uganda Case Study, 2001, ITU.

designed to detect connectivity and obtain authentication. Such wireless technologies should drastically reduce the infrastructure costs that would be involved in constructing a mobile network, for example, that requires the posting of masts. Franchise arrangements would offer a level of uniformity required to deploy such technologies on a national basis while providing sufficient flexibility and control to local operators over what services they offer and how they market them in a given village.

There are a number of other concerns worth mentioning here regarding universal service policies, and in particular a tendency to resort to use of universal service funds. An important priority in establishing a mechanism is that it prove to be a sustainable way of encouraging investment to the sector. The use of subsidies inevitably introduces concerns about reliance upon support and the sustainability of services when such subsidies are eventually withdrawn, although such concerns are certainly less acute where reverse subsidy auctions are used and low subsidy amounts are provided. Permitting an improved balance between costs and revenues may reduce this tension.

There also remain certain unresolved paradoxes in current ideas about funding universal service funds from the revenues of telecommunication operators and service providers. The penumbra of the definition of those required to contribute to a universal service fund (e.g., whether or not to include Internet or cable companies) raises the question as to why telecommunication operators as a class are earmarked to bear this particular burden in the first place. Even a contribution of only 1% of gross revenues can be a very substantial portion of net cash flows, reducing scope for further investment in the sector. In fact, such a 1% universal service obligation fee applied to the gross revenues of an operator with limited or no financial margins can effectively disable its ability to access financial markets. Investment analysts point, in particular, to the burdens that seem with good intentions to have been imposed on fixed line operators in less profitable areas of the Brazilian telecommunications market that have resulted in significant financial dislocations and distress.

Furthermore, a cross-sector charge based on a percentage of revenues does not take into account the different investment cycles and risks specific to different telecommunication operations in the way that regular corporate taxation does. For example, wireless networks generally are quicker to establish and commence revenue generation, enabling them to reach break-even points sooner than wireline networks. In most developed markets, corporate taxation generally only applies when businesses begin to record profits – ie. when the investment has proven worthwhile. Highly capital intensive network-based operations involve much longer periods before showing a profit, and a relentless revenue-based charge can have a particularly high impact on long-term margins, and a possibly long term drag on investment flows to the sector.

The most obvious reason for establishing a universal service fund contributed to by telecommunication operators and administered by the sector regulatory authority (or by the sector minister, or market participants) is that it enables sector policy makers and regulators to avoid competing with other demands on centrally controlled national resources, for example, by circumventing budgetary controls in Finance Ministries. In using universal service funds to support universal service obligations, policy makers and regulators aim to encourage the development of telecommunication networks and availability of services in areas that cannot otherwise afford them because such networks and services have numerous benefits across the full range of economic and social activities, including schools, hospitals, agriculture, local businesses and other sectors of the local economy. It may be argued that

the costs associated with providing universal service are more appropriately viewed as an aspect of regional development policy. This is not to say that telecommunications sector policy makers and regulators should not have the lead influence on the deployment of any funding to be made available. It simply raises the question as to why telecommunication operators in particular are expected to bear the funding burden.

There also remain unresolved questions concerning administrative aspects of universal service funds. Many developing countries are still only in the process of establishing independent regulators, often encountering the political dilemmas of conferring financial and operational autonomy to regulatory bodies for the first time. In addition to the political obstacles in relinquishing powers, many such countries lack the human or financial capital to build institutions that will effectively regulate the market for some considerable period of time without extensive assistance from – and dependence on – multilateral agency funding and consultancy support. Resolving the types of questions that arise in connection with administrating universal service funds – in addition to their basic regulatory functions – may be beyond the institutional capacity of most developing country regulatory bodies and, together with the political pressures that inevitably accompany choices about the allocation of public funds, may make it more difficult for nascent regulatory bodies to develop their regulatory role comfortably and assume authority effectively. Defining services and geographical areas, reconciling funding of defined universal service obligations with pre-existing network build-out obligations and penetration rate targets in the licenses of incumbent operators, regulating retail and interconnection prices of subsidized operators, and designing subsidy auctions – to mention only a few highly contentious issues – introduce questions of complexity likely requiring a level of expertise that may not be available and that distract from the basic imperative of allowing those who bear investment risks the scope to set the conditions for securing a return on investment. While newly-appointed regulators certainly have the capacity to develop expertise in managing universal service fund mechanisms, it is open to question whether this is the best deployment of scarce human capital.

The administrative complexity contemplated by some universal service fund proposals does not match the mobility of capital and the flexibility of technological and financial structures discussed at the beginning of this section. To the extent that economists and lawyers are available, it may be that offering support to local investors in developing business plans and models would be of greater assistance to those who contemplate venturing into areas where margins are likely to be tight. There may even be legitimate concerns that the establishment of a universal service fund – which by definition ought to have the purpose of "doing itself out of a job" – may result in an entrenched subsidy culture, both for operators and fund administrators, and raise questions about the sustainability of investment in the areas targeted for support. The involvement of the official sector in determining – despite the use of subsidy auctions and commitments to technological neutrality – how public funds will be used to support the development of infrastructure may lead inexorably to increased public sector influence over decisions affecting the deployment of capital and the types of networks and technologies to be used.

To the extent that subsidies are necessary, there may be merits in considering approaching such subsidization from a demand perspective. Instead of subsidizing operators' costs, it is worth considering whether providing subsidization to users would improve the focus of the economic dynamic. The prospect of assured demand due to the issuance, for example, of pre-paid vouchers to community organizations and local governmental agencies which might be distributed to local businesses and families, might

ensure an initial boost to usage and provide an opportunity for users to experience the benefits of the services before such subsidies were fazed out. Providing subsidies to users instead of operators might have the added benefit of improving the visibility of the true development-related purpose of the subsidy.

For the reasons discussed above, many financial analysts and telecommunications sector economists will argue forcefully against the imposition of administratively complex universal service programs including those based on the EU acquis communitaire that interestingly has been implemented in only a handful of EU countries. What is advocated instead is a vigorous program of price rebalancing and even outright forbearance from retail price control that is linked with a strong commitment to tariff packages guaranteeing basic connectivity. In addition, these advisors point toward heavy reliance on technology driven initiatives that provide limited accessibility with low cost technologies such as use of analogue NMT mobile systems to provide rural connectivity in many Central European countries or the deployment of a combination of wireless loops and IP telephony applications.

It is not the purpose of this paper to offer a single solution to the challenges of securing universal access and universal services for populations, particularly given the variety of population sizes, stages of network development, preparedness of markets, legal systems, general economic development and gross domestic product. The key concern is to ensure that, in designing universal service policies and regulations, policy makers and regulators approach the subject with the priorities of investors close to the forefront of their minds. Countries such as Chile, with its attitude to economic reform, may be able to benefit from use of a complex universal service fund. This is particularly so where reverse auctions are used to minimize the amount of subsidy and maximize the leveraging capability of the subsidy to attract private investment, and where asymmetric interconnection and roaming arrangements apply between rural and urban areas. In many countries, however, such a system may create structures and incentives that direct scarce human capital away from investment-focused regulation and towards bureaucratic institutions and processes.

V. Risks and Structural Hindrances to Investment

Investment bankers weigh a wide range of generic risks in assessing investment opportunities, including political risk, legal stability, exchange rate risk and the like. Regulatory-specific risks issues that typically come into focus in developing markets typically include uncertainties regarding the timing and scope of sector liberalization and whether, in light of existing competition and planned liberalization, operators – particularly incumbent fixed line operators – have sufficient commercial flexibility to deal with increasing competition from mobile operators, call-back services and Internet telephony, as well as competition that may be introduced with the loss of exclusivity rights. Investment bankers' due diligence meetings with sector ministries and regulatory institutions will focus on the official sector's vision for price regulation and political pressures to build out networks and maintain widely based subsidized pricing schemes for geographical areas and population segments.

Risks concerning politically achievable targets for price rebalancing surface as business plans require analysts to model future revenues and costs over long term periods based on uncertain assumptions. Interconnection-related risks typically concern the ability of operators to offer services on a commercial basis, as well as the powers and inclinations of the regulator to become involved in setting interconnection rates as opposed to simply

resolving interconnection disputes or intervening in failed negotiations. The powers and intentions of policy makers to grant new licenses to potential competitors is a common risk that arises in assessing investment in a sector which is in the process of liberalization. For example, discussion in Jordan about whether or not to permit a third mobile operator to enter the market will naturally have included perspectives from the government's financial advisers concerning the impact of a third GSM license on the recent marketing of the Jordan Telecom's shares. Similarly, the introduction of new technologies that may offer indirect competition is of key concern, as illustrated by the share of the 3G market that wireless LAN services are predicted to take.

Investment bankers will also regularly consider the broad direction of regulatory change, as well as the likely impact of specific regulatory initiatives on the attractiveness of investment. For example, in considering the attractiveness of investing in certain state-owned mobile operators in countries just beginning to liberalize, the investment banking community is looking carefully at the adjustment of telecommunication regulations to follow global norms, to meet political pressure to provide basic services in less developed regions, the separation of regulatory and operational functions and other reform initiatives. Financiers will also analyze the likely impact of specific regulations on specific operators. For example, recent developments in the EU relating to definition of relevant markets in the mobile sector and the increasing focus on roaming and termination charges are being reviewed by investment analysts in relation to their likely impact on the EBITDA of European mobile operators.

Institutional reform of regulatory regimes is frequently discussed in telecommunication sector reform circles with a focus on the stability and transparency of regulatory decision-making, and the effect of such certainty or uncertainty on the risk dimension of investment. It is certainly true that transparency and stability are important attributes of the regulatory regime for attracting investment capital to the telecommunications sector (as evidenced by the highly successful auction of Morocco's second GSM license in 1999 for US$ 1.1 billion), and investment bankers will indeed focus on the benefits of new legislation and regimes that offer investors assurance in taking a long-term view of the investment environment. Another initial public offering in a developing country was less successful in part because the country lacked a transparently articulated policy on tariffs and interconnection and due to the overall regulatory environment, compounded by pricing changes to some tariffs made towards the end of the offering process.

Given that the importance of transparency and stability is now generally taken for granted as a basic tenet of regulatory reform by most advisors (if not by all of their advisees), this section explores how the transition of institutional mechanisms can sometimes introduce risks which may directly limit revenue generation or impose costs making investment less attractive.

This section discusses concerns about a lack of coherence in governments' approaches to the telecommunications sector in relation to structures of and inter-relationships among regulatory institutions – particularly those in countries in transition – which may result in fragmentation of policy aims and the prolongation of residual pricing controls that are no longer necessary or helpful in the existing market. Other transition-related issues discussed in this section include the use of concession arrangements by some governments in developing countries, and risks difficulties involved in converting such arrangements to licensing regimes. Also relevant to the risk profile of the

telecommunications sector is the intersection of regional investment trends and the accumulating systemic complexity of geographic regulation. There are a number of regional initiatives in developing regions to align regulatory practices of neighboring countries more closely with one another. At a global level, for example, many countries have now signed up to the commitments in the WTO basic telecommunication services agreement, with the result that there may be increasing convergence of regulation. The jurisdictional complexity introduced by such developments raises a number of questions regarding the relationship between local and central institutions. This section discusses some lessons for developing markets that may be drawn from the experience of developed markets such as the EU and the United States in this regard.

Risks Arising in Institutional Transition

One of the most difficult issues facing policymakers in emerging markets can be how to manage the transition from exercising controls through corporate governance mechanisms to a more independent process of regulatory oversight. This process can be particularly vexing where basic decisions about pricing and investment policies have been exercised through a government owned holding company or a supervising Ministry which has taken a leading role in setting sector policy.

Institutional mechanisms and procedures can often be policy outcome-determinative. Thus, financial advisors focus not merely on substantive policies but on the institutional arrangements for implementing them. For example, the creation of institutions to counterbalance old structures that traditionally directed investment policy can sometimes have unintended consequences of accentuating social policies such as consumer protectionism or ensuring social equity in an unbalanced fashion, thereby negating important pricing and other signals much needed to attract new investment.

We discuss below the issues raised by the transition processes from state-owned to a more market driven approach where pricing policies historically were used for broad social aims.

Some markets have experienced difficulty with tariff rebalancing where different governmental entities share or even have conflicting roles with regard to end user tariffs. The result is that local tariffs are entirely out of alignment with other prevailing local tariffs and are in need of restructuring to permit local operators to generate revenues from new services such as local access for Internet services and origination and termination of traffic to and from the mobile networks. Pricing decisions in some countries evolve out of an institutional stand-off and inter-Ministry negotiation process. Uncertainty and lack of transparency resulting from the relationship of the sector Ministry to the operators is thus compounded by the role of competition authorities or other ministries with a pricing policy mandate. The division of roles may undermine the ability of the government to regulate the sector as a whole, politicize pricing issues, stifle the cash flows needed for further investment and undermine the attractiveness of the sector to international capital.

In the view of many observers, pricing policies in some major markets are beginning to be driven more by concerns about encouraging wider accessibility of services than by considerations relating to the ability of mobile service providers to attract investment into the telecommunications sector.

It may be that the goal of ensuring that pricing policies will attract increased investment is being superceded by different policy concerns relating to protecting

consumers' rights and/or widening access to service. Despite the legitimacy of both such policy objectives, this may actually result in constraints on the speed and effectiveness with which the overall telecommunications infrastructure can be expanded to offer access to a larger number of users. Investors become wary where decisions benefiting specific customers through reduced or preferential rates, or initiatives to expand the telecommunications infrastructure into un-served or under served territories, become captive to particular social agendas or stranded between different institutional structures. Investors, in short, may have second thoughts about whether capital can be attracted into either telecommunications sector without potential distortions and impediments on the effective deployment of capital. Shifts in the institutional structures for overseeing pricing policy, or for facilitating access to services consistent with basic social objectives, can often have quite unintended and adverse consequences for the rapid expansion of telecommunications infrastructure.

In many countries with long traditions of state ownership and direction of economic policy rate structures have become embedded with special preferences accorded particular classes of customers or institutions. The political case for such preferential rates for the elderly or war veterans is hardly assailable. However, over the years, many preferences and cases of special treatment have accumulated that may no longer be justified in a more commercial or market-oriented environment. For example where government ministries are not required to stay current with their bills from local telecommunication operators or receive other preferential pricing treatment.

Especially, where governments are keen to encourage the rapid take-up in the public and private sectors of broadband information related services, there is a need for careful reassessment of how rates should be set to ensure affordability and basic access. Many advocates of more contemporary and progressive pricing policies are urging the introduction of pricing plans that are dependent on users' own decisions about how much capacity to use to ensure basic affordability and access. The focus of attention is being shifted to pricing plans that offer limited and basic connectivity for discounted prices without regard for the actual identity of the user.

Likewise, many investment analysts express concerns that institutional mechanisms and social policies to ensure universal access can actually undermine progress toward expanding the basic availability of telecommunication services in a market. These analysts focus their attention not on the aggregate penetration rates in a sector but on the part of the market that can be effectively served by service providers. Thus analysts do not look so much at gross numbers of potential subscribers but instead try to estimate the commercially viable market segments for particular types of services. Certain types of technologies, such as PAS Handyphone, wireless services may be more viably deployed in certain less economically favored regions. As discussed above in Part IV, a program intended to ensure universal service may in fact create uneconomic incentives for the expansion of infrastructure, effectively obligating operators to offer services that even when subsidized are still loss generating.

In the context of regimes in transition, a key question then is how to structure institutional mechanisms that undo old and no longer effectual mechanisms for corporate control through state-owned holdings and Ministries but still ensure a commercial and investment oriented approach to retail as well as wholesale pricing policies. Institutional change has been a traditional focus of aid assistance to countries introducing liberalization measures. It may even be possible sometimes for international development banks, in an

earnest effort to help design policies serving important social and political objectives in a reform process, actually to set back the process of sector reform and new investment. Reaching the right balance between politically disruptive, controversial and unpopular price reform and necessary safety net protections is exceedingly difficult. Increased and improved dialogue between governments and traditional investment bankers and development bankers would greatly assist in ensuring the continued flow of investment into the sector.

One possibility may be to structure new institutions that provide significant leeway for industry participants and government officials to engage in consensus building activities with regard to the dynamic interplay among transitional pricing, investment in infrastructure and social policies. The rationale for such new mechanisms is described more fully in Part VI and in a discussion paper prepared under the auspices of the World Bank, "Discussion Paper on the Use of Alternative Dispute Resolution Techniques in the Telecommunications Sector" (Bruce & Marriott 2002). Institutions that give significant weight to commercial and investment-oriented interests may be able to assist in minimizing the potential unintended consequences of a migration of supervisory authority with respect to the telecommunications sector from old style dirigiste institutions to more independent regulatory mechanisms.

The same type of distortion that can be introduced into decisions relating to pricing policies can also be introduced when there is concurrent jurisdiction between telecommunication regulatory agencies and competition authorities or where the balance of policy making initiatives shift from traditional sector-specific regulation to a regime more dependent on competition. We discussed above in Part III the example of how competition authorities in Europe and other countries may begin to intervene in the mobile sector with respect to roaming or termination charges without regard for an overall vision of the full range of regulatory, commercial and financing issues facing the sector. The following section discusses some of the complex jurisdictional issues that are increasingly arising in the telecommunications sector.

Systemic Complexity Risks: Harmonization and Jurisdictional Layering

Over the past five years, the number of national regulatory entities has increased significantly in response in part to the WTO basic telecommunication services agreement. More than 110 countries had created regulatory authorities by the end of 2001, with 140 expected by 2005, according to the ITU Trends in Telecommunication Reform, 2002, report. This proliferation of regulatory authorities has occurred, of course, in the context both of the emergence of an overarching set of basic regulatory principles embedded in the WTO basic telecommunication services agreement and the WTO reference paper and an increasing trend toward cross-border investment on both a regional and international scale. As the detail and potential diversity of regulatory regimes have increased so have pressures for convergence of approaches and common policies from the standpoint of potential cross-border operators and investors. Investors are increasingly investing regionally. For example, France Telecom has taken a significant interest in a number of Middle Eastern and North African countries, as has Orascom; MTN, Telecal and MSI invested all across Africa, as has Shim Corporation in South East Asia; and Vodafone, Hutchinson, Orange and NTT DoCoMo exemplify a growing tendency to invest over a wide geographical span. The 3G licensing process in Europe evidenced trends towards a more regional and cross-border approach to investment, and merger and acquisition activity has seen increased regional activity, with major incumbent operators such as France Telecom and Deutsche Telekom taking over major mobile operators such as Orange and One-to-One in the United Kingdom.

The increasing globalization of services adds to pressures for convergence of regulatory approaches. Increased international traffic, the availability of vast international capacity, international roaming arrangements which have benefited from use of common technologies such as GSM, changes to international accounting rates and increased use of services such as callback, calling cards and global satellite systems all combine to produce a more global market for services. Disparities of regulatory treatment across borders which would otherwise benefit from being viewed as a single wider market likely introduce distortions that hinder aggregate flows of investment to the sector on regional basis.

In some areas, international institutions and mechanisms like the European Union have emerged to create common cross-border markets. Such regional economic and political institutions are structured, or are being structured, to achieve increasing degrees of political and economic integration comparable to the conditions prevailing with nation-states which may have varying degrees of federal-type structures balancing the claims of central authorities against those of state or provincial officials. There is, in practice, a continuum between the market environments that exist in the context of federal nation-states, international institutional arrangements such as the European Union, other less highly developed regional structures like the Mercosur, as well as a range of other regional cooperative mechanisms in Latin America or Africa. What is significant is that there is increasing complexity in the global telecommunications environment as a result of the co-existence of multi-tiered regulatory frameworks, resulting from the convergent applicability of WTO-based, regional, and national regulatory frameworks and policies.

From the standpoint of potential investors, it is critical that the increasing complexity and differentiation of policies through the establishment of new regulatory institutions, not inadvertently create barriers to flows of investment, especially on a regional basis. Thus, as the numbers of separate regulatory authorities increase, it is likely to be increasingly valuable to examine various approaches and models — even the experience in developed markets such the United States or the European Union —for dealing with jurisdictional complexity and for achieving effective scope and scale in regulatory policy setting.

There are, of course, an increasing number of regional associations and entities specifically focused on issues of regional cooperation and harmonization, including Common Market for Eastern and South Africa (COMESA), Regulatel in Latin America, the Telecommunications Regulators Association of Southern Africa (TRASA), the Eastern Caribbean Telecommunications Authority (ECTEL) as well as other similar organizations. Most such regional organizations have yet to develop on-line information sharing arrangements at a significant substantive level. The degree of institutional formality and the scope of cooperative initiatives vary from organization to organization and from region to region. However, the potential success and effectiveness of regional initiatives may not depend as much on having a formal legal basis for cooperation as on practical initiatives to exchange information about key policies and to harmonize policies on a cross border basis. The Independent Regulators Group within the European Union is a good example of an institution based on informal cooperation rather than a formal legal mandate. For example, such informal groups can develop a basis for data that can be used for cross-border benchmarking of retail and wholesale pricing arrangements. Other fruitful areas for collaboration could center around developing information on low usage tariff schemes, interconnection, rate rebalancing initiatives and timetables as well as various approaches to encouraging universal service or access to basic telecommunication service offerings. Undoubtedly, current cooperative efforts are already centering around these core topics of common importance. However, much would be gained by formulating common

methodologies for collecting, presenting, and disseminating key sector-related information and for distilling "case studies"—real-life relevant regulatory experience—that are useful to regulators on a cross border basis.

As discussed in Part VI, there are likely to be significant benefits from ensuring that exchanges among regulators is part of an overall process of increasing and strengthening dialogue among key industry participants. Indeed, the proliferation of separate regulatory entities may create a strong rationale for a "virtual forum" linking service providers and users on a cross-border basis that is intended to encourage consensus building initiatives with respect to key industry developments. Such informal mechanisms may indeed be ideally suited to deal with environments where regulatory mechanisms are not fully developed or are not likely to develop given political or institutional constraints.

Jurisdictional Complexity in More Developed Markets

Regulators in developing countries can draw lessons from the experience of more developed markets with issues arising in relation to institutional complexity. More developed markets themselves may benefit from a more widely cast institutional method of collecting the variety of relevant inputs necessary to prevent the fracturing of policy that is destructive to investment, particularly given some of the changes being introduced in markets like the European Union. Many industry analysts have focused concern not only on competition policymakers entering the policymaking fray, but have noted as well that the European Union's new regulatory framework anticipates that traditional relationships between national and EU regulatory officials will be structured with EU officials having increased authority to veto or override national policy initiatives. New consultative mechanisms involving not just EU and national regulatory authority officials but also a range of industry participants may be required to add more transparency and predictability to the way that the new EU framework is implemented. A first step in the direction of implementing new mechanisms may be to experiment with the use of consensus building and dispute resolution at both the national and EU levels. As discussed in Part III, the European Union's far-reaching July 2002 forum in Brussels addressed issues raised by the unbundling of local loops and deployment of new high speed Internet access services. Mechanisms designed to develop further and bring into focus issues discussed at such fora in a similarly consultative and collaborative manner are likely to play an important part in ensuring that policy making and regulation attend to the realities and needs of the market, including the details of conditions that would encourage investment.

The complex and multi-tiered relationship between the Federal Communications Commission and public utility commissions in the fifty states and the District of Columbia has long been a central part of the telecommunications landscape in the United States. However, there may be a critical need to examine whether a simpler and less intrusive approach to regulation may be warranted in light of increased consolidation of incumbent regional telecommunication operators, the emergence of nation-wide wireless service providers, and other changes in competitive relationships in the telecommunications sector. As noted above in Part III, the investment community is increasingly questioning the basis for traditional public utility regulation of retail prices of fixed line service services given the increased substitutability of wire and wireless services. There is also an important nexus between local regulation of pricing of fixed line telephone services and the basis for pricing the provision of xDSL services on a retail and wholesale basis. Any distortions in the level of retail pricing for local fixed line services may well adversely affect the basis for determining the right pricing for common elements of local infrastructure that are utilized in

providing high speed Internet connection services. For example, local regulators may be inclined to apply the same methodologies for setting the pricing of unbundled elements of local network infrastructure and potentially not permit recovery of local infrastructure costs on a basis that will stimulate new investment in such infrastructure. In any event, continued local regulation of the pricing of unbundled network elements will result in an asymmetrical approach to the regulation of pricing for alternative types of infrastructure used for high speed Internet access, ie. the local wire network and facilities of cable television operators which are not necessarily subject to regulation by local public utility commissions.

It may be possible to address such concerns through the pre-emption of local regulation by the FCC. The fracturing of policy along jurisdictional lines due to outdated institutional structures which do not reflect the nature of the market, however, suggest that it may be an appropriate time for an overall review of the continued role of public utility commissions established in the last decade of the nineteenth century in addressing the challenges of overseeing complex new industry arrangements in the first decade of the twenty-first century.

Such a review might focus on whether there are simpler and less administratively complex arrangements to protect basic consumer interests and oversee an important industry sector. In this effort, it may be useful to initiate a dialogue among regulatory officials in the United States and regulators in other countries which have begun to gain important experience in regulating the telecommunications sector with less formal and cumbersome arrangements than have been traditionally used in the United States. From the vantage point of an expatriate former regulator in the United States—the perspective of the principal author of this discussion paper— United States regulators might benefit from an open-ended dialogue with counterparts in various countries including several Scandinavian countries with simple but still effective regulatory regimes. Indeed, there may be substantial mutual benefit in a dialogue that focuses on innovative ideas that might have a stimulative impact on the current depressed conditions that telecommunication operators face in today's financial markets.

The lessons for regions with under-developed markets is that investment in new regulatory regimes may be best directed towards simpler regulation and informal cross-border regional consultative mechanisms aimed at continuity and convergence using information sharing and benchmarking, and not towards structures that encourage tension between central and local authorities and wrangling over jurisdictional control.

Risks Relating to Licensing Regime Transition

One of the more complex scenarios in which regulatory policies and investment concerns can become closely intertwined involves the conversion of revenue sharing concessions into conventional licenses. In a number of different countries including Turkey, Lebanon, Thailand, and Indonesia, to point to some prominent examples, revenue sharing concessions were issued to privately owned service providers to exploit rights granted by the state. The exclusive rights held by a state-owned telecommunication company such as CAT and TOT in Thailand or Telekom Indonesia in Indonesia were granted under concessions, in substantial measure, to permit state-owned enterprises to access the know-how and capital of the private sector without resort to a traditional privatization of a state-owned enterprise. In Turkey and Lebanon, by contrast, revenue sharing concessions were issued to private service providers as an alternative to conventional licenses and were intended to permit the government to obtain some of the economic and financial benefits of

a government-owned enterprise without imposing any burdens on government authorities to finance, manage or bear the risk of such ventures. All these various approaches were initially intended to provide increased access to private capital in a market environment in which the introduction of competitive entry or full privatization of state-owned enterprises were not viewed as politically feasible.

As liberalization and privatization policies have become more politically acceptable, government policymakers have had, for a number of different reasons, to find ways to convert such revenue sharing arrangements into more conventional licenses. This has often been required as part of reform of the overall regulatory scheme involving new legislation and the transfer of licensing responsibility to a new independent authority responsible for sector regulation. The creation of a new regime designed to promote legal certainty, competition and other conditions required to attract investment has meant that existing revenue sharing arrangements become obsolete, effectively stranded assets under the new regulatory regime. Conversion of the licenses has not usually been easy and has created substantial uncertainty, often casting a long shadow over efforts to provide new policy direction and momentum in the telecommunications market as a whole. Often, the distortion introduced into national telecommunication policies is a result of the fact that responsibilities for setting regulatory policy and for overseeing the government's financial interest in a concession agreement are treated in a compartmentalized fashion and not properly integrated and coordinated on an intra-governmental or inter-ministerial basis.

It is sometimes difficult for countries to reconcile pressures on the Government to reduce large budget deficits using short term revenue from the telecommunications sector from licenses and concessions with its longer term sector development objectives. Such objectives might have placed higher priority upon achieving the economic benefits, and likely tax revenues, from a profitable, rapidly expanding telecommunications sector than on gaining immediate economic returns from concession or license fees. Such tensions are often present in setting telecommunications sector policy. There has never been an easy remedy to the disquieting consequences of deep-seated conflicts of interests between governments' budgetary imperatives and their long-term economic policy making responsibilities. However, it may be possible to make these conflicts more visible and strengthen the checks and balances within governments that might counteract the tendency towards viewing the telecommunications sector as a lucrative source of revenue. The kind of consensus building fora discussed in Part VI might well have helped to air the issues relating to, and integrate the approach to, the liberalization and growth of the sector, the privatization of incumbent operators, the transition to a new regulatory regime, and other like issues.

The restructurings of revenue sharing arrangements in some countries are likewise creating significant uncertainties as policy makers weigh how to evaluate the conflicting claims and interests of incumbent state-owned operators and private investors in revenue sharing concession holders, and to convert revenue sharing agreements into more conventional interconnection arrangements.

How Governments organize themselves to deal with such restructuring processes has enormous long term significance for future investment flows in the sector. In some countries, the government is faced with a significant conflict of interest between its responsibilities as policy maker and sector regulator and its interests as owner of important industry participants. It may be especially important in some countries to identify mechanisms such as a negotiating forum or informal dispute resolution that can be relied

upon to create transparency and a sense of fairness about the decision making process. Such mechanisms would assist in including the investor community in the resolution of the situation in a manner that ensures that the long-term investment needs of the sector are not marginalized.

The transition of certain concession systems to a licensing regime due to the complexities produced by interrelated concession agreements established at different stages in the sector's development may make it difficult to attract investment.

The process of converting concessions into licenses in some countries has further been complicated by new legislation that limits foreign investment in licensed operators to levels below the existing investment base in concession holders. Other problems relate to the lack of guidelines for determining the cost of converting concessions to licenses, especially concerning the valuation of assets acquired by concession holders and transferred to state-owned companies. Under the terms of some concession agreements, the concession granting entities are able to demand payment for transferring assets back to concession holders for their use under the new licensing regime. Likewise, revenue sharing agreements will have to be replaced by conventional interconnection agreements.

Difficulties in implementing structural reforms in which concessions are converted into licenses leave investors unable to evaluate likely future operational scenarios for state-owned operators as well as for former concession holders. This uncertainty created by difficulties in navigating a difficult and complex restructuring process can effectively immobilize the ability of international financial markets to provide an increased or reliable flow of funding into the sector. To the extent that the government approaches the problems in a fragmented manner, it may lose the opportunity to attract the maximum aggregate investment. Thus the pricing of new licenses, the cost of the assets and the economics of the new interconnection agreements need to be handled on an integrated basis, particularly in light of the historic economic structures. Again, then, there is much need for a mechanism to pull together the different constituencies and issues. A forum in which these issues can be aired and negotiated transparently by all parties concerned might accelerate the process by ensuring that parties receive a fair hearing and improve the overall conditions for investment flows.

VI. Using Consultative Industry Fora to Develop a New Regulatory Style

A basic problem facing policy makers and regulators in developing markets which are in the process of liberalization is the lack of established regulatory expertise and understanding of the key concerns of investors and the technological and economic complexities of the market. Even in developed markets, the detail involved in various aspects of regulation, whether defining market segments or adjudicating on the hardware and software required for the physical and logical interconnection of networks, places an increasingly demanding burden of understanding on regulators and appears to require their increasing involvement in the detail of the business. Continuing to regulate in a manner determined by traditional approaches to the heirarchies of jurisdiction-focused legal norms, based on the issuance by a regulatory authority of regulations and requirements that it approve tariffs, interconnection agreements, technical standards and the like, may be unsustainable in this light. It is becoming increasingly important that industry participants – operators, service providers and investors – become more involved in and share more of the burden of the regulatory process than they have hitherto. The importance that the regulatory process take into account and indeed be led by the factors affecting decision-making of

investors and operators concerning the financial realities of developing new infrastructures only makes this more urgent.

Many regulators in developed countries regularly consult with industry participants, seeking and receiving comments on regulations proposed by the regulatory authority, although such consultations typically occur after it has conducted market analyses and determined the frameworks in advance. A number of regulators in developing markets have also seen the benefits of a consultative approach to regulation, with countries such as Botswana regularly singled out for their public consultation processes. A wealth of regulatory consultative information is available on the Internet. Anatel, the Brazilian regulator, for example, regularly publishes its consultation and discussion documentation on-line. The Telecommunication Regulatory Authority of India maintains a regularly updated website with consultation papers and responses from the market containing a wealth of information and input from investing operators, investors, academics, policy makers and other stake holders. There may be, however, an important need and opportunity to change fundamentally the underlying approach of the regulatory process itself in a way that not only involves consultation by regulators with industry participants but that actually builds operators and investors into the regulatory process itself.

There are likely to be significant benefits from introducing a fresh, "bottom up", consultative approach to regulation that employs structures and institutions which ensure that market participants become engaged, with official supervision and involvement, in monitoring their own markets, benefiting from experience in more developed or neighbouring markets, identifying problems that require to be addressed through regulatory processes, initiating proposals to address such problems, and managing dispute resolution and other consultative procedures which are alternatives to traditional adjudicatory systems.

Establishing industry fora comprised of interested operators and potential sources of investment and focused on specific policy goals, such as increasing infrastructure in rural areas or alternatives to traditional local access infrastructure, may greatly assist regulators in identifying the key factors that would permit investment flows to achieve the desired aims. A fundamental shift in the approach to how regulation operates in relation to market participants and investors so as to give them a larger role in the process might also permit the development of efficient dispute resolution procedures. Several financiers have expressed concerns about the danger that the enforcement powers accorded regulators can result in accumulating and escalating litigation to determine major issues, such as line sharing, for example in Germany. For this reason, RegTP has been seeking to shorten appeals processes to reduce the period required to reach final judgments, and to increase its powers to fine. It may be, however, that alternative dispute resolution procedures could be developed to accelerate determination of contentious issues within the fora of industry participants themselves while simultaneously easing concerns about due process.

There are a range of types of mechanisms and platforms that might be used in a variety of situations. Alternative dispute resolution and mediation procedures can be used where individual or groups of operators and service providers are in direct conflict on specific issues such as the pricing or logistics of interconnection, or the pricing or co-location in local loop unbundling. More broadly, groups of interested market participants might participate in roundtable discussions to provide market-led initiatives aimed at increasing investment and competition in the sector. At the technical level, industry fora might focus on the technical issues arising in network inter-operability in the logical and other software-related aspects of interconnection.

In each of these scenarios, it should be possible to ensure that the public policy dimension frames the processes, whether by defining the range of expected outcomes, requiring benchmarking of results against more developed markets, or by including regulatory officials in the actual process itself. The role of regulatory officials might vary from being party to a proceeding, organizer or monitor of proper process in a proceeding between or among market participants, identifying key issues or recommended outcomes, or being merely an interested on-looker. Further, regulators might use their ultimate authority to introduce regulation as a background "stick" to encourage informal negotiation among market participants on an issue of public policy interest.

The importance of transparency in regulatory policy making cannot be overstressed. Investment bankers monitoring certain markets have expressed concern about the lack of information available about basic issues that affect competition in the market and therefore the attractiveness of investment in operators. Many regulators in more developed markets already collect substantial amounts of information from operators and analyze it with a view to developing regulation. Introducing structures which encourage more information sharing among market participants in a country's market, as well as cross-border benchmarking, would offer industry participants and regulators alike greater access to the key information about the key drivers of access to and quality and pricing of services.

It is certainly conventional wisdom that steps to create independent regulatory bodies are a valuable step toward transparency. It is arguable, however, that independent regulatory bodies that are similar in structure and operation to Oftel, FCC, the CRTC in Canada, RegTP in Germany, the ART in France cannot easily be established in countries that do not have a long tradition of independent regulation and monitoring markets. The first option of policy makers in some countries may sometimes not be to create an independent regulatory body. There is also a concern that new regulatory bodies may actually operate in a fashion more similar to traditional closed ministries that they replace. Investors may not actually have an opportunity to gauge how key sector decisions will affect the market, business opportunities and investment risks because they cannot see and judge for themselves how decisions are taken. It is of even potentially more concern, and a growing concern in some countries in the European Union, that the creation of new regulatory bodies will lead to an increase in litigiousness in the telecommunications sector and even contribute to a condition where administrative litigation becomes an accepted part of competition in the marketplace and that delay in resolving disputes begins to impair the functioning of commercial markets.

As discussed throughout this paper, one of the arguable advantages of consultative industry fora is that investors can have a better view of how key industry decisions are likely to be taken and be involved in the process. Moreover, such mechanisms may begin to increase the likelihood that key policy issues will be dealt with by discussion and agreement and not through litigation. Thus, not only will regulators have the benefit of understanding better the key factors for investment, but institutional mechanisms may contribute toward improving investors' confidence in the regulatory process and ultimately in the dynamics of the telecommunication markets in which they decide to invest.

Another key institutional step in adding to investor confidence is strengthening mechanisms for the predictability and enforcement of key sector policies. Investors will weigh in their decisions to invest in a particular sector whether written policies are actually followed in practice. The more investors doubt whether regulation will operate as "advertised" the less they will be able to make sound investment decisions based on a clear

understanding of how industry players are likely to behave in a given market setting. Involving investors and operators in policy-making and regulatory processes increases the likelihood that high sounding intentions are carried out in the pragmatic detail of the operating market.

One of the factors that can deter investment is a failure of regulators and policy makers to address how some very critical regulatory issue is likely to be addressed. For example, questions remain in some countries whether newly created regional companies will be authorized to provide intra-regional, inter-regional, and international services in competition with the incumbent long distance operator and when as a general matter competition with the incumbent may be permitted. Investment analysts have been left to speculate about how the issue is likely to be addressed and when. However, there may well be useful ways of delineating the overall framework within which potential policy concerns are likely to be addressed. One of the potential advantages of a sector forum involving key industry players and government officials is that those interested in investing in the sector may be able to develop a better view of how key relationships among industry participants are evolving and how regulators and industry participants view longer term prospects for the sector.

In many cases, issues arising in markets – particularly those that are under-developed – will have arisen in other markets. For example, there may be scope for liberalization initiatives to be taken on the basis of commercial negotiations which start from operational procedures and documentation developed in other liberalized markets. Instituting formal mechanisms designed to encourage regulators and market participants to take advantage of experience accumulated in other markets may offer considerable improvements to the collective vision for the sector and a reduction in the contentiousness that often accompanies regulatory change.

We discussed in Part V the increasingly regional nature of investment flows and some indications of trends towards convergence of regulatory practices resulting from countries' WTO commitments and regional initiatives, as well as some lessons about jurisdictional complexity resulting from institutional tensions between central and local norms and authorities. The use of informal cross-border mechanisms sharing information and benchmarking trends may be a more efficient way to bring about regulatory convergence than traditional legalistic approaches such as have traditionally been employed in the European Union and the United States.

VII. Concluding Perspectives on the Importance of Investment-Oriented Regulation

A Fresh Approach to Regulation

Regulatory policies that are well focused on encouraging investment do not merely service the interests of investors but can and should also promote the basic policy objectives of widening access to infrastructure and services and establishing a basis for competition in the sector. It is easy to forget that if adequate investment does not flow into the telecommunications sector it is likely that overall service penetration cannot be increased, waiting lists for services are likely to grow longer and the objective of encouraging universal service or increased access to services will not be served. Likewise, if investment is stifled by restrictive regulatory policies, it may prove to be impossible to ensure new entry and competition in the sector or to be confident that incumbent operators will develop adequate backbone infrastructure to make available to new service providers. Indeed, as is

suggested above, inordinately burdensome policies that are designed to encourage universal access or competitive access to backbone infrastructure can actually prove not only to be ineffectual but could restrict the flows of investment without which increased access or competitiveness is unachievable.

The extraordinary emergence of mobile services over the past decade, and the current difficulties now facing the sector, dramatically illustrate the key beneficial role of investment-oriented regulatory policies. As we have pointed out, and as is so well emphasized in the ITU WTDR 2002 report, the mobile sector has grown over the last decade to such an extent that the number of mobile subscribers now exceeds fixed lines in over a hundred countries and one in six of the world's inhabitants has a mobile phone. What is significant is that this growth was largely achieved entirely without the type of traditional price controls applied over the decades to fixed line services. Moreover, such conditions made the market attractive to a number of operators, thereby enabling the effects of competitive pressures to improve services and pricing further. What is also of equally compelling importance is that the very success of the mobile sector generated a tendency on the part of government officials in many parts of the world to seek to benefit from the potential cash flows generated by the next generation of mobile technology even before private operators and service providers are able to make them a commercial reality. Revenues that might have later been taken in the form of tax revenues on future services were realized upfront in the form of 3G license payments, thereby immunizing governments from the risk of business failure, and substantially increasing the risk of business failure borne by the investors.

One of the underlying threads of this analysis is the continuing inclination of government officials to use the leverage government has – as the exclusive vender of spectrum, as the owner of other strategic assets such as controlling interests in state-owned telecommunication operators, or as the issuer of licenses and authorizations – to capture economic benefits and sector revenues that might be otherwise deployed in expanding infrastructure and services. In short, government policy can short circuit, for immediate political or budgetary advantage, opportunities that might result in even more significant economic and social benefits on a longer term perspective. Much of the focus of this paper is on how policy making mechanisms can be better structured to ensure that longer term investment-driven policies are given the weight appropriate considering the need for renewed investment flows.

We have also suggested that an investment-oriented approach to regulation may result in and benefit from institutional arrangements that are less complex and involve greater involvement of key industry participants in consensus building and dispute resolution than there is currently. We recognize, of course, the importance of the rapid emergence of new regulatory institutions around the world in response to the efforts of the ITU and growing support for the WTO's basic telecommunication services agreement. It is unlikely, however, that effective regulation necessarily depends on hornbook application, even in simplified form, of the precepts underlying telecommunications sector regulation in North America or Europe. On the contrary, the increasing jurisdictional complexity of telecommunication regulation around the world—and especially its multi-layered aspects—may require the development of new techniques of consensus building among key industry players, increased reliance on cross border benchmarking of experience on a non-prescriptive basis, and new notions about how the regulatory process should work that are less "statist" and dirigiste in approach.

The telecommunications sector globally would benefit from increased effort to ensure that regulation percolates upwards from discussions, negotiations and agreements among key participants in the sector, conducted and reached with governmental oversight and involvement, as opposed to being originated, analyzed and imposed (albeit after formal comment from interested parties) by the official sector. An investment-oriented approach could take its inspiration from the emerging cooperative and self-regulatory initiatives of the Internet sector rather than from now obsolete traditions of public utility commission-type regulation with origins in the nineteenth century.

A key ingredient of such a new approach to regulation would be for government officials not so much to forbear from regulating but to structure policies that are designed to minimize the likely need for regulatory intervention. Thus, less can be more, simple regulation can be more effective regulation, and investment-oriented policies can successfully promote many strongly espoused regulatory initiatives favoring wide accessibility of services and effective competition. The objective is to focus on how government can encourage key industry participants to pursue practices and initiatives that promote key objectives, such as increased access, increased competition and affordable pricing, without mandating the details of how telecommunication operators price their offerings and behave in the market to their competitors and their customers.

This paper suggests that a fresh look at traditional approaches to regulation is both urgent and appropriate in the current extremely adverse climate in financial markets now facing the telecommunications sector. Regulators and government officials should carefully consider how a range of inter-related regulatory initiatives can have a fundamental and adverse impact on the potential of telecommunication operators to generate the cash flows upon which access to both internally generated and external sources of capital.

Some Steps Toward Investment-Oriented Regulation

We are aware that many of the points developed in this paper will not necessarily be the subject of ready agreement by regulators and experienced observers of the telecommunications scene. However, we hope that this paper will encourage further discussion and dialogue. We are also aware that perspectives such as these, influenced as they are by our involvement in financing transactions especially in developed markets, may be viewed with substantial skepticism by regulators and operators involved in less developed markets. We hope that this paper reflects our concern and sensitivity to the importance of increasing the availability of telecommunications infrastructure in such less developed markets and encouraging accelerated economic and social development. Summarized briefly below are some of the key areas where we believe close attention and policy reassessment by regulators is likely to be warranted.

- First, we have argued that the increasing substitutability of fixed and mobile services should result in new approaches to price regulation of retail fixed line services. Mobile subscribers now outnumber fixed line subscribers in many markets. Mobile services, which now represent a real alternative to fixed line services and an effective cap on fixed line pricing, have expanded substantially over the past decade in an environment of little or no price regulation. We believe that incumbent fixed line operators should be accorded substantially similar pricing flexibility. Moreover, benchmarking of prices against comparable prices and services in other jurisdictions can provide useful guidance on an interim basis to regulators concerning how increased pricing flexibility by operators is utilized in practice. The focus of regulation of fixed line services should be on tariffs

which ensure minimal connectivity for low levels of usage of the fixed line network rather than on price regulation of fixed line operators' overall service offerings. Increased pricing flexibility would enable operators to generate increased cash flow and more effectively raise financing from external sources, in each case required to finance further expansion of network infrastructure.

- Second, removing pricing constraints on fixed line retail prices should also eliminate the likelihood that price regulation can be used as a pretext for or have the effect of artificially maintaining low retail prices that limit prospects for market entry by new providers of local infrastructure. Such new entry is potentially an important prerequisite and stimulus for encouraging not only competition at the retail level but also the right environment for encouraging the provision of services on a wholesale basis by incumbent operators. As we have argued above, artificial constraints on the level of retail prices may result in incumbent operators being required to provide access to their local infrastructure on an uneconomic basis as well as conditions in which pricing for wholesale services appears to result in a price squeeze with respect to retail pricing. On an interim basis, issues relating to wholesale access to network infrastructure can be addressed by the use of benchmarking of wholesale pricing discounts or benchmarks for underlying service elements, especially once retail pricing constraints are eased. Over the longer term, increased facilities based competition, stimulated by a lifting of retail price controls or by other initiatives to encourage wireless alternatives to fixed networks, should enable regulators to rely on a more hands-off approach to wholesale pricing.

Such a regulatory stance can also be promoted by steps to increase reliance on consensus building and private dispute resolution. We believe that there are affirmative initiatives that regulators can take to reduce the likely resort by incumbent operators and new entrants to the full panoply of legal rights and remedies that may be available to them. It may be realistic to establish a policy framework that is designed and structured to result in progressive reduction in the level of regulatory conflict by creating a "new climate" for commercial dealings much as, by analogy, de-commissioning or reduction in arms by negotiation represents a calculated effort to change approaches to conflict.

- Third, we believe that an investment-oriented approach to regulation requires regulators—and especially government bodies responsible for fiscal and budgetary controls—to recognize that the state, as the exclusive source of licensing authority for authorizations of spectrum-related and nonspectrum-related rights as well as in its role as a controlling shareholder of telecommunication enterprises, can misuse this authority to impose extraordinary costs of telecommunication operators that impede and even paralyze investment and overall growth in the telecommunications sector. The economic benefits derived from 3G services are just one clear example of how government can profit in the short run through here-and-now income streams that might ultimately adversely affect longer term revenues to be expected from taxes on successful businesses. There is, we believe, clearly a need to make more visible how governmental interventions in the telecommunications sector can distort prospects for investment and long-term growth.

We believe that licensing of spectrum should be seen not as a revenue raising opportunity but primarily as an administrative undertaking of the state. To illustrate the point with one concrete example, we believe that there is much wisdom in spectrum licensing for mobile services that does not seek to capitalize on new evolutions of technology—ie. that does not necessarily view 3G service as separate and distinct from earlier generations of mobile technology. Rather, allowing operators to evolve the scope of

the services they offer in response to technological and market-driven considerations rather than "bell ringing" initiatives by government officials to exploit new opportunities arising from buoyant financial markets. Much the same point could be made about the response of some governments that have sought economic advantage from the conversion of mobile or even fixed line concessions into licenses.

- Fourth, we are also skeptical about how legitimate aims of encouraging universal service or access can create burdensome administrative mechanisms that may actually deter as opposed to promote new investment. Even a small percentage assessment of revenues taxed for the purpose of funding the cost of universal services can represent a very substantial portion of an operator's EBITDA—a key indicator of an operator's ability to finance investment with internally or externally generated funds. In addition, the creation of a universal service fund can create a parallel structure that ultimately and unavoidably becomes engaged in making investment-related decisions about future infrastructure. The establishment of subsidy levels whether by auction or administrative fiat necessarily involves the USF apparatus in significant price setting decisions, whether at the retail level or wholesale prices that are the basis of "subsidized" services. The USF has significant potential to become an administratively complex superstructure, with potential for misuse or ineffectual use of large amounts of capital that might otherwise be directed by operators—not government officials—into expanding infrastructure and services in rural or underserved areas. There is certainly a respectable argument that subsidies to encourage expanded infrastructure should be targeted directly to users, local businesses and families—to community organizations, governmental agencies on behalf of users—to buy services from operators at market prices.

As we have argued above, policies that result in setting retail prices based on investment costs — with minimal regulatory control — can provide an enormous stimulus to the expansion of infrastructure and the reduction of waiting lists. Overall, initiatives to expand services in rural or under — served areas might benefit significantly from efforts to encourage operators to explore technologically innovative solutions such as the use of combinations of wireless LAN and IP telephony techniques. A number of innovative solutions have yet to be used, such as for example establishing franchise arrangements under which local operators might establish telecenters offering voice and data services based on wireless LAN 802.11(b) technology. We believe that policies that combine market-based pricing with initiatives to exploit the potential for new services and technologies are likely to yield more substantial returns in the long run than creating universal service fund administrations aimed at developing "concession with subsidies" services in under-served areas.

Finally, we believe that there is a need to explore and develop new mechanisms for consultation and consensus building both in a national context and in regional settings where new regulatory bodies are now developing. Such consultative mechanisms should put the emphasis on active involvement of operators and investors in formulating future regulatory and industry scenarios. These mechanisms can often be "virtual fora" which focus on aggregating relevant data and case experience that assist industry players in devising new rules of engagement in the sector. These initiatives are in no respect incompatible with the emergence of new regulatory authorities and competences; indeed, they would be primarily focused on ensuring that public authorities have access to the information and useful perspectives that may be available to private sector participants and investors. Such new arrangements can assist in achieving more uniform and consistent regulatory policies at the regional level. They can also accommodate, as we have suggested

above, the increasing relevance of new policy perspectives that competition and media regulators might bring to the policymaking process.

Importantly, as well, we believe that new consultative mechanisms can provide an important ongoing channel for views and information from investors to regulators. In the same way, they can offer better and more transparent insights into how the telecommunications sector is likely to evolve as a result of governmental oversight and regulation. Such increased transparency—a transparency that operates on a genuinely two way basis—is likely to create a more favorable future climate for investment in the telecommunications sector.

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GLOBAL SYMPOSIUM FOR REGULATORS
Hong Kong, China, 7 -8 December 2002

APOYO CONSULTORIA REPORT TO THE INTERNATIONAL TELECOMMUNICATION UNION (ITU) GLOBAL SYMPOSIUM FOR REGULATORS, 7-8 DECEMBER 2002

FEEDBACK TO REGULATORS FROM CONSUMERS

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1. Purpose of this Report

Worldwide, consumer protection issues in telecommunications services are generally not given full consideration. They rarely are included in the agendas of international telecommunication meetings. Few seminars have been held to enable operators and consumer organizations to share views and experiences. Far more common are meetings between operators and regulators. A review of Internet web sites and policy papers show that little attention is given toward consumer protection policies. Textbooks on regulation primarily focus on market structure, incentive regulation, tariff regimes, deregulation and competition. Issues such as regulating and addressing consumer policies, consumer protection and the public interest receive scant attention. To give consumer issues greater priority and launch a global dialogue between consumers and regulators, participants in the 2001 International Telecommunication Union (ITU) Global Symposium for Regulators (GSR) requested the ITU Telecommunication Development Bureau (BDT) to commission a case study to provide feedback to regulators from consumers.

This report provides consumers' views on how consumers are affected by and react to rules adopted by regulators to enable regulators to implement their mandate more effectively. More specifically, it identifies what regulators can do to raise consumer awareness and increase consumer involvement in the regulatory process. The views expressed in this study are those of the author and may not necessarily reflect the opinions of the ITU and its members[1].

Many policy makers assume that tariff regulation is the key to addressing consumer issues related to services provided by monopoly operators that control essential facilities, and that competition will address other consumer concerns related to services provided in an efficient competitive framework. Although competition is a powerful means to protect consumers against abuse of market power by dominant service providers, it may also be necessary—at least during a transitional period until full competition is achieved—for policy makers to craft specific policies to ensure adequate consumer protection.

Major market reforms have been implemented in most countries, such as introducing competition in the provision of telecommunication services, the injection of foreign private capital through the privatization of state-owned incumbent operators and the creation of national regulatory authorities separate from the incumbent operator, if not separate from government ministries. Nevertheless, consumers' perceptions and opinions about the new marketplace scenario are less than encouraging. Consumers feel that they have been excluded from the initial decision-making process that led to sweeping changes in the provision of telecommunication services, including market structure, ownership and tariff regulation. They believe that their late arrival in the regulatory process provides them with limited opportunity to influence or even overturn critical decisions made at the onset of the sector reform process.

The paradox is that there has been considerable attention devoted to several major indicators closely related to consumer well-being, such as network expansion, service coverage, quality of service and significant tariff reductions. However, as this report confirms, there is a broad consumer-related agenda yet to be pursued. If consumer views are neglected or treated in the absence of due process, regulators' efforts to foster competition and to instill a sound regulatory framework may prove to be unsustainable.

[1] The author wishes to thank Mrs. Claudia Collado from the Latin American and Caribbean Office of Consumers International for her invaluable insights and help in conducting the fieldwork, and addresses special thanks to Susan Schorr and Nancy Sundberg from the International Telecommunication Union.

Consumers views and opinions were gathered through in-depth interviews and a survey that was sent to consumer organizations[2]. Although the study mainly focuses on residential consumers in Latin America, organizations from other regions were also consulted and the research includes reports prepared by numerous consumer associations around the globe. National regulatory authorities were also surveyed to compare their opinions with those of consumers[3].

2. Why the need for regulators to address ICT consumer issues?

This section examines the main reasons why consumer protection policies have failed to take priority on the agenda of national regulatory authorities and policy makers. It also stresses why it is necessary for regulators and policy makers to address these issues.

- The level of consumer involvement in the telecommunication sector is closely linked to the degree of citizen involvement in the overall national policy and decision-making process. The general institutional environment, including the extent to which civil society participates in rulemaking and the strength of other institutions such as the judiciary and legislature, has a direct bearing on consumer involvement in telecommunication policy and regulation. Nevertheless, in some countries the telecommunication sector reform process has served as the forerunner to citizen involvement in domestic rulemaking. This is mainly due to the fact that the privatization process requires transparency and due process in rule-making to attract foreign investment. Despite this encouraging trend, domestic institutional administrative and legislative practices continue to define the extent to which consumers may participate in drafting rules.
- Creation of consumer protection policies are justified by market failures such as high transaction costs faced by consumers in dealing with large companies, the lack of information made available to consumers regarding service conditions and market dominance by some service providers. That is, in the absence of meaningful competition, consumers have no choice in service provider. If they are dissatisfied there may be nowhere else to bring their business. It is for these reasons that individual consumers have formed coalitions to work together to address their common problems.
- However, there is no guarantee that such organizations are representative of all consumer concerns. Moreover, consumer organizations are seldom well funded. Their budgets often include only subscription revenues - which can be very limited especially in less-developed countries - and they rarely receive funding from the state or other donors.
- International consumer organizations are almost non-existent. Those that do exist are responsible for consumer issues in all sectors—not solely telecommunications or information and communication technologies (ICTs). The weakness of these consumer organizations has contributed to the lack of attention to consumer protection for telecommunications and ICT services.
- Although comprehensive guidelines and procedures have been developed covering issues such as technical standards, interconnection, tariffs, licensing and market structure, the same does not apply to consumer protection issues. Such consumer protection policies, practices and principles that have emerged are based more on a normative or prescriptive nature such as United Nations guidelines for consumer protection[4]. Their practical applications or know-

[2] Consumers organizations and regulators that participated in the Protection of telecommunication consumers rights survey are listed on Appendix 1.

[3] It is important to note that survey results only reflect responses received. A greater emphasis was put on Latin American consumer associations. Participation from partially state-funded consumer organizations was greater than from other consumer organizations.

[4] Guidelines for Consumer Protection, United Nations, New York and Geneva, 2001, UNCTAD/DITC/CLP/ Misc. 21. See also "Guidelines for Consumer Protection in the Context of Electronic Commerce", Organization for Economic Cooperation and Development, 2000.

how have a strong management component, which imply that regulators should structure their organizations to provide consumer protection services to demanding customers. This represents a significant challenge for public sector agencies not used to providing quality customer service to the public at large.

Box 1: United Nations guidelines for consumer protection (As expanded in 1999)

The UN has defined the general principles for consumer protection and legitimate consumer needs to include the following:.

(a) "The protection of consumers from hazards to their health and safety;
(b) The promotion and protection of the economic interests of consumers;
(c) Access of consumers to adequate information to enable them to make informed choices according to individual wishes and needs;
(d) Consumer education, including education on the environmental, social and economic impacts of consumer choice;
(e) Availability of effective consumer redress;
(f) Freedom to form consumer and other relevant groups or organizations and the opportunity of such organizations to present their views in decision-making processes affecting them;
(g) The promotion of sustainable consumption patterns."

Source: Guidelines for Consumer Protection, United Nations, New York and Geneva, 2001, UNCTAD/DITC/CLP/Misc. 21

- Thus, the consumer agenda could include a wide range of activities. This would require careful analysis to identify key priorities and significant effort on the part of regulators or the private sector to implement. Furthermore, certain issues can only be addressed following research on consumer behavior. Establishing customer services such as call centers, creating mass awareness of consumer rights, enforcing those rights, creating nationwide offices to address consumer issues and offering a dispute resolution system are examples of activities that regulators should consider in setting up the consumer agenda.
- This implies that the regulator should shift its focus from being solely engaged in the "rule-making line of business" toward providing more sophisticated services to its market: the demand for consumer rights protection. The organization, human resources and management profile required mirrors those of a private business engaged in similar activities. However, if the regulator becomes engaged in these areas in the absence of careful planning, these activities could easily overtake the regulator's mandate and drain its human and financial resources.

Because there are so many consumer issues to be addressed, policy makers and regulators must carefully define roles and allocate responsibilities between the public and private sector to avoid shifting responsibilities from operators to the regulator and to identify which activities, such as consumer complaint call centers, may better be outsourced to the private sector. After all, consumers are the operators' customers and the private sector should bear the burden of addressing consumer concerns.
Consumers may be most vulnerable where they lack alternative service suppliers. Therefore, consumers are more likely to require intervention where dominant operators are protected by the government, where regulators lack enforcement power, where there are no quality of service performance requirements or where dominant operators are authorized to set tariffs below cost and therefore drive out competitors. There will be less need for intervention where operators are subject to well-designed incentives to meet consumer needs.

In addition, state-owned operators may fail to meet consumer needs because of inflexible management policies, political interference, and regulation which favors the state-owned enterprise. Consumers will press for reforms and privatization where public services run by the government are in shambles.

Box 2: Consumer associations may drive sector reforms: Cameroon's experience

There was a boom in mobile phone subscribers once mobile services were introduced in Cameroon, followed by an upsurge in consumer complaints about local fixed telephone service. In November 2001, the Mouvement National des Consomateurs du Cameroun (MNC), a consumer association, organized a seminar for consumers to provide training and information for end users in an effort to resolve their complaints related to poor quality of service, high tariffs, insufficient network coverage and difficulties with mobile-fixed interconnection. The regulatory authority, private and public operators, and representatives of the telecommunication administration participated in the seminar.

Although the regulatory authority displayed initial enthusiasm for the seminar, MNC reported that it did not follow up with concrete actions.

According to MNC, the event's biggest achievement was that the government launched the privatization of the public operator Camtel to promote the necessary investment to improve its network. Following privatization, fixed line quality of service has improved, interconnection disputes were resolved, network coverage improved and retail tariffs witnessed a 12% reduction.

Source: Protection of Telecommunication consumers Rights Survey, APOYO Consultoría

Implementation of improved end-user services, such as moving from a per-minute billing system to a per-second scheme, often require active involvement of the regulator. Regulators in a number of countries have launched lengthy regulatory consultation processes to reduce the unit of measurement for metering calls since the regulatory framework had not foreseen this innovation. But even active involvement by the regulator cannot guarantee success. In El Salvador, for example, local calls are metered by the minute, which resulted in customers frequently being double billed for the same minute when they placed a series of short calls within any given minute. The consumer association Centro para la Defensa del Consumidor (CDC) requested the regulator to reduce the unit of local call metering, and the regulator proposed to reduce the minute unit to a twenty-second unit. In El Salvador, the regulator proposes regulations, but they must be approved by the government. Although the proposal was approved by the government it was later overturned by the Supreme Court.

A proactive approach to consumer protection has seen greater success in other countries, such as Australia where the regulatory authority has authorized mobile number portability.

Box 3: Australian Mobile Number Portability and Consumer Choice

Australians have adopted mobile phones at a rapid rate since competition was first introduced in 1993. Between 1993 and 1997, Australia had three licensed mobile phone providers, which utilized both digital and analogue technologies. Australia's analogue mobile phone network has now been phased out and most Australian consumers can now choose between the Global System for Mobile Communications (GSM) and the Code Division Multiple Access (CDMA) digital mobile phone technologies. Those living in more remote regions have the option of satellite phones.

Australia has a high rate of mobile phone penetration by world standards, with more than 50 per cent of the population connected to a mobile service. Increasingly, Australians are showing a preference for mobile phone services which offer flexibility and independence over fixed line services.

Mobile number portability (MNP) was introduced in Australia in September 2001. The introduction of MNP represented a major advance in mobile phone service provider competition in Australia. It offered significant benefits for consumers by allowing them to change their mobile phone provider without having to change their mobile number, thereby improving the efficiency and ease with which consumers can select among competitive service providers. Some 400,000 subscribers (four per cent of the base) have since taken their mobile phone number with them to a new mobile provider.

Australia's method of introducing MNP has emerged as a model for other countries both in terms of speed for end users and industry consultation. In most cases, moving a single number to a new mobile provider can be completed within one hour. Changes requested outside standard business hours are completed at the beginning of the next business day, while requests to move multiple numbers may take longer.

In line with Australia's self-regulatory model, MNP was introduced after significant work by industry to agree to the basis on which MNP would be implemented. This work involved establishing the procedures for implementing MNP where there is a change in mobile carrier network, rather than merely a change in mobile service provider, and developing consumer guidelines that specify the information suppliers must provide to customers.

MNP has facilitated increased consumer choice and the exercise of power and control by the consumer. Consumers may change their mobile service provider without the expensive barrier of acquiring new letterhead, business cards or contact notification.

To assist Australian consumers to navigate the variety of mobile options and choices available—including the description of MNP—the Australian Communications Authority (ACA) has produced the Mobile Phone Tool Kit. The kit is based on the principle of empowering consumers through information and is available in a range of formats: print, online (http://toolkit.aca.gov.au), and CD-ROM.

ACA has widely distributed the Mobile Phone Tool Kit to consumers, industry and government since its launch in June 2002. To date, responses to the Tool Kit have been positive. A survey of those consumers who have used the Tool Kit found that 95 per cent thought that the Tool Kit provided useful information, was easy to understand, and easy to use.

The Mobile Phone Tool Kit is the first of three stages in an ACA information package for consumers. The other kits, covering Internet and fixed line services, are in production.

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría

Sector reforms have fostered a greater need for incorporating consumer issues into the regulatory agenda. The drivers behind this trend are:

- Regulators' aims to be independent from operators and to be accountable to society at large, which implies that the consumer's role in the regulatory process will be enhanced.
- Regulators are realizing that having well prepared and active consumer representatives may be an effective counter-balance to a private operator that enjoys a dominant position in the market.
- Some sector reforms have not brought immediate benefit to end users. Tariff rebalancing programs, for example, have increased some local tariffs while expected benefits such as improved quality of service, have been delayed. Delays in improved consumer welfare leads consumers to question the attractiveness of sector reforms.
- Regulators face increased political pressure (e.g., from the legislature or consumer ombudsmen) to take pro-active measures to address previously neglected consumer concerns.
- Many new low-income consumers in less developed countries have discovered that they may not be able to afford the services now available to them. Prior to sector reform, it was usually the wealthiest households that had access to fixed line service. Only wealthy families could afford expensive installation charges. These households also benefited from low monthly telephone bills. As networks expanded into underserved and low-income areas, some consumers viewed access to telecommunication services as a means of gaining social status. Later, these consumers discovered that they could not afford the services to which they had subscribed since local monthly charges increased, and their ability to place calls was therefore reduced.
- A significant number of citizens in some countries distrust private managers with respect to setting tariffs, usage metering and billing.
- The development of consumer protection is closely linked to the development of competition. The liberalization process encourages industry to take increased responsibility for how it treats consumers.
- Consumer interests were ignored by policy makers responsible for the privatization and liberalization processes, especially in those countries that failed to create a regulatory body prior to privatizing and liberalizing the sector. Consumers that have been disappointed by the initial sector reform experience are now suspicious and more demanding in requiring both action on the part of regulators and a system of due process that includes end users.
- Information services and e-commerce have raised more sensitive consumer issues such as privacy protection.

Competition and consumer protection policies complement each other. Competition policies have been designed to lead to consumer benefits such as greater choice, better quality of service and cost-based prices. Once robust competition has been achieved, the need for specific consumer protection policies, at least in theory, should decrease. Specific consumer protection policies, ensure that consumers are able effectively to exercise their right to choose among alternative services and service providers.

The state should not favor any particular stakeholder, including consumers, but should aim only to correct market failures. Careful analysis is needed, however, to avoid consumer protection policies that impose undue costs on the market, which may ultimately harm consumers. While low-cost, low-market interference options should be favoured, there might be a short-run tradeoff between competition policies and consumer welfare. For instance, the regulator may decide to prevent cross-subsidies between monopoly services and competitive services bringing to an end the benefit to consumers of the formerly subsidized service.

3. Telecommunication complaints are generally at the top of overall consumer complaints

Consumer complaint statistics in a number of countries demonstrate that telecommunication complaints generally rank at the top of all complaints registered - even after sector reforms and government - sponsored consumer programs have been implemented.

An effective action plan to increase consumer satisfaction requires an understanding of the reasons why telecommunication consumers complain. What follows is a list of some of the major factors leading to consumer complaints:

- **Lack of choice among alternative service providers due to a single or dominant operator**. New services or new ways of providing existing service that are not properly explained to consumers causing end users to make uninformed spending choices.

Box 4: Pre-paid cards help consumers to manage their spending but regulatory loopholes may arise

The Czech Republic Consumers Defense Association (CDA) is involved in trying to resolve an on-going problem. Czech Telecom, the dominant operator, launched a new system of prepaid cards. However, any unused credit expires after a seven-month period with no refund provided to consumers. The CDA interviewed almost 200 consumers to find out whether they were informed about the pre-paid card conditions. Only 37 % of prepaid cardholders knew that they must use up their credit by the end of 2002. CDA demanded that Czech Telecom offer a refund on any un-used credit. Although the case received media coverage, it had not been resolved at the time this report was prepared. CDA, however, is hopeful that this case will be quickly resolved in favor of consumer's interests.

Source: Protection of Telecommunication Consumer Rights Survey, APOYO Consultoría

- **Lack of sufficient pricing information regarding value added services.** Telecommunication service providers frequently offer value-added voice and information services (such as counseling, Small Office & Home (SOHO) services and entertainment) using complex pricing schemes. These services have given rise to various consumer complaints, usually related to the lack of information provided to consumers by service providers. Typical claims relate to the failure properly to advertise prices, disputed calls, metering, and lack of customer services. In some countries, consumers associations have played an important role in bringing these cases to the regulator. El Salvador's Centro para la Defensa del Consumidor (CDC) obtained an 80% refund for users that had been sent excessive bills for such entertainment services after a tripartite special commission was created that included consumers, operator, and government representatives. This was an *ad-hoc* solution devised in lieu of procedures and institutions to deal with these types of problems.

- **Costs to consumers in assessing competitive offers.** Even when the operators and service providers offer fair practices, consumers face the additional cost of acquiring and assessing competitive offers. On-going consumer research is necessary to understand risks that consumers might face with new service offerings.

Box 5: British and Irish Joint Study on Mobile Roaming

On April 2002 the Irish Office of the Director of Telecommunications Regulation, (ODTR) conducted a joint study with the British regulator, the Office of Telecommunication, (Oftel) on mobile roaming and the cost of using a mobile phone abroad .

The ODTR had received numerous consumer queries and several complaints about mobile roaming prices. In addition, research from other European countries demonstrated that consumer awareness of mobile roaming charges was generally low. While the ODTR has no direct control over mobile roaming prices, the regulatory body took the opportunity to address gaps in consumer awareness by issuing general advice to consumers on how to control costs. Because of extensive travel by mobile users between Ireland and the United Kingdom, the ODTR and Oftel agreed to release a joint mobile roaming study. ODTR first conducted a consumer survey to assess the level of consumer awareness (43% of Irish consumers did not know how much it cost to use a mobile phone while abroad.) In light of the consumer survey results, a further report was published advising Irish consumers on how best to manage mobile usage costs when traveling in the UK. Oftel released a similar report for UK consumers in Ireland. The consumer advice was based on an examination of different usage profiles for a range of users (business traveler, commuter etc.) While the exact impact on levels of consumer awareness is difficult to quantify without further research, the report did receive considerable attention from consumers, the industry and the media in Ireland. Coverage of the report in national print and broadcast media ensured that a large consumer base was made aware of the report.

In July 2002, the ODTR followed up on its first report by releasing further advice on mobile roaming costs in other European destinations. As with the previous report, the ODTR examined a number of different user profiles using tariff data submitted by operators. This report was designed to further reinforce consumer awareness and was timed for the peak period of Irish recreational travel. The goal of these reports is to ensure that information on reducing the cost of mobile roaming when traveling overseas is readily available to the Irish consumer.

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría

- **High telecommunication services expenditures relative to household income and variable monthly bills**. Household expenditures figures show that telecommunication services represent between two and six percent of total expenditures. The introduction of new services, such as the Internet, mobile telephony and voice information services has raised the proportion of household expenditures spent on communication services. The fact that telecommunications accounts for an increasing share of gross domestic product confirms this trend. Highly variable household bills—especially where consumption is metered or where different rates apply throughout the day—affects consumers on a fixed income who are left with less money for other purchases. Consumers tend to compare their phone bills with water and electric bills which may be more predictable. Some bills may even produce a devastating effect if members of the household have generated a large number of long distance calls or used expensive entertainment telecommunication services.

- **The lack of control by the head of household over telecommunication usage.** This applies particularly to per-minute metered access for fixed telephony and the Internet by other family members, friends and even neighbors as opposed to more personal services such as mobile which are easier to control.

Box 6: Lack of control by the head of household tends to increase telecommunications claims

In February 2002, an Internet user and member of the Spanish consumer association, Confederación de Consumidores y Usuarios (CECU) who subscribed to a flat-rate Internet service complained that he had been billed inaccurately for calls placed to value added services. The service provider, Retevision, received similar claims from other users and examined the issue. The operator was able to demonstrate that the user had authorized a change from flat-rate access to metered access resulting in more expensive charges. The user reluctantly acknowledged responsibility for the incurred charges but asked the operator to block access to the more costly services after learning that a relative had effectuated a change in the conditions of service without his agreement.

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría

- **Difficulty in demonstrating the user's level of consumption, especially for users but also for operators**. Homes rarely have metering devices that can be compared with operator billing systems. This leads to opportunistic behavior both by users and operators and the risk that the parties may either reject a truthful claim or accept a false claim. Some policy makers have now reversed the burden of proof, holding the operator responsible for maintaining evidence regarding consumer claims.

- **Slamming and cramming.** Even when competition is introduced, the transition to full competition may be plagued by consumer abuses such as "slamming", the illegal practice of changing a consumer's telephone service without permission, "cramming", the practice of placing unauthorized, misleading, or deceptive charges on the telephone bill; fraud and deception; privacy infringement; lack of customer security, and false and misleading advertisement.

Box 7: Sweden's National Post & Telecom Agency Slamming Case

Many end users have complained to the Swedish National Post and Telecom Agency (PTS) that service providers had signed them up as their customer without seeking their consent. Swedish pre-selection regulations give customers the right to select their own service provider. Swedish consumer organizations asked PTS to intervene and resolve the slamming problem. PTS investigated by surveying new customers. The regulator decided it would fine any company in which 0,5% of the operator's new customers complained that they had not freely selected the service provider. PTS conducted two more investigations and found no operator which had surpassed the 0.5% limit. Indeed slamming complaints nearly evaporated, indicating that operators had ended their misleading marketing strategies.

Source: Protection of Telecommunication Consumer Rights Survey, APOYO Consultoría

Box 8: Colombia's Superintendencia de Industria y Comercio (SIC) misleading advertisement case

In December 2000, a mobile telecommunications operator launched an advertisement campaign which offered a 99% discount on terminal equipment. The Colombian regulator SIC launched an investigation to enforce consumer protection rules. SIC discovered that the operator had not offered the promised discounts to all users. In addition, SIC learned that the operator imposed additional obligations on those consumers that wished to receive the announced discounts. SIC imposed a fine on the operator for infringing consumer protection rules.

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría

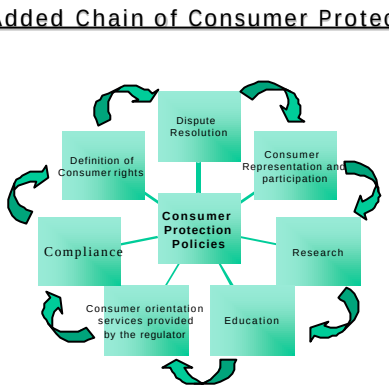
- **Greater ease in making complaints.** Innovations such as toll free call centers, personalized marketing channels and government-to-consumer Internet services facilitate low-cost interaction between regulators and consumers. These innovations help regulators identify previously underreported claims. It is important for regulators to adequately interpret statistical trends. Regulators should not assume high consumer satisfaction where they receive few "official" claims. Such trends may also be a result of the high costs for consumers in communicating with regulators.
- **Consumers have become more well-informed** Consumer associations are aware that they need to be more prepared in technical matters to be able to negotiate, comment, and promote their interests.
- **Consumer associations have learned that a common set of consumer problems exist across countries**. International consumers associations such as Consumers International are networking through in-person seminars and over the Internet to foster an exchange of experiences and to reduce the information asymmetries they face when dealing with global or regional operators. Some representatives of consumer organizations, aware of the strength of global telecommunication operators, are even pursuing strategic alliances with regulators.

4. The Consumer Protection Value Chain and the Regulator's Role

It is necessary for policy makers to understand the difference between consumer protection and consumer defense in order to clearly define the roles to be played between different government agencies and between the private and public sector. Consumer protection refers to the creation of necessary conditions that guarantee transparency and fairness in consumer relationships. Defense implies the representation of the consumer's interests.

The public sector may play several roles, including both protection and defense. Each role adds value to the services provided to consumers. The roles outlined below may be assigned to several government agencies: the general consumer agency, the telecommunications regulator, Ministries and Ombudsmen among others. The regulator typically does not represent consumers, although some countries do have consumer representatives appointed in their decision-making bodies. In some countries, the regulator may have a mandate to perform all roles except representation. Of course, not all countries ensure that all of these roles are assigned either to the government or private sector.

Figure 1: **Value-Added Chain Of Consumer Protection Policies**



The state's role in consumer protection can include:

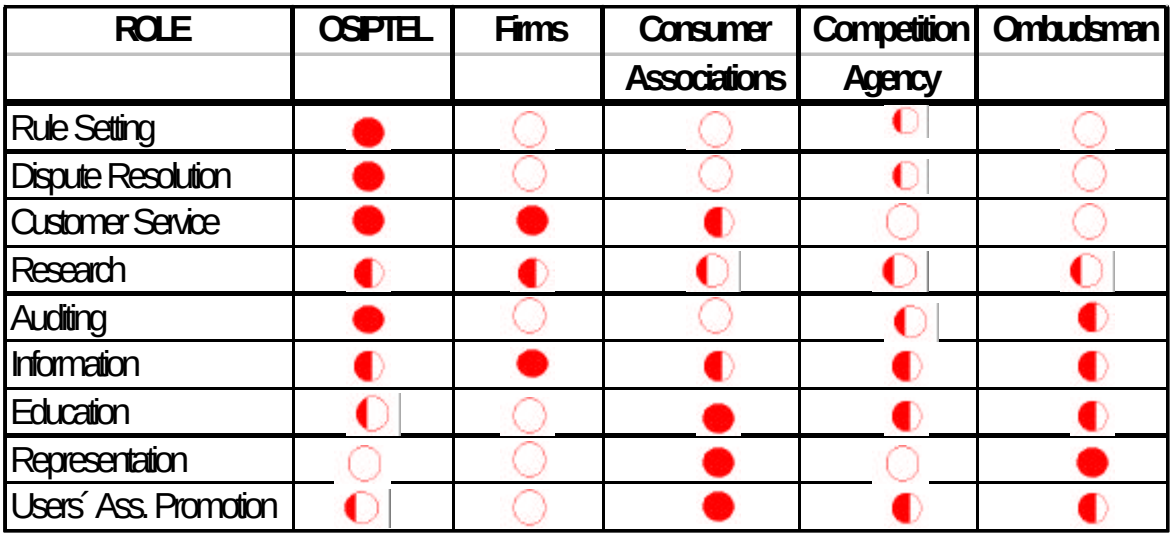
- Definition and update of a Code of Practice or set of rules that defines the rights and obligations of operators and consumers.
- Creation and implementation of dispute resolution procedures**.** The state should guarantee the existence of procedures and institutions that allow consumers to exercise their rights. To ensure due process, these procedures should guarantee administrative resolution systems that include the right to appeal.
- Enforcement of consumer rights through government supervision of consumer relationships and imposition of fines.
- Dissemination of relevant information for consumers. The state often acts as an information facilitator when market players lack incentives to provide accurate, timely, and complete information.
- Education of consumers to ensure that they are fully aware of their duties and rights, and able correctly to interpret available information to make informed choices.

Conduct research on consumer concerns, perceptions and expectations. The public sector cannot rely solely on reported complaints to identify consumer problems and design effective policy responses and must also:

- Strengthen consumer's organizations to compensate for the high transaction costs individuals face in their relations with operators and to recognize the important role these organizations play in promoting the public good.

- Defend and represent individual consumers. The state may create institutions that represent consumer and citizen interests and which supervise the role played by other agencies such as the telecommunication regulator.

Figure 1: The Consumer Protection Value-Added Chain in Peru



Several institutional and management approaches may be adopted for each role. There is no unique or inherently better approach to apply. The political framework, degree of competition, institutional environment, and available financial resources are among the factors that affect the selected approach. Certain roles may be assigned to several players. Dispute resolution systems, for example, may include administrative courts, conciliation and arbitration.

5. Definition of Consumer Rights

Once the difference between consumer defense and consumer protection are clearly spelled out and roles assigned to the major stakeholders, it is necessary to define consumer rights to ensure adequate consumer protection.

The definition of consumer rights usually occurs when new services are introduced or to compensate for the lack of regulation of incumbent operators, or opportunistic behavior exhibited by new entrants.

Box 9: Lack of consumer protection

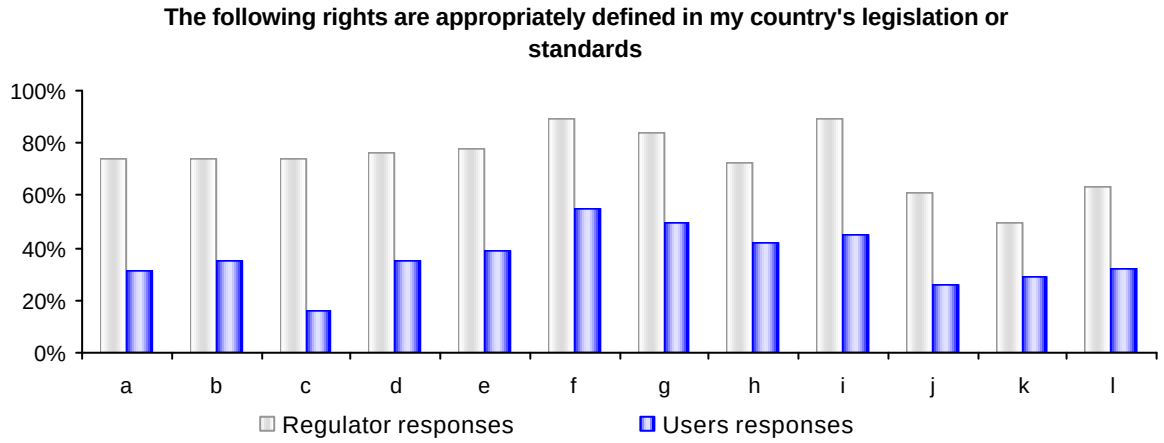
The Armenian consumer association, Union for the Protection of Consumer Rights (UPCR), received many consumer complaints, mainly regarding the right of redress from operator's decisions. UPCR investigated and discovered that the standard contract between consumers and the operator did not include consumer protection clauses, meaning consumers had no legal cause of action based upon the contract. UPCR demanded that the government and the regulator develop a new standard contract form that would include clauses recognizing consumer needs and rights. Two laws must be amended in order to develop a sufficient contract. Although a commission was created to modify the legislation, UPCR expects that the process will be long and complicated.

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

What specific consumer rights regarding telecommunication services should be considered? Most are applications derived from general domestic consumer protection laws or from the United Nations Guidelines for Consumer Protection. There is no universally agreed set of principles and it may be unwise to create a single set of telecommunication consumer protection principles since these are often developed to address specific local issues which evolve rapidly and may quickly become out-of-date. That said, a number of countries have adopted similar measures to provide consumer protection in the telecommunication sector. The most common policies are those regarding complaint resolution processes and the power to fine operators. It is a good practice for regulators to encourage both operators and consumers to participate in the creation of Codes of Practice that include dispute resolution procedures that rely on the parties to resolve such disputes at the onset. Where this does not succeed, consumers can address their grievances through an administrative procedure.

As Figure 2 demonstrates, consumer protection policies are usually quite diverse. Moreover, a number of administrations are not empowered to enforce consumer rights, placing in jeopardy the credibility of their national consumer protection policies. Likewise, few countries have assigned responsibility for research, consumer participation and information services. There is also a major gap between the perceptions of regulators and consumers organizations with regard to consumer issues. For example, only 16% of consumers believe that they are appropriately informed of their rights while 74% of regulators believe consumers are properly informed. This gap may reflect a lack of information about consumer policies, the inadequate institutional capacity of some consumer associations, practices that do not correspond to a legal mandate, and different perceptions and expectations about defined policies.

Figure 2:



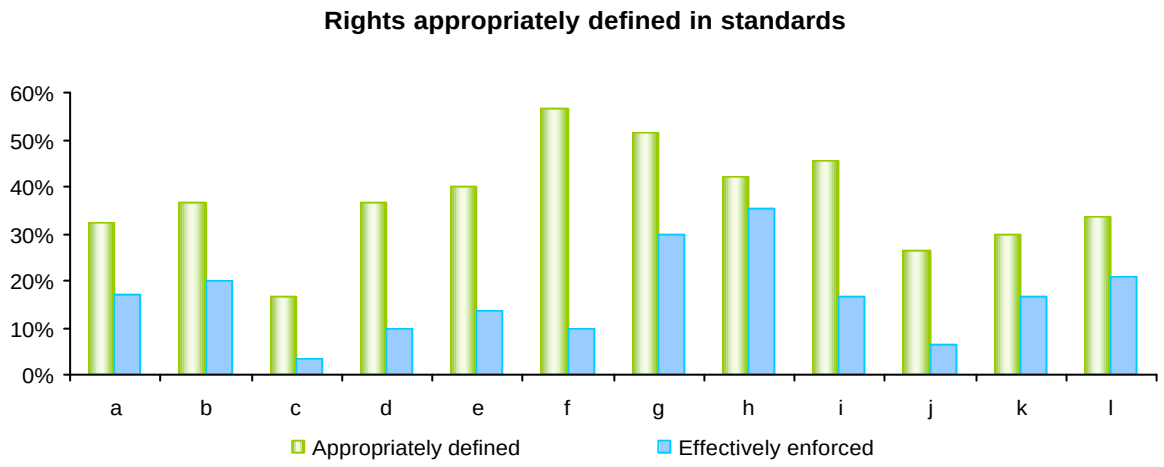
a.- Quality of residential service
b.- Relevant information is available for appropiate choices
c.- Consumers are educated on their rights and duties
d.- Client orientation service by the Operator
e.- Client orientation service by the Regulator
f.- Complaint resolution by the Operator
g.- Complaint and appeal resolution by the Regulator
h.- Supervision of the consumer's rights by the Regulator
i.- Fines imposed on companies
j.- Consumer participation
k.- Consumer representation
l.- Research conducted by the Regulator

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

Appropriately defining consumers' rights, of course, does not ensure effective enforcement of these rights. Consumer organizations note that of all different consumer protection measures, fewer than 20% on average are enforced. Consumer organizations report that consumers complain that they are poorly informed (97%), subject to low levels of customer service (90%), have little opportunity to be involved in regulatory decision-making processes (93%), and that their concerns are not subject to research and supervision (see Figure 3).

Regulators have a far more positive view of how consumer protection policies are enforced. But even regulators' views are discouraging. With the exception of complaint resolution processes, the majority of regulators surveyed noted that consumer protection policies were not properly enforced. Regarding specific telecommunications consumer rights, there is greater agreement between consumers organizations and regulators on how policies are defined and how they are enforced, with relatively higher ratings on issues such as blocking access to unwanted services, timely bill delivery, and the right to suspend phone service. However, large disparities exist on consumer compensation for damages, and on the privacy of communications

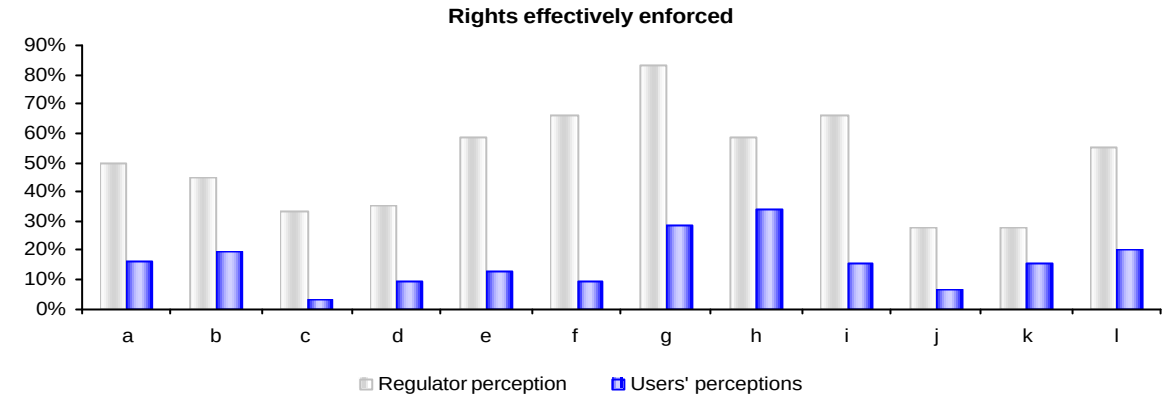
Figure 3:



a.- Quality of residential service
b.- Relevant information is available for appropiate choices
c.- Consumers are educated on their rights and duties
d.- Client orientation service by the Operator
e.- Client orientation service by the Regulator
f.- Complaint resolution by the Operator
g.- Complaint and appeal resolution by the Regulator
h.- Supervision of the consumer's rights by the Regulator
i.- Fines imposed on companies
j. Consumer participation
k.- Consumer representation
l.- Research conducted by the Regulator

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

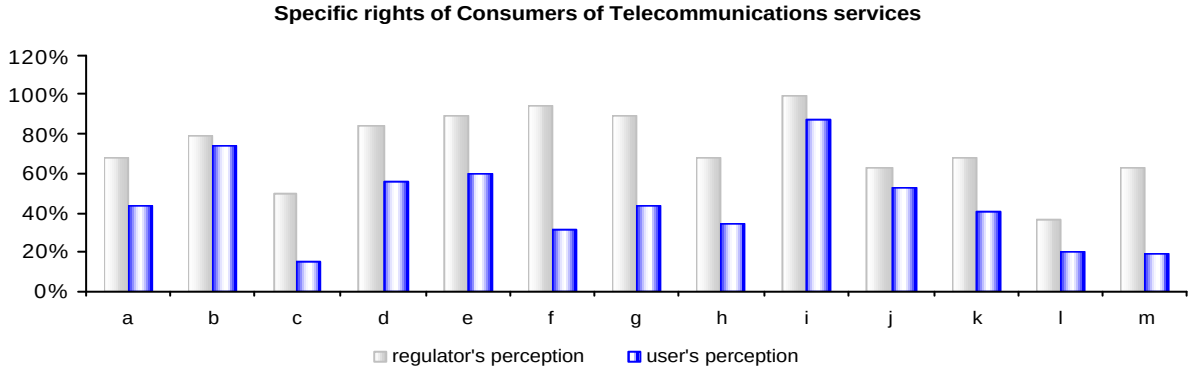
Figure 4:



a. - Quality of residential service
b.- Dissemination of relevant information for better consumer choices
c.- Consumers are educated on rights and duties
d.- Client orientation service by the Operator
e. -Client orientation service by the Regulator
f.- Complaint resolution by the operator
g.- Complaint and appeal resolution by the Regulator
h. - Oversight of consumer rights by the Regulator
i. - Fines imposed on companies
j. - Consumer participation
k. - Consumer representation
l. - Research conducted by the Regulator

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

Figure 5:



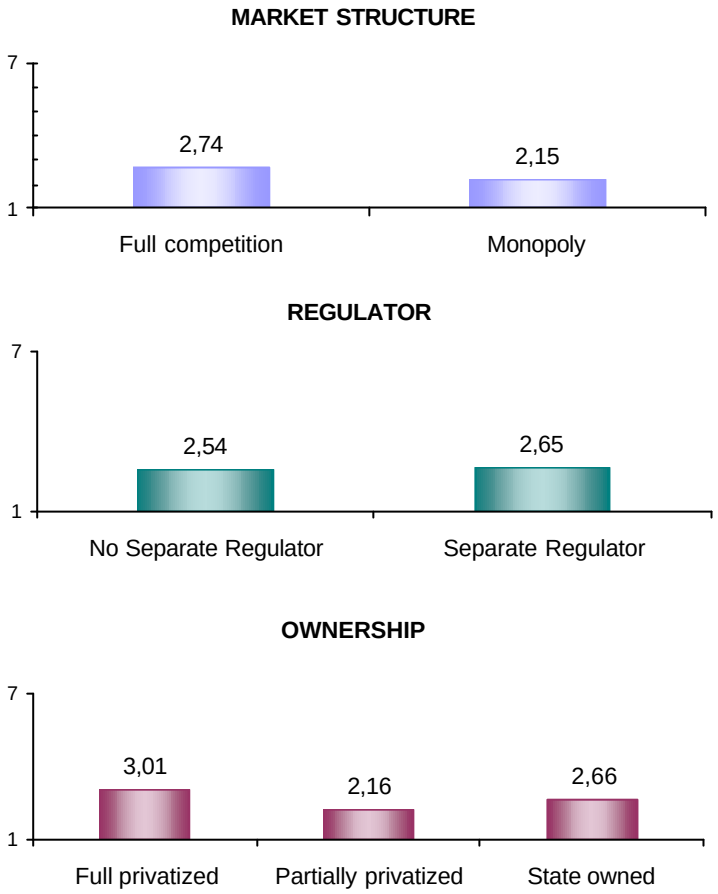
a. - The operator company provides a complete and clear bill for the consumption and tariffs of the telephone services provided
b. - The bill is delivered by the operator to the consumer in time for payment
c. - The consumption verification system is simple and consumer friendly
d. - Only the required service is billed. There are no additional services tied to the contract
e. - Personal data is protected (for example, telephone numbers are not published without authorization by consumers)
f. - The communications system is safe; calls are confidential
g. - Consumers are informed of telephone tariff changes before they are put into effect
h. - Low consumption tariff plans are available
i. - Consumers can block or unblock access to certain services (for example, long distance)
j. - Consumers can request the suspension of their fixed telephone service for a maximum length of time established by regulation
k. - Requested telephone lines are quickly assigned/installed
l. Consumers can keep their telephone number when changing from one operator to another
m. Consumers are compensated for damages caused by the Operator

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

Consumers' ratings regarding consumer protection policies are higher in those countries that have created a national regulatory authority, introduced competition, and undertaken privatization programs. However, these rating are still far from being impressive.

Figure 6:

AVERAGE RATING FOR PROTECTION OF TELECOMMUNICATION CONSUMERS RIGHTS
(1: No progress / 7: Total satisfaction)



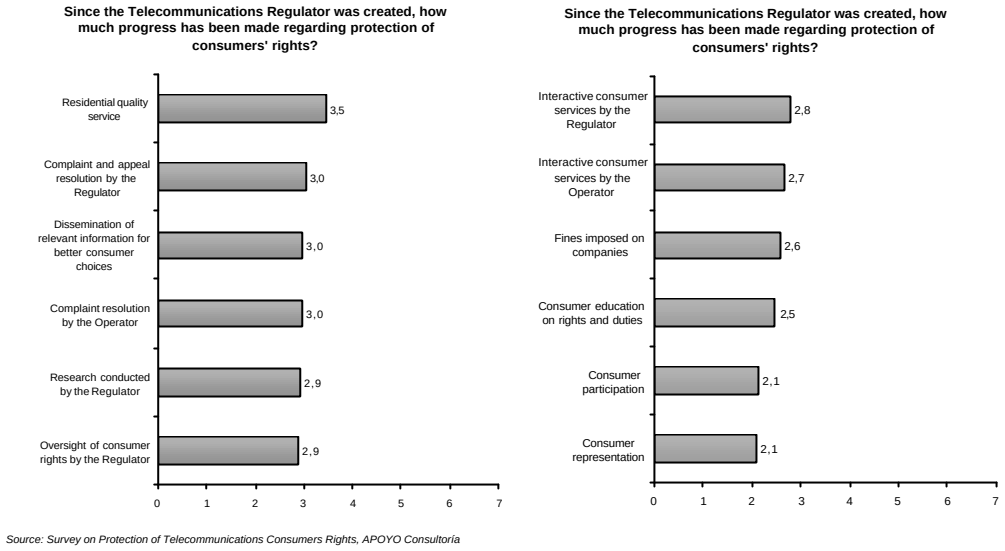
Source: International Telecommunication Union, Effective Regulation Trends in Telecommunication Reform, 2002
Survey on Protection of Telecommunication Consumers Rights

Overall Average: 2.62

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

The increase in the number of countries that have created national telecommunication regulatory authorities is a relatively recent worldwide trend according to International Telecommunication Union (ITU) statistics. Regulators' agendas have been devoted to a complex set of policies, which may explain why specific consumer protection policies have lagged behind other issues such as privatization, tariff regimes, or competition policies. While consumers acknowledge progress in areas such as quality of service, complaint resolution processes and access to information, they seek improvement in issues such as consumer participation, the representation of consumers interests both in regulatory processes and dispute resolution; education, and imposition of fines.

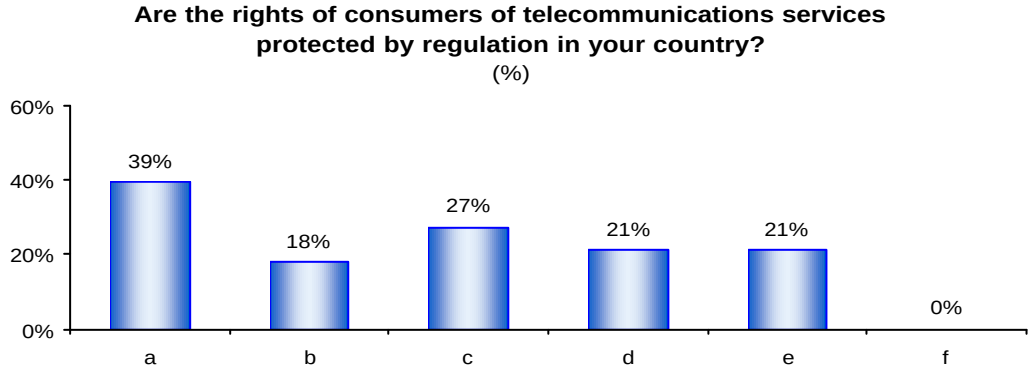
Figure 7:



Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

The extent to which consumer protection policies need to be codified is an on-going discussion as shown by the different approaches taken by Australia and Colombia in boxes 10 and 11. Some countries advocate the formal codification of consumer rights in law. Others argue that a better approach is to define general principles in a guideline and leave specific claims to be solved by jurisdictional dispute resolution bodies or Alternative Dispute Resolution mechanisms. As illustrated in the figure below, about 21% of the countries surveyed have enacted and are applying general consumer laws, 18% have general regulations that cover utilities, whereas 21% do not have any regulation in place to protect telecommunication consumers' rights. While 39% of countries have specific regulations providing for the protection of telecommunication consumer rights, these regulations are usually contained in various legal instruments, increasing transaction costs for consumers.

Figure 8:



a = Yes, there are specific regulations protecting telecommunications services consumers rights
b = Yes, there are general regulations protecting residential utility consumers
c = Yes, there are standards for the rights of the telecommunications services consumer, but they are not organized in a single regulations set
d = There is only a general standard governing consumer rights
e = There are no standards protecting the rights of telecommunications services consumers
f = I don't know

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

Box 10: How much detail in a Code or is it enough to have just a Guideline?

The consumer protection policy governing the Australian telecommunications industry consists of a set of minimum standards prescribed by the government. The Consumer Protection and Service Standard[5] is the central consumer protection measure, which provides that industry is responsible for consumer welfare and protection. During a transitional stage, government agencies and industry may share responsibility for consumer protection with the ultimate goal of responsibility shifting almost completely to industry. This is consistent with Australia's general regulatory approach which increasingly relies on industry self-regulation.

Under Australia's telecommunications regulatory framework, industry associations can also develop codes of practice. While compliance with these codes is voluntary, industry may also agree to be bound by the codes it designs.

An industry association which develops a code can request the Australia Communications Authority (ACA)[6], to register the code. ACA will register the code if it meets certain requirements, e.g. the code development process included adequate consultation. Once a code is registered, ACA has the power to direct a particular provider to obey the code.

The Australian Communications Industry Forum (ACIF) is a non-governmental body comprised of industry representatives which develop Codes of Practice for telecommunications providers. The Telecommunications Industry Ombudsman (TIO), which receives complaints from consumers, assists ACIF in developing its codes by providing information and feedback from complaints it receives (see Box 19 for more details on the TIO).

Examples of consumer protection provisions included in Codes of Practice are that:

- An operator must ensure that a customer has provided informed consent before transferring a customer to it from another company;
- Service providers must bill consumers for calls within six months;
- Advertisements about telecommunications deals and offers must be clear with all exceptions to offers easily understood;
- Providers must inform dissatisfied customers that they can complain to the Telecommunications Industry Ombudsman (TIO).

ACA has indicated that it would like industry codes to be less complicated and less detailed, and wishes to see industry taking more responsibility for compliance. The Australian Consumers Association, likewise, has criticized the slowness of the telecommunications self-regulatory system. It does not share the regulator's view that self regulatory processes are efficient.. The Consumers Association also believes that the self-regulatory model provides insufficient consumer protection from contractual and selling practice abuse. The need for better control of unacceptable commercial practices and poor contractual terms in the Australian telecommunications marketplace has been reported by TIO since 1996. These problems have also been studied by the Australian Communications Law Center, and reflected in the caseload of consumer agencies. In 1999, the TIO and the Australian Competition and Consumer Commission (ACCC), asked the ACIF to formulate a Selling Practices Code.

Consumers argue that the problem has not yet been resolved and that the national regulator failed to address the issue. One reason may be that the Australian Communications Authority did not consider agents and dealers as industry players and did not include them in the consultation process. Further development of ACIF codes has been bogged down by disputes over narrow definitions and guideline development. In the meanwhile, consumer organizations have published a Telecommunications Contracts Check List of Fair & Unfair Contract Terms (available from the CHOICE web site http://www.choice.com.au/articles/a103326p1.htm).

This Check List outlines best practice terms and clauses to be included in contracts between an operator and a consumer. It also identifies examples of unacceptable and unsound contractual terms. The cooperative work published by the consumer movement is an alternative approach to industry self-regulation that sets out a statement of legitimate consumer expectations, undiluted by industry lobbying. The consumer association now seeks adoption of these best practices by industry and the regulator in a new industry code that would replace the Guidelines developed by ACIF. In the view of the consumer Association these best practices are a valuable resource for industry players, consumer casework agencies, consumer advocates and individual consumers.

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría

[5] http://www.dcita.gov.au/Article/0,,0_1-2_1-3_170-4_14963,00.html

[6] See R. Horton. Consumer Protection in the Australian Communications Industry. Consumer Protection: Where Do We Draw the Line. Asia – Pacific Forum on Telecommunications Policy and Regulation, May 16-18 2002, Kuala Lumpur.

Rules on consumer rights and the need to include consumer protection issues in specific regulations generally grow out of consumer complaints. It is fairly common for the regulator to draft specific rules in response to particular consumer complaints. The proliferation of such specific rules, together with various telecommunication service-specific regulations, can be daunting for even the most active consumers. Regulators in some countries are therefore under pressure to develop a single code that incorporates all rights for consumers of telecommunication services. In response to this pressure Peru has included in one law a consumer protection "bill of rights" for all regulated utilities. The law also defines a single procedure for resolving all related disputes.

Box 11: New Colombian Rule on Consumer Rights

The Colombian regulator, Comisión de Regulación de Telecomunicaciones CRT, cites the process of drafting a single rule on telecommunications services consumer protection as the most effective measure it has taken to ensure consumer protection.

CRT's mandate was expanded in 1999 to include the power to ensure consumer protection. In the same year CRT launched a consumer protection project for mobile services. The regulatory body soon realized, however, the need to extend the project both to cover all telecommunications services and to protect business as well as residential consumers. CRT recognized that the convergence of networks and services impacts the same set of users.

The project culminated with a new rule, named Resolution 489, which was enacted in 2002 that integrated all existing consumer protection rules, extended consumer protection to cover other issues, such as minimum contract terms, and set new obligations for services provided through prepaid cards.

The CRT 2002 rule includes:

1. The requirement for service providers to inform new customers about tying agreements and also that no obligatory contract period can exceed one year. Service providers may offer equivalent plans in terms of untied services with the option to cancel the service at the consumer's discretion if this clause is not included.
The obligation for operators to inform users that they will be reported to credit agencies in case of default of payment. Operators are also required promptly to inform credit agencies as soon as the consumer's debt has been paid.
2. A prohibition on operators to activate services that have not been accepted by the user, even services offered temporarily and for free.
3. A prohibition on charging for calls routed to automated voice mailboxes without offering the consumer advance warning to enable the consumer to make an informed decision on whether or not to continue the call. Warning messages must last at least 5 seconds.
4. The obligation for the operator to provide, upon request, a password that allows the consumer to block long distance, mobile, and value added calls free of charge.
5. The obligation on vendors of wireless mobile terminals to provide consumers a booklet with preventive warnings against using handsets while driving, and recommending limited use by pregnant women, children, the elderly and those with immune deficiencies.
6. The obligation on operators to provide call identification services to users that request it.
7. Clear rules governing prepaid cards, including cards that contain visible information on deadlines by which cards must be activated as well as the metering unit and applicable rates; a four-month minimum expiration date; the provision of free-phone consumer information numbers; a prohibition against charging for uncompleted calls; the obligation to inform users regarding limits on the length of calls and the right of consumers to retain an assigned number for a minimum period.

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría

Some operators require their customers to pay for any calls billed and then file a claim for incorrect charges. Several administrations have recognized the negative impact of such "pay first, then claim" practices, addressing abuses in their general consumer protection laws. An example of this practice that was not rectified is illustrated in the box below.

Box 12: Croatian case on "pay first, then claim" practice

From 1999-2001, the Croatian Association for Consumer Protection (CACP) received a number of complaints that the local operator, had charged users for unmade calls and value-added services that were not used. Certain fixed-line subscribers were obliged to pay enormous bills. If the subscriber did not pay, the operator would cut the service and sue the customer in court. The courts reacted promptly, ruling against the subscribers. Subscribers were then forced to pay not only the disputed bill but high court expenses as well. CACP had little success in resolving any of these complaints due to the complexity of dealing not only with the operator, but resellers and other agents of the operators.

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

"Ghost" or "pirate" calls are increasingly developing as a common problem for consumers of telecommunications services. There is often no way for consumers to prove that they did not place a disputed call.

Box 13: Ghost calls in Armenia

In 2001, the Armenian Union for the Protection of Consumer Rights UPCR received a complaint from a consumer who was billed by the incumbent operator for approximately USD 70 for telephone calls he did not place. The consumer had unsuccessfully complained to monopoly operator Armentel but received no reply. UPCR complained to the operator and also used the press to fight the case. Two articles were published in a national newspaper in which UPCR indicated it planned to take the case to court if the operator failed to resolve the dispute. In the end, the operator voided the bill.

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

The Armenian and Croatian cases illustrate the difficulties in resolving complaints about "ghost" calls in the absence of a formal institutional process. Such complaints are particularly difficult in a monopoly environment coupled with limited consumer protection measures. The consumer is often limited to a choice between no service or bad service. Paying for calls not placed may be a better alternative than no service. Faced with such a Hobson's choice, it is not surprising that consumer associations will use other means—such as the press or other means of obtaining publicity—to obtain results. A better option may be to resolve such complaints through formal institutional procedures such as those described in the box on Spain below.

Box 14: Errors in billings systems in Spain

In October 2001, a member of the Spanish Confederación de Consumidores y Usuarios (CECU) complained that local phone bills sent by the operator during the previous six months were inaccurate and significantly more expensive than before. The consumer produced bills both for the disputed period and to demonstrate his previous consumption history. CECU lawyers brought the case to the operator, which denied any responsibility. CECU then brought the case before the Consumption Arbitration Board (see Box 21 below), which requested the operator to report on the status of the distribution point, (where copper pairs are allocated to homes within a small area), and to perform technical tests to check for errors in the billing systems. The reports showed that the distribution point was open, and easily accessible from the street by third parties. The arbitrators termed the distribution point "irregular", and the operator was held responsible. The arbitrators ruled in favor of the consumer ordering the operator to refund the consumer for the overcharges

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

"For-pay" voice messaging services have been the subject of complaints in several countries, including calls unwittingly placed to a voicemail service by consumers unaware of the costs for such service, or the service being provided on an unsolicited basis and in the absence of consumer consent. These complaints highlight the need for operators to inform both regulators and consumers about the impact of the introduction of new services.

Box 15: Unfair charging in Bolivia

On March 2002, a Bolivian consumer complained to the operator that she was charged for a series of very short calls from her fixed line to a mobile number that she had not placed. The operator rejected the claim, showing that the calls were indeed placed from the fixed line. The consumer turned to the regulator, Superintendencia de Telecomunicaciones (SITEL) which also concluded that the calls were placed and correctly billed. However, SITEL showed that the calls were placed to a mobile number assigned to a voice mailbox and that the consumer had neither reached the called party nor left a voice message.

SITEL discovered during the course of its investigation that consumers were offered no choice whether or not to use the voice messaging service. SITEL concluded that although the billing was unfair, it was legal and the customer was required to pay the bill. SITEL, however, continued to investigate the issue in an effort to develop a general consumer protection rule. In June 2002, SITEL approved a rule which orders operators to provide a free message informing consumers that they will be charged for the call if they use the voicemail service. To avoid a charge, consumers must terminate the call.

Source: Protection of Telecommunications Consumers Rights Survey, APOYO Consultoría.

Privacy is a widely held citizens right. It is often defined in a high-level political agreement. The right to privacy has been expanded to cover communications and data protection in telecommunication and other laws. However, as demonstrated in the boxes below, complaints about infringements of the right to privacy may rise.

Box 16: Unprotected consumer data in Estonia

The Estonian regulator Estonian National Communication Board (ECB) received a complaint from a consumer about the practice of a service provider distributing bills without sealing them in a closed envelope. The service provider sent bills on A4 paper that were simply folded in three, allowing third parties easily to read other customer's personal data. The bills included the name and the address of the consumer, the list of services provided and the amount due. ECB found that the service provider's bill distribution practice violated the Telecommunications Act's provision requiring service providers to protect consumer data since it did not exclude third parties' illegal access to personal consumer data. ECB ordered the service provider to cease its billing practice and required the service provider and its courier service to sign an agreement to maintain the confidentiality of bills distributed to customers.

Source: Protection of Telecommunication Consumer Rights Survey, APOYO Consultoría.

As many of the examples above demonstrate, it is often extremely difficult for consumers to receive refunds for billing errors. Compensation for damages is even a more formidable task.

Box 17: Massive refund promoted by consumer association in Peru

In 1996, the Board of Directors of the Peruvian telecommunications regulator, OSIPTEL, included a member of the Peruvian Asociación de Consumidores y Usuarios (ACYU). It also included representatives of the private sector. During this year, and without informing end users, mobile service providers changed their practice of billing customers by the second and began rounding to the minute. OSIPTEL enacted a rule that forced the cellular operators to restore per-second metering and fined the operators. Initially, OSIPTEL did not order the mobile operators to refund customers for any overcharges because OSIPTEL concluded that the lack of historical billing data made individual customer refunds virtually impossible. In addition, OSIPTEL lacked the legal power to order such refunds. However, pressure from the ACYU representative on the OSIPTEL Board of Directors resulted in the regulatory body reassessing the refund issue. Mobile operators refunded a total of USD 6.8 million to Peruvian consumers.

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

6. Dispute Resolution of Consumers Claims

The best process to resolve consumer claims is for service providers to handle them through their own high-quality customer service measures. These may include private resolution services such as professional mediation. Several operators also offer the services of an internal ombudsman who seeks to convey consumer concerns to management. Such services are rare however, especially where consumers have no alternative supplier to which they can bring their business.

Many governments, therefore, have created a consumer dispute resolution system aimed at delivering fair results in a timely fashion. Such government-created systems foster responsible consumers that are aware of their rights and know how to exert them. Consumers that are unable to resolve their disputes in an easy and effective manner often become frustrated and dissatisfied with the sector reform process.

Box 18: Lack of dispute resolution systems generates consumer disappointment

The Consumer Association of one sub-Saharan African country reports that it is disappointed by the perceived indifference of the regulator to the rights of end users. The consumer association brought a complaint to the regulator, alleging that the state-owned monopoly operator had sent fictional invoices to users. While the consumer association acknowledged that the regulator had referred the case to the court, the consumer association criticized the regulator for failing diligently to pursue the case. The consumer association noted that the monopoly operator was undergoing privatization and that the chief executive officer of the company enjoyed a high political position.

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

Traditionally, individual consumers have attempted to resolve disputes with unresponsive operators by suing them in court. There are, however, many drawbacks to litigation, including high costs relative to the value of the claim, judges' lack of technical expertise, the inability of consumers to gather sufficient evidence to prove the claim (often in face of an operator that may have the needed proof). In addition, in some countries the judiciary may lack sufficient resources or be subject to political interference.

It is for these reasons that a growing number of countries have created so-called alternative dispute mechanisms (ADM) imbued with the legal authority to resolve consumer claims. The mechanisms include mediation (where a third party acts as a mediator but without any binding power), and arbitration (where parties voluntary agree to solve their dispute through a third party who is entitled to take a binding decision). The legislatures in several countries have passed laws allowing parties to resolve their claims through arbitration, in which the decision may not be appealed to the judiciary. Other countries have passed laws empowering government agencies to resolve disputes. Mediation, if successful, may end an on-going arbitration or administrative process.

It is important to bear in mind that the judiciary may become a more relevant option for resolving consumer complaints once judges become more knowledgeable about the technical issues raised by telecommunication consumer claims, effective competition becomes the norm, and national judiciaries become stronger institutionally and independent from political or business influence. The judiciary is undergoing serious reform programs in some countries with the help of multilateral institutions such as the World Bank[7].

Several countries have empowered their national telecommunication regulatory authorities to resolve consumer claims or have created separate institutions to resolve consumer complaints such as an agency that takes all consumer complaints. Regulatory authorities have embraced

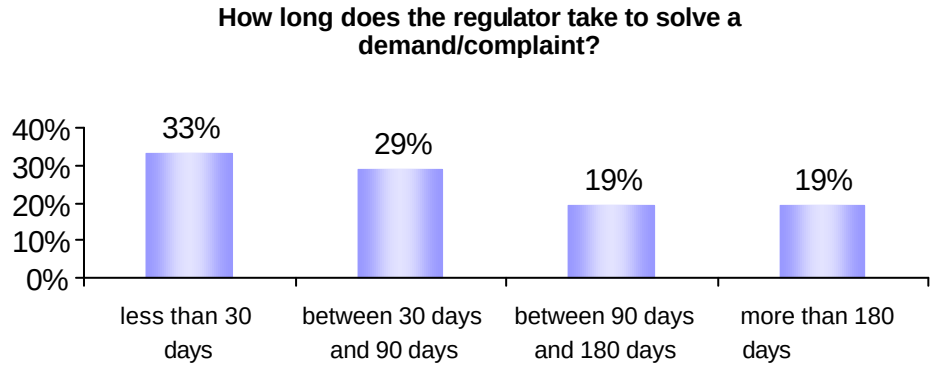
[7] See the World Bank´s "Law and Justice" WEB page at http://www4.worldbank.org/legal/

several options for resolving cases, from simply authorizing one staff member to decide upon consumer cases to creating institutions within the regulatory authority autonomous from the administration. Government agencies have also applied ADR (alternative dispute resolution) systems such as mediation and arbitration.

Administrative arbitration is very similar to private arbitration since both apply arbitration rules and rely on external professionals as arbitrators. Administrative arbitration decisions, however, may be appealed to the judiciary. Alternative dispute resolution systems are less practicable where government officials own or control operators, since critics may deem their decisions arbitrary or unfair.

The experiences reviewed below show that there is ample opportunity for regulators to enhance their current performance regarding consumer claim resolution.

Figure 9:



Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

Box 19: Australia Telecommunications Industry Ombudsman (TIO)

The TIO is an industry-funded, independent non-government scheme. It is independent of telecommunications companies, consumer groups and the government. Its income is derived solely from members who are charged fees for complaint resolution services provided by the TIO. Members consist of telecommunications carriers, telephone carriage providers and Internet Service Providers (ISPs). The ombudsman is not a consumer advocate, rather a service to help consumers and telecommunications companies resolve disputes. TIO also provides information and assistance to organizations where its assistance is required by law, or where its assistance helps the industry and consumers to resolve complaints without investigation by the TIO.

The federal government established the TIO in 1993 to resolve disputes between telecommunications companies and residential and small business customers. In 1997 the TIO's jurisdiction was extended to include complaints about Internet service providers (ISPs). The TIO is independent from telecommunications companies, ISPs, consumer groups and government, and provides its service free of charge to consumers.

The TIO has the authority to make legally binding decisions (up to the value of $10,000) and recommendations (up to the value of $50,000)

The TIO also has the power to exercise its discretion not to investigate a case further if it concludes that all relevant facts in the matter have been considered.

All carriers and eligible service providers (including Internet service providers) are required under the Telecommunications Act to be members of the "TIO Scheme". The '"TIO Scheme" is operated by the Telecommunications Industry Ombudsman Ltd.

Box 19: Australia Telecommunications Industry Ombudsman (TIO) (Cont'd)

The structure of the TIO is designed to ensure its independence. The TIO is governed by a council and a board of directors, and is managed by an independent Ombudsman appointed by the board on the recommendation of the council.

The council is comprised of five TIO member representatives and five consumer representatives, with an independent chairman. While the Ombudsman has responsibility for the day-to-day operations of the scheme, the council provides advice to the Ombudsman on policy and procedural matters.

The Board has corporate governance responsibilities including financial management of the scheme and ensuring compliance with the articles of association and its constitution. With the exception of the independent director, who is appointed by the board itself, directors are appointed by the TIO membership.

A member is only charged complaint handling fees if the TIO receives a complaint from one of its customers. Therefore, the funding system acts as an incentive for members to keep TIO investigations to a minimum by developing and maintaining effective complaint handling and customer service procedures.

The TIO may refer systemic problems, identified through complaint statistics, to the Australian Communications Authority, the Australian Competition and Consumer Commission, the Privacy Commissioner or other appropriate bodies.

The TIO investigates and helps resolve complaints about the provision or supply of telephone and Internet services as well as the failure to provide or supply these services.

Source: www.tio.com.au

The Peruvian Regulator OSIPTEL took another approach to dispute resolution, establishing an administrative-type court to resolve consumer claims.

Box 20: Peruvian Court for Consumer dispute resolution

The Peruvian administrative Court for consumer dispute resolution (TRASU) was created in 1995 by the regulator, OSIPTEL. TRASU decisions are made on behalf of OSIPTEL but it remains independent from the regulator since it is not accountable on jurisdictional matters to the regulator's administration. That is, TRASU's decisions are taken independently from OSIPTEL's Board of Directors and administration. TRASU intervenes only after the operators have addressed the claim, and the consumer appeals the operator's response. Conciliation between the operator and the consumer may be possible during the process.

TRASU is a six-member collegiate body, supported by a technical secretariat. OSIPTEL's board of directors appoints members to TRASU for an undefined term. Members are prestigious professionals who serve on a part-time basis to ensure their independence. The technical secretariat is staffed with competent professionals that support the administrative court decisions.

TRASU is empowered to enact guidelines on how it analyzes complaints. These guidelines are based on previous cases and signal to both users and operators the likely outcome of future decisions. TRASU also rules on the proof needed to resolve claims, and which party bears the burden of proof. OSIPTEL's board of directors does not review TRASU rules and guidelines.

In case of complaints regarding fixed line local calls, TRASU guidelines authorize the administrative court to ask for the following evidence:

Report on faulty service: this document allows the administrative court to assess if, during the period when the claim was filed, faults or suspension of service were reported, which could indicate the possibility that any disputed calls were not placed from the user's phone.
Records of technical inspection: this operator-generated report describes the local loop for the user's phone service area, indicating the location of the network details and any security measures that would limit access by third parties. This report allows TRASU to rule out illegal line access to the service provider's external plant.
Average and variable measured local service usage. This data can help to identify the consumer's pattern of consumption.
Itemized call report. Even if the consumer has not requested itemized call billing, the operator should maintain itemized call records for all users, which may assist in dispute resolution.
Call investigation information. This information allows TRASU to establish whether any calls had been placed previously between the user's number and the number associated with any disputed calls.
TRASU has the power to interpret and solve claims related to all telecommunications services, which are related to infringements of consumer rights including billing, installation, and quality of service. It can also impose fines if the operator fails to abide by its decisions.

TRASU can also rule on procedural grounds, e.g., imposing a default judgment in favor of the consumer if the operator fails to meet a court-imposed deadline to resolve the consumer's case.

Although TRASU's decisions may be appealed to the courts, few cases are. Parties are not charged for TRASU´s services, unless there is a clear case of misuse of the claim procedure.

About 48% of the 35,000 claims handled by TRASU during 1995-2001 were resolved in favor of consumers. An on-line consultation service available on the OSIPTEL Web site enables users to track the status of their claim.

Source: http://www.osiptel.gob.pe

The Spanish arbitration system has been hailed by consumer associations around the world as one of the best dispute resolution mechanisms in existence.

Box 21: Spanish Law for Consumer Protection

Spain' s 1984 General Law on Consumer Protection recommended creating a voluntary arbitration system for consumer claims. After creating awareness in the private sector through a pilot project the Arbitration Law was enacted in 1988, which gave rise to the development of the Consumer Arbitration System in 1993. Consumption Arbitration Boards (CABs) were created as administrative bodies responsible for resolving consumer claims related to all products and services, not solely in the telecommunications sector. CABs were created at the local, regional, and national levels. Regional CABs and the national CAB act only if the controversy involves several jurisdictions or occurred across several regions. The CAB establishes a three-member collegiate body for each case whose decision is binding on the parties. The CAB appoints the president, and the consumer and the operator each appoint one member. At the time this report was published, there were 40 local CABs active in Spain.
Claims may be initiated either by an individual consumer or by consumer associations. The arbitration may be based on law or "equity arbitration." Equity arbitration relies on the judgment of the arbitrators, which may base their decisions on rules, customs, and their common sense. Conciliation between the operator and the consumer may be possible during the process.

It is noteworthy that a firm may publish a public announcement that it will rely on the Consumer Arbitration System to resolve any future consumer disputes, although the firm may also announce limits on the issues and amounts of such controversies. Telefonica, for example has published such announcements. Firms that publish such public announcements are granted an official logo which can be used as a label for quality of service. They are also identified in the National Listing of Firms as a company that is a member of the Consumer Arbitration System.

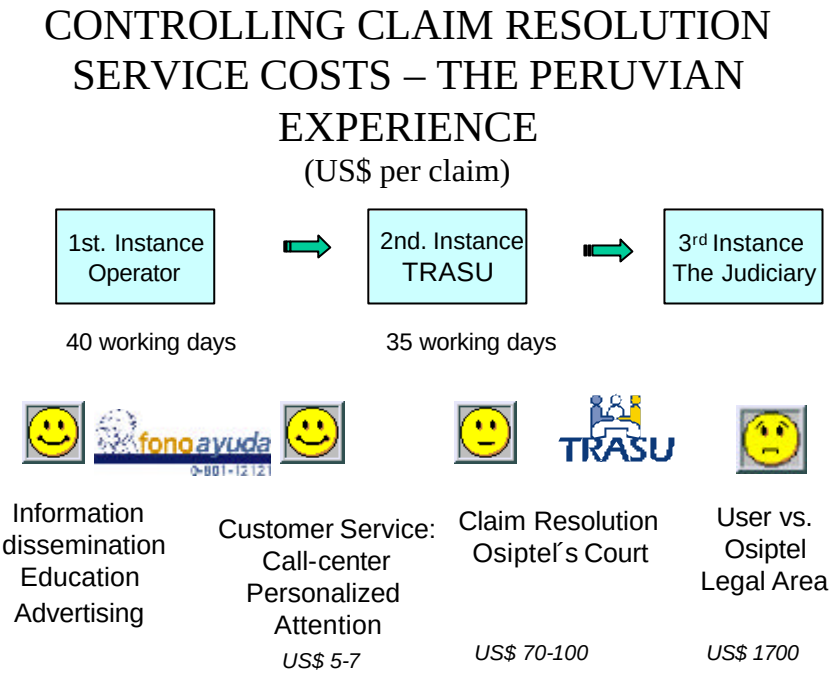
The official logo tells consumers that they can expect quick and effective service should they make a claim against the registered firm.

Official Distinguishing Logo of the Spanish Consumer Arbitration System

According to the Spanish national consumer organization Confederación Española de Consumidores y Usuarios (CECU), about 90% of all claims handled by the Consumer Arbitration System are brought by consumer associations. About 80% of these claims are resolved through mediation, leaving 20% of all claims to the system's collegiate bodies. Almost half of all claims are resolved in favor of firms

Source: Confederación Española de Consumidores y Usuarios.

Figure 10:



It is important to bear in mind that dispute resolution processes can become costly. Strict adherence to due processes and careful legal analysis is not only expensive but can drain the regulator's resources. The figure above compares OSIPTEL's costs for implementing the TRASU administrative court with other measures. The TRASU dispute resolution process costs approximately USD 70-100 per claim. This can amount to more than ten times the cost of preventive actions such as establishing a customer service call center. The cost of massive information dissemination per user is also lower than TRASU claim resolution cost.. Appeals of TRASU decisions are even more expensive, climbing to an average of USD 1,700 per appeal. Appeals of TRASU decisions moreover, carry severe public relations costs. All appeals are waged as disputes between the consumer and the regulator rather than as disputes between the consumer and the operator. And, as noted before, all litigation involves high costs for consumers and generates high levels of consumer dissatisfaction.

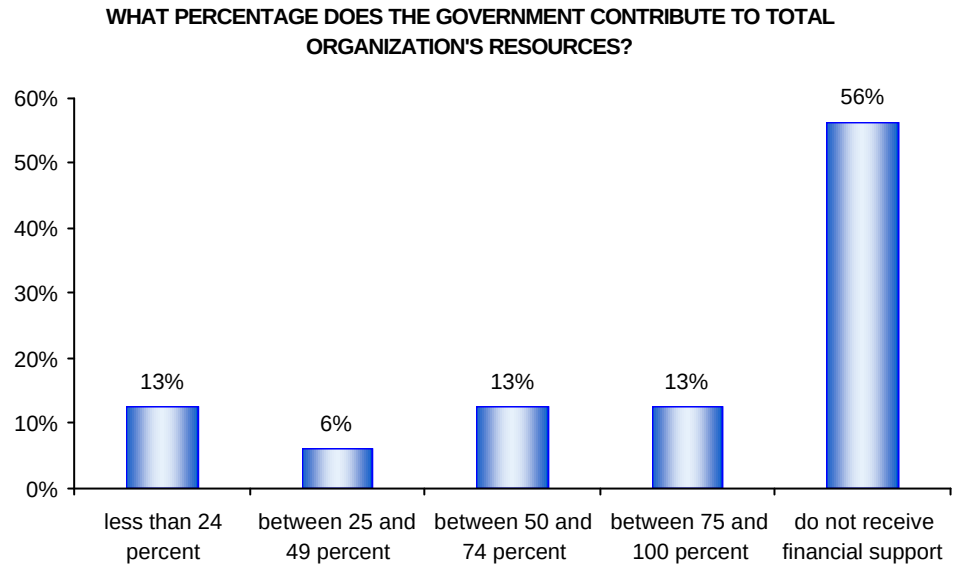
Clearly, it is in regulator's best interest to create incentives for dispute resolution mechanisms that place a greater burden in terms of effort and costs on the private sector while ensuring adequate consumer protection.

7. Consumer Participation and Representation

Effective participation by consumers in regulatory processes can help regulators to implement consumer-oriented regulation. Consumer participation also provides a needed counterbalance to the influence exerted by the private sector, can provide political support for regulators´ actions and has the potential to foster creative solutions to specific problems.

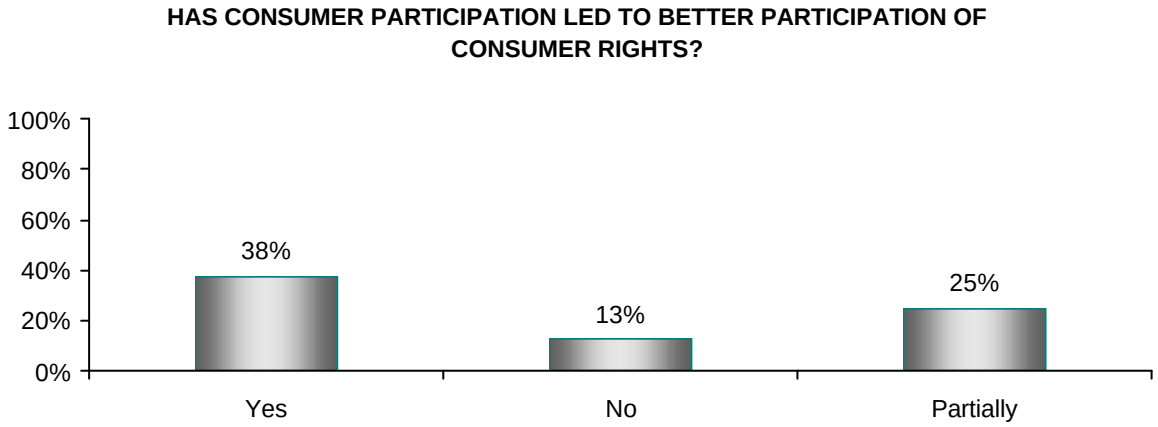
Consumer organizations recognize that they have not participated in regulatory processes as effectively as possible. More than half of consumer organizations are aware that they need to improve their technical skills to interact with both the regulator and operators. A large majority (89%) of these associations would welcome state support provided they remain independent. In fact, about 40% of all consumer organizations which responded to the survey conducted for this report, indicated that they receive financial support from the government.

Figure 11:



Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

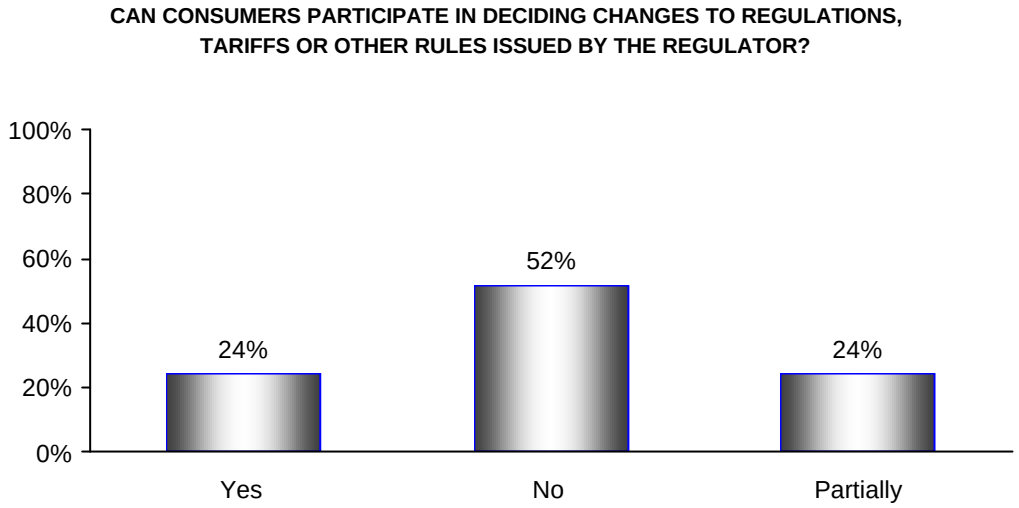
Figure 12:



Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

However, the predominant view is that consumers are not permitted to participate in regulatory processes.

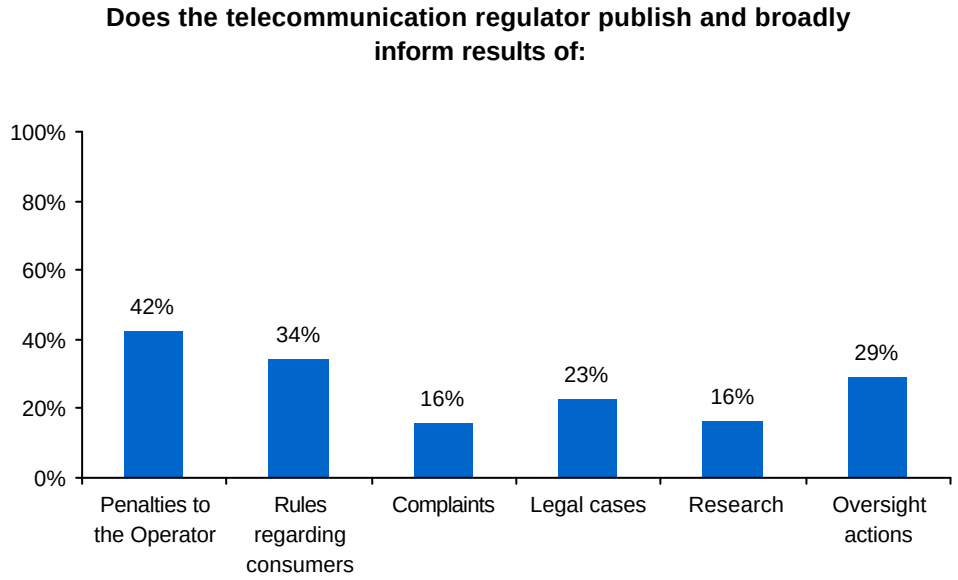
Figure 13:



Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

Only 22% of consumer organizations view regulators' decisions are transparent. Consumer organizations (42%) believe that regulators are far better about publicizing fines imposed on operators and publishing rules that concern consumers. Consumer organizations, however, have little awareness of regulators' research activities and complaint resolution measures.

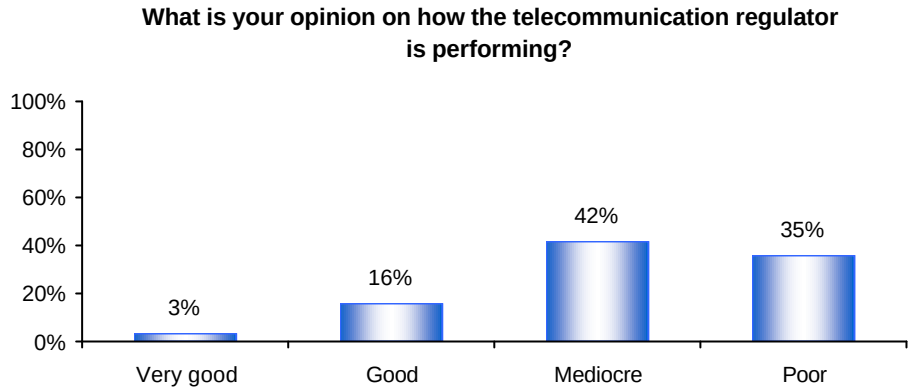
Figure 14:



Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

Thus, there is no surprise that in the opinion of consumer organizations regulators overall performance is rated either mediocre or poor (77% combined).

Figure 15:

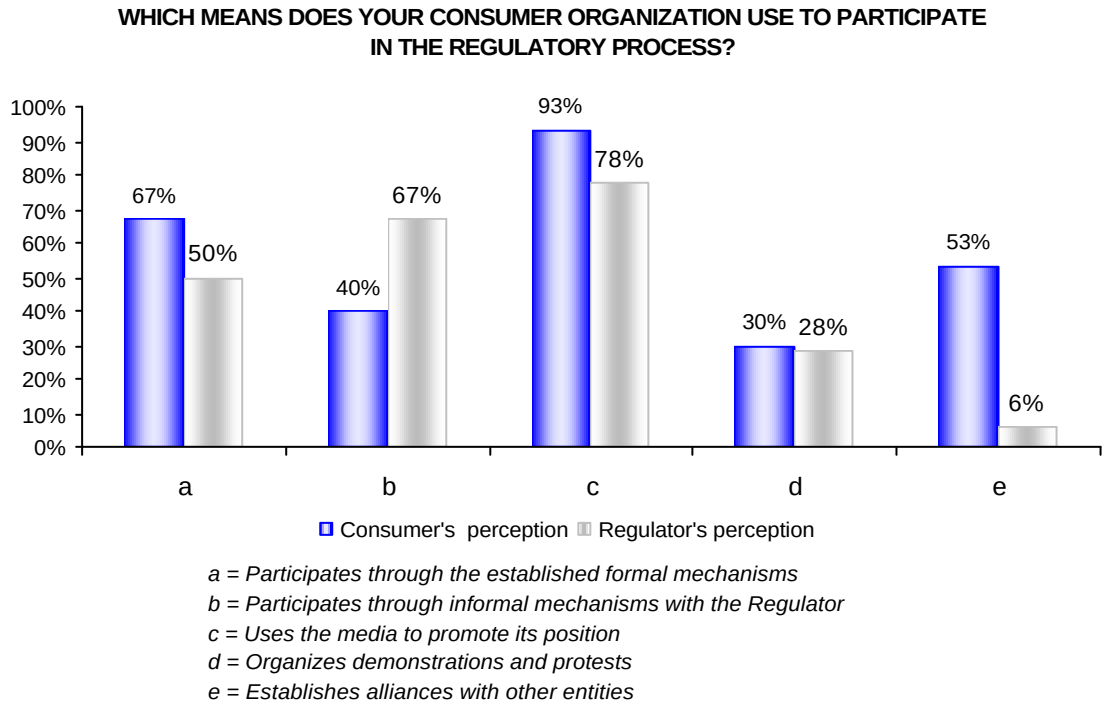


Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

Consumers can participate in the regulatory process in a variety of ways, including formal procedures (public hearings, filing comments, working group participation); informal means (seminars, meetings, written communications); public protest; and networking, lobbying, and forging alliances with other organizations.

Almost all consumer organizations rely on the media to put forward their concerns. Some even run their own media programs. Formal procedures and joint ventures with other organizations are also quite common. Note that although organizing and participating in demonstrations rank as the least used practice, it is not entirely uncommon considering that it is a rather extreme means of communicating interests.

Figure 16:



Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

Box 22: The "Phone Strike"

The Peruvian consumers association Asociación de Consumidores y Usuarios (ACYU) reported that in April 1998, many political, labor union and religious institutions were restricted from using the media to express their opinions. ACYU organized a "phone strike" to protest thirteen grievances against the incumbent monopoly, including that the incumbent had closed several branch offices that had provided direct service to customers, the high set-up charge for local calls, the incumbent's political efforts to extend its legal monopoly, the absence of any mechanisms for verifying phone metering, and the lack of tariffs plans for low-income groups. ACYU succeeded in convincing 73% of households to participate in the "phone strike" by abstaining from placing calls for one day. ACYU believes that the phone strike forced the government to consider bringing forward the end of the incumbent's legal monopoly and introduce tariffs plans for low-use consumers. ACYU also believes, however, that the phone strike also brought about the end of user representation on OSIPTEL's Board of Directors.

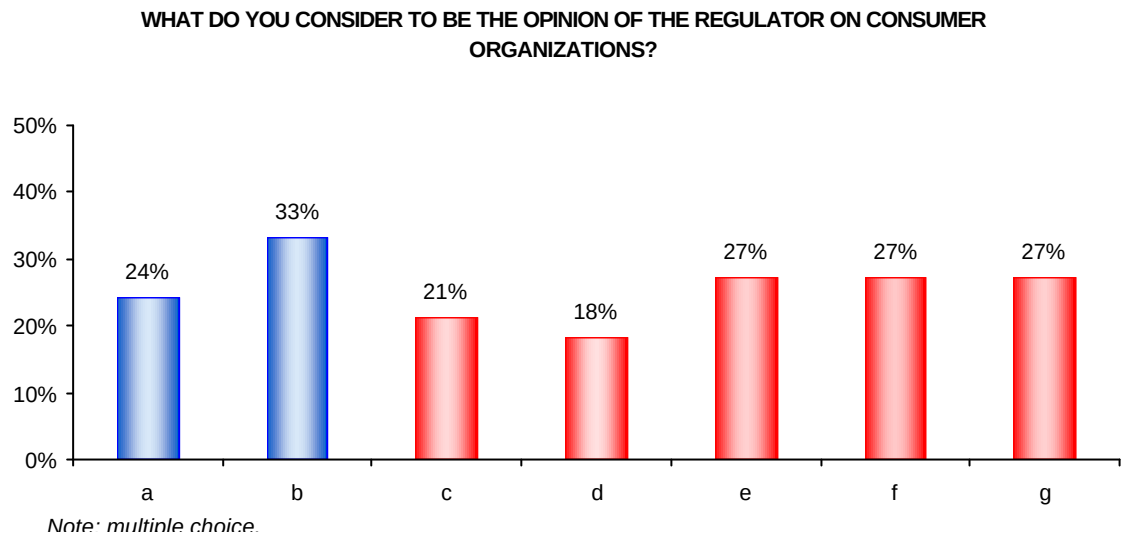
Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

Regulators have reacted to lobbying by consumer groups by redesigning their services and organizations to deal with consumer concerns. Almost half of national regulatory bodies surveyed in this report have created a top-level management unit that addresses consumer issues. Such units have provided consumers a distinct regulatory counter-part that focuses on consumer issues.

Brazil has gone farther by creating an internal ombudsman, appointed by the Brazilian President, that works within the country's national regulatory authority to represent consumer interests.

However, consumer associations still believe that most national regulatory authorities remain unresponsive and do not understand their concerns. Only 24% agree with the statement that the regulator believes that consumer associations do contribute to regulatory processes and regulations. Even regulators acknowledge that they allocate little time to consumers: Fifty six percent of all regulators surveyed spent less than five percent of their time on meetings with consumers. Moreover, regulators are usually not aware of how much of their budget is allocated to consumer protection policies. Consumer organizations also believe that the staff of national regulatory bodies spend no more than twenty percent of the time they devote to the private sector with consumer representatives.

Figure 17:

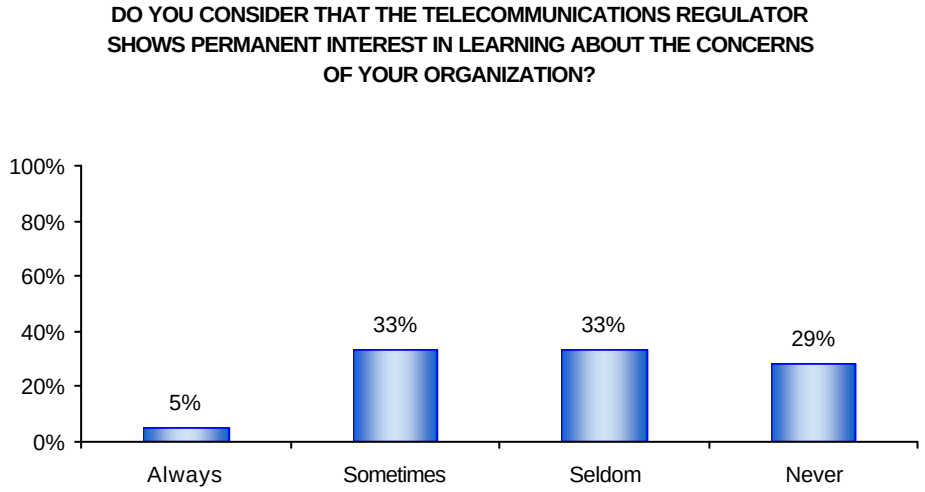


Note: multiple choice.

a = They contribute to processes and regulations
b = They are useful allies as a counter balance to Operators
c = They are not a valid counterpart
d = They have other interests (for example, political)
e = They do not understand the issues
f = They are irrelevant
g = They are inconvenient but necessary

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

Figure 18:



Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

The formal institutions and procedures typically used by regulators to consult with stakeholders include public hearings (39%), the regulator's website (36%), and newspapers and other mass media (18%). However, only 17% of consumer organizations consider that these consultation methods are appropriate.

Box 23: Why consumer organizations regard consultation means used by regulators as inappropriate

Why do these organizations consider these means inappropriate? The following list of qualitative responses from consumer associations offers a good indication.

Argentina
- "Nobody considers consumers' opinions".
- "Sometimes procedures are complicated".

Australia
- "Poor representation of consumer interests".
- "Hearing doesn't mean listening".

Colombia
- "Little diffusion. The regulator uses its Web page and the majority of users don't access the Internet yet".

Chile
- "It only serves to legitimize resolutions already taken".
- "Technical weakness of users organizations".

Czech Republic
- "Consultation mechanisms of the regulator are aimed only to some professionals".

Fiji
- "Monopoly status of the industry enables them to make their own decision. At the end of the day profit is more important to them than consumer's concerns."

Guyana
- "Briefs by our consultant are ignored".
- "It is difficult for consumers to access additional information"-

Kazakhstan
- "Lack of consumers' knowledge".

Peru
- " Our suggestions are not taken into account at the very beginning of the process, but later on when it is more difficult to put forward our interests."
- "Public consultations do not bind the regulator to take into account consumers participation, so we don't know if consultations through the regulator's Web site will really be reviewed."
- "Our participation in public hearings is quite diminished by time limits."

Zambia
"Failure to appoint consumer representatives on the board of regulators".

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

Although consumer associations cite clear improvement on the part of regulators in terms of transparency, disclosure of information, and establishing formal consultative institutions, they remain disappointed with current formal procedures. There are, however, some promising recent experiences or projects regarding consumer participation that could help regulators to improve the way they consult with consumers.

Joint ventures on specific projects that include consumers associations, regulators and other government agencies may be an effective way of fostering closer working relations between consumers and the regulator. Consumer organizations have succeeded in forging alliances with competition agencies, human rights organizations, labor organizations, universities and umbrella consumer organizations (i.e. Consumers International) Consumer associations seek to forge the same kinds of alliances with national regulatory authorities so they may more effectively participate in regulatory processes.

Box 24: Colombia: Consumer Participation on Rule-making

Before 2000, civil society participation in government decision-making procedures was practically non-existent. Consumer's organizations lacked the technical capacity to argue their positions, and the regulatory authority did not offer platforms for citizenship participation. Initially, the regulatory authority simply posted a proposed rule on its website and required that all comments be posted through the same website. The consumer's organization Consumidores Colombia (COCO) forged partnerships with several Colombian universities to create a consumer's expert group. This enhanced the credibility of COCO's participation, especially in the debate of highly complex technical issues. The regulator carried out several public hearings to learn the positions of operators and consumers. Today the regulatory body invites COCO to discuss controversial topics on a regular basis.

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

Box 25: United Kingdom: Communications Consumers Involvement Project[8]

The National Consumer Council (NCC) is a non-profit consumer policy and research organization. Although it is independent of government it maintains a close working relationship with government officials. The majority of its funding comes from the Department of Trade and Industry. One NCC project has been designed to examine the benefits of consumer involvement in the regulatory process as well as barriers to and solutions needed to enhance consumer participation. The NCC defines the term "involvement" as a continuum of measures ranging from consultation, participation and representation. NCC recognizes that consumer involvement can take many forms and that an effective strategy will rely on a range of measures. The NCC has welcomed the creation of a new consumer representative body, the Communications Consumer Panel (CCP).

Its recommendations include that:

- The new regulatory authority Ofcom should ensure efficient consumer involvement from the beginning of the regulatory process and not wait until the process has ended. The regulator should provide regular evaluation and feedback, including publishing consumer impact assessments and annual reports on how consumer involvement has been taken into account.
- The CCP should be required to draw up criteria for prioritizing its work, to consult on its work programs and to report annually on how it has fulfilled its duties.
- The regulator and the CCP should be required to draw up a memorandum of understanding to ensure cooperation, guard against unnecessary duplication and enshrine the independence of each.
- Consumer research work should be shared, and joint research carried out, where appropriate.
- The regulator should be required to publish a periodic comprehensive report describing how it takes consumer research into account in its policy-making.
- Operators should also review their structures for including consumers, and report regularly on the impact of consumer involvement on its policies.

Broader consultation may be achieved through several means, such as the Viewers Panel and Stakeholders Groups. The Viewers Panel is composed of various consumer representatives selected to represent a wide range of consumers' interests. The Viewers Panel has a clear remit and defined parameters for its work. Stakeholders Groups are independent bodies designed to provide high-level advice to the government from a broad group of stakeholders. Task groups or special consumer panels –usually a small group of consumers and industry managers–may also be created to tackle specific issues. OFTEL has six advisory committees; one each for England, Wales, Scotland and Northern Ireland, plus a committee for the elderly and disabled and one for small businesses. The members are selected through open recruitment.

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

Peru's 1999 Transparency Rule also provides for the creation of permanent or ad-hoc stakeholder consultative groups that may provide input to OSIPTEL's Board of Directors.

[8] Based on National Consumer Council. Involving Consumers in Communications. Case study for the Involving Consumers project. 2002. http://www.ncc.org.uk/policy/involving_consumers/index.htm

Box 26: The Australian Consumer Consultative Forum[9]

The Australian Regulator ACA has a legislative obligation to provide information to consumers on both radio communications and telecommunications issues. A related goal is the creation of a community that is informed about the rights and options available to them in Australia's market.

The Consumer Consultative Forum (CCF) was established in 1997 in accordance with the Australian Communications Authority Act 1997. The forum meets twice a year and provides the ACA with a formal mechanism for consulting consumer representatives on a wide range of communications issues. Membership of the CCF is at the invitation of the ACA.

Members of the CCF include organizations that represent consumer interests from a variety of perspectives, relevant government agencies and industry bodies.

The terms of reference for the Consumer Consultative Forum are to:

- Assist the ACA with consumer consultation on matters relating to its telecommunications functions;
- Ensure that consumer interests are adequately considered in ACA's decision-making; and
- Assist in informing the community about telecommunications service issues and matters relating to the industry.

Issues put forward for consultation are access to services, quality of service, development of codes and standards, emergency services, privacy, impact of new technologies on consumers, including those with special interests and needs, and comprehensive consumer impact statements.

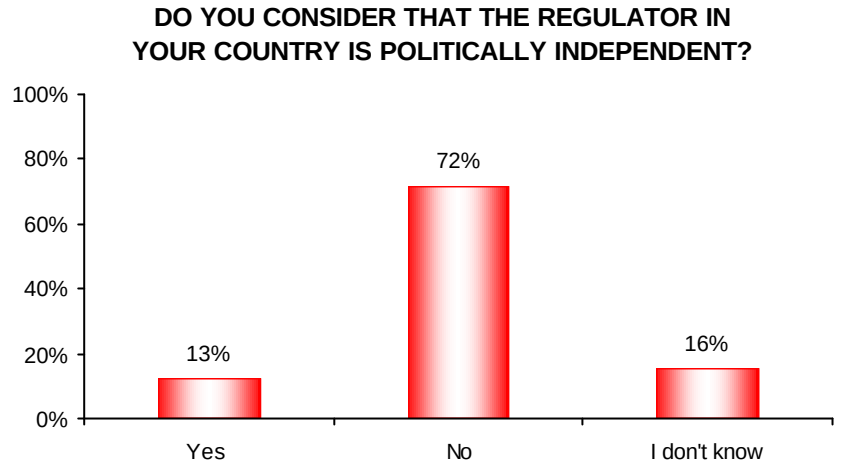
Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

A hotly debated issue even within the consumer movement is whether consumers should be represented directly in the top-level decision-making bodies of national regulatory authorities. A few countries have consumer representatives as well as operators' representatives in the decision-making bodies of regulatory authorities. In the Dominican Republic, for example, these consumer representatives are appointed by consumer organizations. The Peruvian regulator OSIPTEL had consumer representatives during 1993–1998 appointed by consumer organizations.

Those that advocate including consumer representatives on the decision-making bodies of national telecommunication regulatory authorities argue that such consumer involvement is nothing more than the application of the concept of direct democracy. They question whether regulatory authorities can properly represent the public interest where citizens do not directly choose the regulatory body's decision-makers. Generally, top regulatory officials are appointed by elected officials rather than being directly elected themselves. Because some telecommunication operators–generally incumbents–wield political as well as market power, some consumer advocates believe that giving consumers a vote on the regulatory authority's decision-making body is the only way to counterbalance the asymmetry between operators and consumers. These consumer advocates have argued that because the mandate of national regulatory authorities is to promote consumers' needs, the most effective means of obtaining this goal is to provide consumers direct participation. Relying on appointed officials to serve as agents of consumer interests is less effective, the consumer advocates say.

[9] Based on http://www.aca.gov.au/committee/national/ccf/ccf.htm

Figure 19:



Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

There are, however, many questions arising from such direct consumer representation. How representative are the appointed consumer representatives? Who appoints these consumer representatives? How should they manage conflicts of interest between the general public good and specific interests, such as when decisions that improve overall welfare harm specific groups? How can these consumer representatives avoid political interference especially in countries with poor governance structures? How can regulatory bodies ensure the proper accountability of the representatives and insure against regulatory capture? Finally, will the decision-making process become more political and less technical where representatives of specific interest groups sit on the decision-making body?

8. Interactive consumer services provided by the regulator

Interactive consumer services refer to all methods regulators employ to communicate with individual consumers, including call-centers, TV and radio broadcasts, newspapers, information provided on websites or in pamphlets, interactive Internet-based tools and direct contact with staff either in person or by telephone. Using the media to communicate with individual consumers is particularly challenging for regulators who must compete for the attention of the average individual consumer with news and entertainment services offered by a host of information providers. Moreover, it is often difficult to assess the costs and effectiveness of the different means used to convey the regulator's messages. Pamphlets that contain needed content may fail if they are not widely distributed or arrive after issues have been resolved. Likewise, regulators' comparisons of different service providers' offers may be ignored or misunderstood by consumers.

Due to cultural reasons, traditional means of interacting with individual consumers—face to face meetings– are still quite important in some countries. Many consumers believe that if they meet a staff member in person, they will surely have their problem solved. Face-to-face meetings may also be necessary where users lack the connectivity or education needed to use more modern call centers or Internet tools, or where regulators fail to provide any consumer service by telephone. Launching call-centers and Internet services does not necessarily mean that office visits will decline. Rather these new services may serve to complement traditional means, especially where a knowledgeable staff member is needed to resolve complex cases.

At a minimum, regulators should aim to be reached easily by interested consumers. This includes creating a user-friendly Internet-site updated on a regular basis. Regulators' websites should avoid content that requires a high-bandwidth connection where most household users access the Internet through a dial-up service.

It is important for regulators to incorporate a consumer's perspective when deciding the location of the headquarters and any branch offices. Regulators' offices are often located in government buildings that cannot be accessed by low-income groups at a reasonable cost.

Regulatory staff serving individual consumers must be trained to deal with the most disgruntled client. Prompt reception of consumers in a comfortable environment by well-trained staff can help to diffuse potentially inflammatory meetings.

Implementing consumer call centers is the next logical step. A simple, low-budget project may rely on current personnel to handle a relatively low number of calls, so that the incremental costs of providing the service remain modest. Later, the regulator may consider migrating to a system capable of handling more calls at lower unit costs, and which can analyze the data generated from the calls.

Regulators may even consider implementing a call-service center with trained personnel using ISDN services provided by the local operator. Call centers accessible throughout the country can be established, especially if regulators and consumers share the costs of calls. Operators should be able to provide a call-sharing scheme by which the regulator pays for long distance calls but consumers pay for local calls. Call centers enable regulatory bodies to increase the number of consumer complaints they resolve and provide a valuable service for consumers residing in towns where the regulator maintains no office.

A call center handles consumers concerns and questions through a software application that allows a prompt reply with standardized answers and generates statistical reports which summarize consumers' concerns. This information enables regulators to identify regulatory loopholes or new consumer protection initiatives. A call center also enables the regulator better to manage staffing of the call center by analyzing incoming calls (queues, daily call patterns, duration, origin) and monitoring quality of service indicators. This information can be used to redesign the call center and make informed choices on equipment outlays, number and profile of personnel, and changes in the regulators' internal organization or a decision to outsource the call-center. The regulator usually trains the personnel and oversees the service provided by the outsourced firm.

The regulator may further cut costs if it shares a call center with other similar government agencies. In Peru, for example, all public utility regulators share a single call-center toll-free number. Not only does this cut costs for the government agencies, which also benefit from any advertising paid by the others, but the consumer benefits from having just one phone number to remember. The number of personnel that serve each utility depends on the respective regulator. Generally, the level of use by consumers is driven by media campaigns. Thus the level of advertising helps to define the number of required positions and controls the budget. An automatic answering service serves as an overflow devise to handle calls at peak times, allowing personnel to return a consumer's call later. Without such a devise, the call center will experience congestion.

The call center may also be used for consultation purposes by placing random calls to households and asking the called party their opinion about a specific topic. Tele-voting, although not statistically representative, is also an option that can be carried out with the call center.

The regulator's web site has become a popular way to reach and interact with certain types of consumers. Websites offer a continuum of options: from just posting general information about the regulator-–which in itself is important if regularly updated and used to announce planned rule-makings –mailing lists (i.e. the regulator mails proposed rules to a predefined set of citizens), to allowing consumers to interact with the regulator's information system and staff. Interactive applications enable consumers to obtain information about the current status of their complaint and to participate in virtual forums and discussion panels. Some regulators also allow consumers to post comments that can be read by other stakeholders.

The publication of rules in the official governmental newspaper or registrar provides an excellent opportunity to include non-technical and user-friendly presentations of consumer-oriented rules. Regulators are also embarking on consumer outreach projects..

Box 27: Reaching Out to Consumers

In Peru, network expansion, coupled with new services and new market entrants, has generated a greater demand on the part of consumers for information about rates, consumer rights and procedures for filing complaints.

The Peruvian regulator OSIPTEL has implemented a variety of way to provide needed information, including its website, a network of branch offices across the country, a call-center service (FonoAyuda) and bulletins and other publications geared to consumer interests. In 2002, OSIPTEL began experimenting with a more proactive approach, a mobile vehicular unit called MoviAyuda which travels throughout Lima, the capital city, especially to high-complaint locations and areas with high pedestrian traffic. OSIPTEL has also set up temporary kiosks in high population locations such as business centers, public squares and universities staffed by personnel that can provide information or take complaints on rates, quality of service and billing. Pamphlets are also distributed with basic consumer advice

MoviAyuda is a simple idea that brings the regulator to the consumer, facilitates access to information, and reduces consumer costs and efforts in obtaining relevant information. MoviAyuda also provides valuable feedback to the regulator on the main problems between operators and their customers, enabling the regulator to identify issues requiring policy action.

MoviAyuda doubled OSIPTEL's contacts with consumers in the initial two months of its launch– including calls to its call center and visits to the regulator's offices. Users feel they have been served better because they have a closer point of contact.

Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

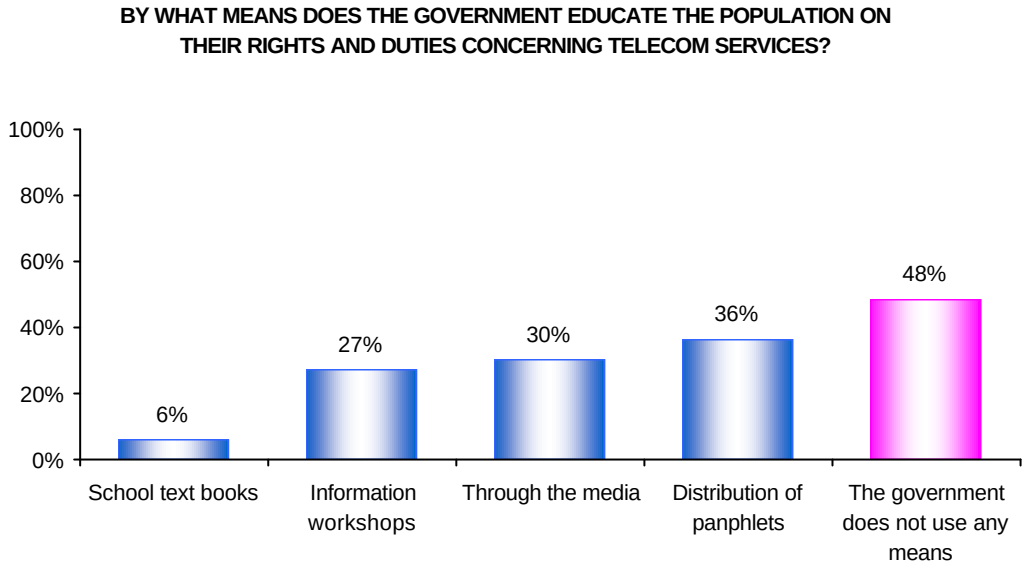
Although a few regulators have launched their own broadcast programs, mainly on the radio, broadcasts by consumer organizations or independent journalists are often seen as more credible. Regulators may best use broadcast media by participating in regularly-scheduled programs to explain rules that affect consumers.

Many regulatory agencies have found that hiring a well-connected and professional press officer is key to effectively relating to the media and managing crisis events.

Massive media advertisement campaigns are generally too expensive for regulatory agencies However, specific educational mass-media campaigns may be needed to educate consumers about major changes in the market, such as introducing "calling party pays" tariffs, new numbering plans, or opening the long-distance market to competition.

School textbooks are another useful but often neglected channel to educate consumers about their rights. Education is a powerful albeit long-term action to shape people's attitudes about enforcing their rights as consumers. Nevertheless, very few government agencies use the educational system to inform consumers about their rights and duties.

Figure 20:



Source: Protection of Telecommunication Consumers Rights Survey, APOYO Consultoría.

International networking by consumer associations is emerging as an important means of self-education. Regulators have been invited to participate in some of their activities.

Box 28: Consumers International Regional Conferences on Public Services.

Consumers International (CI)[10] supports, links and represents consumer groups and agencies all over the world. It has a membership of more than 260 organizations in almost 120 countries and four regional offices. It strives to promote a fairer society through defending the rights of all consumers, including poor, marginalized and disadvantaged people, by:

- supporting and strengthening member organizations and the consumer movement in general
- campaigning at the international level for policies which respect consumer concerns.

Consumers International is an independent, non-profit organization. It is not aligned with or supported by any political party or industry. It is funded by fees from member organizations and by grants from foundations, governments and multilateral agencies.

The CI Latin American and Caribbean Office recently organized the second regional conference on public utilities. About 140 people attended the conference which included the participation of consumer organization representatives and experts from the United States and Europe, CI staff responsible for public utilities in Africa and Asia, and regulators from Latin America and the Caribbean.

Delegates participated in workshops on topics such as the representation of consumers on the boards of public utilities, access to and the quality of services provided by the public utilities , and public utility regulation and tariffs regimes.

The conference also shared the results of research carried out in four Central American countries: Nicaragua, Honduras, El Salvador and Guatemala by the Consumers and Public Services in Latin America project (CONSUPAL) which previously researched public services in Mexico, Colombia, Peru, Brazil and Chile. The research concluded that:

- Services in the Central American countries studied are deficient.
- Consumer participation should either be financed directly by the State or the government should allocate to consumer associations a percentage of the fines imposed on operators.
- A regional benchmarking study on tariffs is needed.
- Independent regulators are a key factor for effective participation by consumers in the regulatory process. Co-regulation by operators and regulators should be avoided, and joint work between consumers and the regulator should be fostered.
- Consumer's organizations should aim to reach a high technical capacity.
- Several policy instruments should be used to expand access to public utilities.
- Market transparency and equitable relationships with the operator are needed.

Source: www.consumersinternational.org

9. Research

Analysis of consumer claims and complaints to call centers are not by themselves sufficient to develop consumer protection policies. Research is needed to identify actual and predicted consumer problems, to assess the impacts of regulatory policies and operators' market strategies, and to devise best practices.

Continuous research is of paramount importance, especially to repeal, update, or phase-out policies that are no longer needed.

[10] For more information, see www.consumersinternational.org

Research conducted by the regulator may be useful not only for consumers but for market analysts and firms. An analysis comparing services offered by all operators, for example, not only enables competitive service providers to compare their offers, it reduces the costs for consumers in obtaining this information.

Agreements between the regulator and universities or research institutions may enable the regulator to obtain independent, high-quality and affordable research. Both qualitative and quantitative research methods are needed to capture information needed for decision-making, such as focus groups and statistical analysis.

Box 29: OFTEL's Consumer Research Program and Guidelines[11]

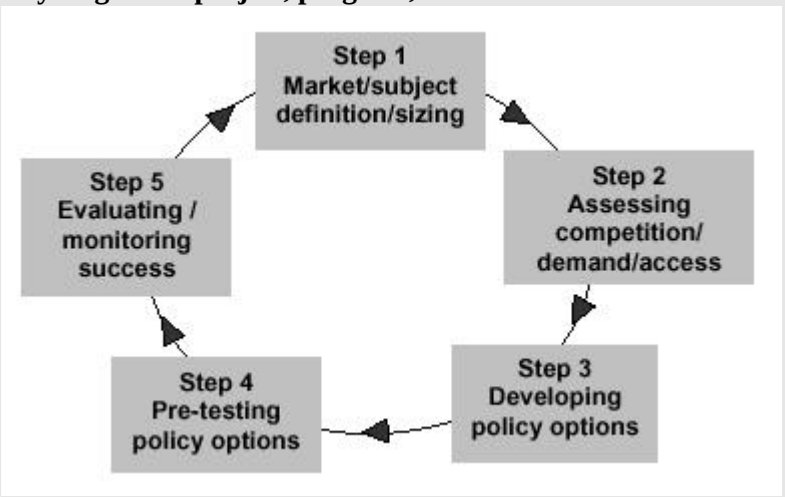
OFTEL developed an extensive consumer research program starting in 1999 which it uses throughout the full range of its work. Oftel publishes the results of its research and future research plans on a regular basis through OFTEL News. A recent news update published at the time of this report covers work done for residential and business groups. Residential research includes fixed telephony (i.e. the demographics of homes without a fixed line terminal, consumer spending on fixed line services, telecommunications services awareness and use of personal numbering services), Internet (method of accessing the Internet, type of package, and ISPs used, average time spent on-line each week, satisfaction with Internet service) and mobile telephony (penetration rates, switching behavior, use of mobile services abroad).

OFTEL recently released Consumer Research Program Guidelines to set out the ways in which research can be used to assist its decision-making. It is a simple and straightforward step-by-step procedure to conduct research geared towards regulatory decision-making. The guidelines steps are:

1. Any group of consumers can be examined ranging from the entire population of a country to a very specific segment (e.g. users of a particular product or service, or specific age or income groups).
2. Market research can contribute to some or all of the main stages of a project, program or case and, if used in conjunction with other sources of information, can assist in ensuring all decisions are based on sound evidence.
3. Market research can provide evidence from two main perspectives:
    - Customers – residential consumer and business behavior and attitudes
    - Suppliers - market behavior – e.g. what advice and information people are provided and how suppliers behave

[11] Taken from Oftel's web site, http://www.oftel.gov.uk/publications/about_oftel/2002/mare0602.htm

Box 29: OFTEL's Consumer Research Program and Guidelines (Cont'd)
Key stages of a project, program, where market research can contribute



Step 1: Market/area definition and sizing
How many consumers are using particular services, products, and suppliers? Are consumers substituting services to the extent that prices are constrained?

Step 2: Assessing level of competition, demand for and access to services
Which consumers use what services, products, and suppliers? What prevents consumers from making greater use of available choices? Which consumers pay more than they need to do they know / care?

Step 3: Developing policy options
Should the market/area being investigated be changed? Are any new policies or changes to existing policies needed? How could the market/service/area otherwise be improved?

Step 4: Testing policy proposals prior to introduction
How might consumers react to changes in the market? Who would use the new service supplier? What might assist the new market entrant to succeed, why might it not succeed?

Step 5: Evaluating and monitoring impact of policies once introduced
Has the policy achieved the intended impact on the market? What kind of improvements to benchmarking or other measurements are needed?

Research can be used to evaluate whether consumer information or initiatives have been successful (i.e. whether it was used/useful, whether consumer behavior/awareness changed as a result of the information).

A variety of research techniques are used to gather and analyze this information.

Surveys (phone, face to face, postal, Internet) samples can be drawn from the whole population, in any country, to specific subgroups, e.g., Internet customers, payphone users, those calling specific destinations, homes without a fixed phone.
Discussion groups and indepth interviews explore topics in considerable detail, diaries of individual behavior, generating ideas to assist policy development.
Mystery shopping. Mystery shopping is a market research term that refers to a researcher that acts as a consumer to determine what consumers are told about products, services, and suppliers.

Source: Oftel. www.oftel.gov.uk/publications/about_oftel/2002/mare0602.htm

10. Conclusions and recommendations

Consumers organizations are quite critical of consumer protection policies for telecommunication services. These have not been well defined and their enforcement level is low. Countries that have introduced competition, private operators, and national regulatory authorities are rated slightly better from a consumers' perspective but still fail to meet consumer expectations. Moreover, the majority of consumer organizations rate regulators overall performance as either mediocre or poor. Thus, consumer protection policies are of paramount importance to bring about sustainability to sector reforms.

Only a handful of consumer organizations view regulators' decisions as transparent. Consumer organizations believe that regulators are far better about publicizing fines imposed on operators and publishing rules that concern consumers. Consumer organizations, however, have little awareness of regulators' research activities and complaint resolution measures.

Among the areas that need to be improved, consumers point out customer service handled by the regulator, education on consumer rights and how to exert them, and foremost of all, participation and representation in the regulatory processes. Consumers feel that they were excluded from the initial decision-making process that led to sweeping changes in the provision of telecommunication services, including market structure, ownership and tariff regulation. Consumers organizations report cases where they have effectively enhanced the regulatory process, especially on consumer protection policies. However, they recognize that they need to improve their technical skills to be a more effective counterpart. Support to consumer organizations from the State, especially in less developed countries where subscription revenues do not cover association overheads, is needed and is also welcome.

The public sector may play several roles on consumer protection policies, including both protection and defense. Each role adds value to services provided to the consumer. These roles may be assigned to several government agencies: the general consumer agency, the telecommunication regulator, Ministries and Ombudsman among others. The regulator typically does not represent consumers, although some countries do have representatives appointed in their decision-making bodies. In some countries, the regulator may have the mandate to perform all roles except representation, which may be assigned to an ombudsman. Of course, not all countries ensure that all of these roles are assigned either to the government or private sector.

Because there are so many consumer issues to be addressed, policy makers and regulators must carefully define roles and allocate responsibilities between the public and private sector to avoid shifting responsibilities from operators to the regulator and to identify which activities, such as consumer complaint call centers, may better be outsourced to the private sector. It is in the regulator's best interest to create incentives for establishing policies that place a greater burden in terms of effort and costs on the private sector while ensuring adequate consumer protection.

Consumer complaint statistics in a number of countries demonstrate that telecommunication complaints generally rank at the top of all complaints registered–even after sector reforms and government-sponsored consumer programs have been implemented. An effective action plan to increase consumer satisfaction requires an understanding of the reasons why telecommunication consumers complain.

Implementation of improved end-user services will often require active involvement of the regulator since operators that exhibit market dominance often lack incentives to improve services.

Most specific consumer rights regarding telecommunications services are applications derived from general domestic consumer protection laws or from the United Nations Guidelines for Consumer Protection. It may be unwise to create a single set of telecommunications consumer protection principles since these are often developed to address specific local issues which evolve rapidly and

may become out-of-date. That said, a number of countries have adopted similar measures to provide consumer protection in the telecommunications sector. The most common policies are those regarding complaint resolution processes and the power to fine operators. It is a good practice for regulators to encourage both operators and consumers to participate in the creation of Codes of Practice that include dispute resolution procedures which may rely on the parties to resolve such disputes at the onset.

The extent to which consumer protection policies need to be codified is an on-going discussion. Some countries advocate the formal codification of consumer rights in law. Others argue that a better approach is to define general principles in a guideline and leave specific claims to be solved by jurisdictional dispute resolution bodies or Alternative Dispute Resolution mechanisms.

Several countries do not yet have formal institutional process to resolve complaints. Such complaints are particularly difficult in a monopoly environment coupled with limited consumer protection measures. The consumer is often limited to a choice between no service or bad service. A better option may be to resolve such complaints through formal institutional procedures such as arbitration, telecommunication ombudsmen, or administrative court-type institutions.

Although consumer associations cite clear improvement on the part of regulators in terms of transparency, disclosure of information, and establishing formal consultative institutions, they remain disappointed with current formal procedures. There are, however, some promising recent experiences or projects regarding consumer participation that could help regulators to improve the way they consult with consumers. Joint ventures on specific projects that include consumers associations, regulators and other government agencies may be an effective way of fostering closer working relations between consumers and the regulator. Consumer associations seek to forge alliances with national regulatory authorities so they may more effectively participate in regulatory processes.

Interactive consumer services refer to all methods regulators employ to communicate with individual consumers. Using the media to communicate with individual consumers is particularly challenging for regulators who must compete for the attention of the average individual consumer with news and entertainment services offered by a host of information providers. Moreover, it is often difficult to assess the costs and effectiveness of the different means used to convey the regulator's messages. At a minimum, regulators should aim to be reached easily by interested consumers. This includes creating a user-friendly Internet-site updated on a regular basis. It is important for regulators to incorporate a consumer's perspective when deciding the location of the headquarters and any branch offices. Regulators' offices are often located in government buildings that cannot be accessed by low-income groups at a reasonable cost.

Implementing consumer call centers is the next logical step. A simple, low-budget project may rely on current personnel to handle a relatively low number of calls, so that the incremental costs of providing the service remain modest. Later, the regulator may consider migrating to a system capable of handling more calls at lower unit costs, and which can analyze the data generated from the calls.

Regulators may even consider implementing a call-service center with training provided by local call-center operators. Call centers accessible throughout the country can be established, especially if regulators and consumers share the costs of calls. Operators should be able to provide a call-sharing scheme by which the regulator pays for long distance calls but consumers pay for local calls. Call centers enable regulatory bodies to increase the number of consumer complaints they resolve and provide a valuable service for consumers residing in towns where the regulator maintains no office. This information enable regulators to identify regulatory loopholes or new consumer protection initiatives. The publication of rules in the official governmental newspaper or registrar provides an excellent opportunity to include non-technical and user-friendly presentations of consumer-oriented rules.

Massive media advertisement campaigns are generally too expensive for regulatory agencies However, specific educational mass-media campaigns may be needed to educate consumers about major changes in the market, such as introducing “calling party pays” tariffs, new numbering plans, or opening the long-distance market to competition.

School textbooks are another useful but often neglected channel to educate consumers about their rights. Education is a powerful albeit long-term action to shape people’s attitudes about enforcing their rights as consumers. Nevertheless, very few government agencies use the educational system to inform consumers about their rights and duties.

Analysis of consumer claims and complaints to call centers are not by themselves sufficient to develop consumer protection policies. Research is needed to identify actual and predicted consumer problems, to assess the impacts of regulatory policies and operators’ market strategies, and to devise best practices. Continuous research is of paramount importance, especially to repeal, update, or phase-out policies that are no longer needed. Agreements between the regulator and universities or research institutions may enable the regulator to obtain independent, high-quality and affordable research.

Appendix

Organizations that participated in the surveys

Consumer Organizations

Americas

1. Argentina – Consumidores Argentinos
2. Bolivia – Comite de Defensa del Consumidor
3. Brasil – Instituto Brasilero de la Defensa del Consumidor
4. Chile – Organizacion de Consumidores y Usuarios de Chile
5. Chile – Consejo Nacional de Consumidores y Usuarios
6. Colombia – Consumidores Colombia
7. Ecuador – Tribunal Ecuatoriano de Consumidores y Usuarios
8. El Salvador – Centro para la Defensa del Consumidor
9. Guyana – Guyana Consumers Association
10. Jamaica – Consumer Affairs Commission
11. Mexico – Asociación Mexicana de Defensa del Consumidor
12. Nicaragua – Liga por la Defensa del Consumidor
13. Peru – Asociación de Consumidores y Usuarios
14. Peru – Defensoria del Pueblo
15. Republica Dominicana – Fundación por los Derechos del Consumidor

Africa

1. Benin – Que Choisir Benin
2. Cameroon – National Movement of Consumers
3. Niger – Association de Defense des droits des consomateurs
4. Seychelles – National Consumers Forum
5. Zambia – Zambia Consumers Association

Asia-Pacific

1. Australia – Australian Consumers Association
2. China – Hong Kong Consumer Council
3. Fiji – Consumer Council of Fiji
4. India – Consumer Education and Research Center
5. India – Voluntary Organization in the Interest of Consumers Education
6. Malasia – Persatuan Pennggguan Selangor dan Wilayah Perseutuan

Europe

1. Armenia – Union for Protection of Consumer R ights
2. Czech Republic – Consumers Defense Association of the Czech Republic
3. Croatia – Croatian Association for Consumer Protection
4. Kazakhstan – National Consumers League
5. Spain – Confederación de Consumidores y Usuarios
6. France – La Fédération de la Consommation du Logement et du Cadre de vie

Regulators

Americas

1. Argentina – Comisión Nacional de Comunicaciones
2. Bolivia – Superintendencia de Telecomunicaciones
3. Colombia – Comisión de Regulación de Telecomunicaciones
4. Colombia – Superintendencia de Industria y Comercio
5. Costa Rica – Autoridad Reguladora de los Servicios Públicos
6. Peru – Organismo Supervisor de la Inversión Privada en Telecomunicaciones
7. Dominican Republic – Instituto Dominicano de las Telecomunicaciones

Africa

1. Uganda –Uganda Communications Commission

Asia-Pacific

1. Australia – Australian Communications Authority
2. Mongolia - Communications Regulatory Commission
3. Nepal – Nepal Telecommunications Authority
4. Malaysia – Malaysian Communications and Multimedia Commission

Europe

1. Austria – Rundfunk und Telekom Regulierungs – GmbH
2. Denmark – National IT and Telecom Agency
3. Estonia – Estonian Communication Board
4. Finland – Finnish Communications Regulatory Authority
5. Germany – Regulierungbehorde fur Telekommunication und Post
6. Malta – Malta Communications Authority
7. Ireland – Office of the Director of Telecommunications Regulation
8. Portugal – Autoridad Nacional de Comunicaciones
9. Slovak Republic – Telecommunications Office
10. Sweden – Post & Telestyrelsen, National Post & Telecom Agency
11. United Kingdom – Office of Telecommunications