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**A PROPOSAL FOR UNIVERSAL ACCESS
TO BASIC TELECOMMUNICATIONS
SERVICES IN COLOMBIA**

by
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**A thesis submitted to the Faculty of Graduate Studies and Research in partial
fulfillment of the requirements of the degree of Master of Laws (LL.M.)**

**Institute of Comparative Law
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ABSTRACT

Taking into account the social and economic benefits of telecommunications development, universal access has gained remarkable importance in the sector's regulation. From a global perspective, the penetration of telephone lines in Colombia is quite poor; there are only seventeen lines for every one hundred people. In this thesis, access to telecommunications from a structural viewpoint is examined. According to social, economic, and historic factors, the approach to universal service in rural areas must differ from that of urban centers. While stronger government intervention is required in the Colombian countryside, the same rigid universal service regulation is not necessary in the main urban areas. This assumption is supported on two main arguments. Firstly, universal service regulation might protect self-serving interests while constraining the market from increasing the number of users. Secondly, the starting point of the rigid cross-subsidization structure is the economic capability of customers. This policy restricts greater penetration because it fails to consider people's communication interests and needs as the core objective of the telecommunications policy. Under a different approach, telecom operators might be able to accomplish successful market segmentation according to the particular needs of different regions and communities. Efficient market segmentation would acknowledge the low-income customer's potential in the market place, while at the same time encouraging innovation by operators. Thus, affordability and profitability would not oppose each other.

This thesis considers three different zones in the Colombian territory, showing that the Communications Fund's investment should be used in regions with greater levels of violence, poverty and migration. In addition, we propose that a universal access policy should be applied in order to shrink the already large gap between rich and poor people in the heterogeneous Colombian society.

RÉSUMÉ

En raison des avantages socio-économiques découlant du développement des télécommunications, l'accès universel a pris une importance particulière en matière de réglementation de secteur. De façon générale, le taux de raccordement téléphonique en Colombie est relativement faible: on compte seulement dix-sept lignes pour cent personnes. On retiendra ici une approche structurelle de l'accès aux télécommunications. Découlant des facteurs sociaux, économiques et historiques, l'analyse de l'accès universel est différent selon qu'il s'agit des zones rurales ou urbaines. Alors qu'une intervention gouvernementale renforcée est nécessaire dans les zones rurales colombiennes, une telle réglementation rigide n'est pas décisive dans les zones principales urbaines. Ce postulat repose sur deux arguments principaux. Premièrement, la réglementation du service universel peut protéger des intérêts propres en restreignant le marché afin d'accroître le nombre d'utilisateurs. Deuxièmement, le système rigide de subventions croisées est fonction de la capacité financière des utilisateurs. Une telle politique va à l'encontre d'une meilleure pénétration car elle ne considère pas les besoins et intérêts en communications de la population comme l'objet principal de la politique des télécommunications. Suivant cette dernière approche, les opérateurs en télécommunications peuvent parvenir à une segmentation profitable du marché l'adaptant aux besoins particuliers des différentes régions et communautés. Une efficace segmentation du marché tiendra compte du potentiel commercial que représentent les utilisateurs à faible revenus et encouragera les opérateurs à innover. Ainsi, prix abordables et rentabilité ne seront plus des intérêts opposés.

Finalement, cette thèse analysera trois zones différentes du territoire colombien. Le rôle de l'investissement du Fonds de Communication sera souligné en raison de son impact social important dans les régions à fort taux de violence, pauvreté et migration. C'est un plaidoyer en faveur d'un accès universel afin de réduire l'écart déjà important existant entre les populations riches et pauvres de la société hétérogène colombienne.

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TABLE OF CONTENTS

INTRODUCTION.....	1
The Gap between Rich and Poor Countries	5
CHAPTER 1: UNIVERSAL SERVICE IN COLOMBIA	8
1.1 The New Environment in Telecommunications	9
1.2 The Theory of Universal Service	10
1.2.1 The Problem.....	10
1.2.2 Defining Universal Service.....	11
1.2.3 The Definition in Colombia.....	12
1.2.3.1 The Scope of Universal Service.....	14
1.3 Measuring Penetration	15
1.4 Telecommunications Development and Sector Structure in Colombia.....	17
1.4.1 Regulation	19
1.4.2 Universal Service Policy.....	20
1.4.2.1 Social Telephony	21
1.4.2.2 Funding Plan	25
1.4.2.3 Financing Rural Areas	26
1.4.2.3.1 Social Minorities and People with Disabilities.....	27
1.5 The Goal: Universal Access.....	27
1.6 The Subsidy System.....	30
CHAPTER 2: CROSS-SUBSIDIZATION IN URBAN AREAS.....	34
2.1 USR is Vulnerable to Narrow Economic and Political Interests	36
2.1.1 Vulnerability of the Telecommunications Sector to Regulatory Capture	36
2.1.1.1 Public Interest Theory of Regulation.....	37
2.1.1.2 Economic Theory of Regulation.....	37
2.1.1.3 Regulatory Capture in Colombia?	38
2.1.1.4 The Regulatory Threat	41
2.2 Social Efficiency of the Subsidy Structure	41
2.3 The Incumbent Monopolies Do Not Benefit from Universal Service	48
2.4 A Rigid Tariff Structure Restricts Innovation and Limits Low-income Potential as Market Players.....	55
2.5 Increasing Access in Urban Areas	57
CHAPTER 3: STRUCTURAL APPROACH TO UNIVERSAL SERVICE IN COLOMBIA	60
3.1 Economic Relations	61
3.1.1 The Hungarian Example	61
3.1.2 Economic Relations in Colombia	66
3.1.2.1 Economic Relations	66
3.1.2.2 Economic System.....	68
3.1.3 Political Relations	70

3.1.3 Political Relations	70
3.1.4 Social Relations	72
3.1.5 The Industry Level.....	76
3.1.6 The Firm Level	77

**CHAPTER 4: A UNIVERSAL ACCESS POLICY THAT IS FOCUSED ON
SOCIAL NEEDS RATHER THAN THE CONSUMERS'
ECONOMIC CAPABILITY.....**

4.1 Rural Development, Telecommunications Infrastructure and Poverty.....	82
4.1.1 Violence	83
4.1.2 The Decreasing Productivity of the Colombian Countryside	85
4.1.3 Economic Differences Amongst Regions.....	87
4.1.4 Centralization and Decentralization.....	88
4.1.5 The Universal Service Policy Must Not Be So "Universal"	90
4.1.6 Understanding Regional Differences	93
4.2 Further Considerations	95
4.2 Further Considerations	98

CONCLUSION 100

BIBLIOGRAPHY 105

INTRODUCTION

Just as railroads once supported industrial societies, telecommunications is the backbone of the post-industrial age.¹ An efficient telecommunications infrastructure is required for the transition from industrialism to an information society.² Moreover, some studies suggest the direct impact of a basic telecommunications infrastructure on a country's economic growth.³

Access to telecommunications means competitiveness, the opportunity to exchange ideas, access to markets, public assistance and education.⁴ However, many people, particularly in developing countries, do not have access to basic telecommunications services.

Governments have tried to compensate for this lack of access by implementing public policies that guarantee access to services in low-income regions. During the last two decades, regulators have pursued the goal of universal service in the telecommunications sector.

¹ See J. Schmandt, F. Williams & R. Wilson, eds., *Telecommunications Policy and Economic Development: The New State Role* (Austin: Praeger - The University of Texas at Austin, 1989) at 7.

² See D. Bell, *The Coming of Post-Industrial Society: A Venture in Social Forecasting* (New York: Basic Books, 1973).

³ "Research has clearly demonstrated a correlation between telephone penetration and gross domestic product (GDP). It has shown the benefits of telecommunications both as an input and as a catalyst of development. ... [T]he addition of a single phone line contributes an average of \$3,700 to GDP in developing nations." B. Mody, J.M. Bauer & J.D. Straubhaar, eds., *Telecommunications Politics: Ownership and Control of the Information Highway in Developing Countries* (Mahwah, New Jersey: Lawrence Erlbaum Associates, 1995) at xvi.

⁴ See OECD, *Networks of Enterprises and Local Development* (Paris: OECD, 1996) at 54.

Universal service, a fundamental regulatory principle in basic services, attempts to equalize social opportunities by guaranteeing access to people who cannot afford the service.

Telephone service used to be regulated pursuant to the natural monopoly theory;⁵ where one provider can take advantage of economies of scale over the entire output necessary to service the market, the regulator must guarantee public benefits.⁶ But with technological change the paradigm has changed, and basic telecommunications have been opened to competition. However, regulation is still justified for three main reasons:

- (1) Telecommunications is a public service and, as such, requires State intervention.
 - (2) The market is not completely open because telecommunications are based on the use of networks. When more than one competitive provider use the same network, the system requires a regulator in order to guarantee interconnection rights.
 - (3) Governments have assumed that, in a competitive environment, telecommunications providers would not offer the service to unprofitable sectors.
- This assumption has led to universal service obligations.

Even though regulation pursues public benefits, it may also protect self-serving interests; the telecommunications sector is susceptible to such interests. Some studies suggest that

⁵ The Natural Monopoly theory concludes that production must be performed by a single enterprise in order to minimize costs. In order to develop the infrastructure, substantial investment is required before realizing economies of scale. Consequently, the provision of the service by a single entity is more efficient and economically rational. The same service offered by different providers would certainly end in a monopoly. According to the Natural Monopoly theory, the State should regulate the service to avoid price abuse. See D. Teece, "Telecommunications in transition: Unbundling, Reintegration and Competition" (1995) 4 Mich. Tel. Tech. L. Rev., <http://law.umich.edu/mttr> (date accessed: 28 January 1998).

⁶ See D. Raines, "Privatization of Telecommunications in Latin America" (1996) 48 Admin. L. Rev. 479 at 480.

regulation: (1) is often influenced by political interests, and (2) restricts market innovation.⁷ This thesis argues that most universal service regulations in Colombia are ineffective public policies, particularly as they apply to urban areas.

The international community has highlighted the importance of improving telecommunications infrastructure in order to better global welfare. Economic and social goals have motivated governments to enter into a new era in telecommunications services, and some economic agreements have been adopted in pursuit of these goals.⁸

The lack of access to telecommunications has been studied in several forums. At the 1998 World Telecommunication Development Conference, which took place in Valletta in March 1998,⁹ the Valetta Declaration and Action Plan acknowledged the importance of promoting private investment and fair regulation of competition.¹⁰ Furthermore, the Valetta Declaration emphasized the importance of evaluating the social, economic and cultural impacts of telecommunications.¹¹ This thesis considers those social, cultural and economic factors that should determine the universal access policy of Colombia.

⁷ "[O]ne of the major lessons of economics in the last fifty years is that regulation is almost never done right for a variety of reasons: imperfect information, industry "capture" of regulators and so on." M. Lemley & D. McGowan, "Legal Implications of Network Economic Effects", http://stlr.stanford.edu/STLR/Working_Papers/98_Lemley_1/ (date accessed: 28 June 1998) at 12.6.

⁸ In February 1997, under the General Agreement on Trade in Services (GATS), sixty-nine countries established their commitments relating to the market liberalization of some or all of their basic services. The WTO Agreement on Basic Telecommunications Services was incorporated as the Fourth Protocol to the GATS. See L. Sherman, *Introductory Note to World Trade Organization: Agreement on Telecommunications Services* (1997), <http://www.wto.org/wto/services/tel.htm> (date accessed: 15 February 1998).

⁹ See International Telecommunications Union, "ITU World Telecommunications Development Conference Press Release", <http://www.itu.ch/newsroom/press/releases/1998/98-16.html> (date accessed: 2 April 1998).

¹⁰ See *ibid.*

¹¹ See *ibid.*

Telecommunications development is threatened by two factors: (1) the failure to acknowledge regional differences, and (2) the use of telecommunications as an instrument of "regulatory capture".

If social differences intensify, Colombia will be unable to realize an appropriate level of development. Access to basic services can be either a way to distribute economic benefits or to magnify social differences. According to international comparisons, Colombia is one of the countries with the greatest disparities in welfare distribution; the average income is thirty times greater in the highest Colombian social class than in the lowest.¹² If access to information becomes an important economic factor, the potential for a widening gap will have a devastating effect on social stability.¹³ As one of the most violent countries in the world, any step that Colombia takes to diminish social distinctions is a step towards peace.¹⁴

This thesis analyses social and communications inequalities and suggests that universal access policies must vary according to the needs of different regions and people. Firstly,

¹² See J. González & O. Argos, "Eficiencia Económica y Distribución del Ingreso" in J. Bernal, ed., *Integración y Equidad: Democracia, Desarrollo y Política Social* (Bogotá: Viva la Ciudadanía, 1994) 163 at 177.

¹³ C. Handy, "Finding Sense in Uncertainty" in R. Gibson, ed., *Rethinking the Future: Rethinking Business, Principles, Competition, Leadership, Markets and the World* (London: Nicholas Brealey, 1997) at 27:

Economic progress has turned out to be an empty promise. We had hoped to have a fairer society. A more ordered society. A society where people basically lived sensible, quiet, decent lives. And it's not turning out like that. We have societies which are much more divided than we wanted them to be, because in our relentless search for "efficiency" we are polarizing ourselves into the "haves" and the "have-nots"... So the rich still get richer while the poor get poorer, sometimes in relative and sometimes in absolute terms.

¹⁴ See M. Deas & F. Gaitan, *Dos Ensayos Especulativos Sobre la Violencia en Colombia* (Bogotá: FONADE, 1995).

there are regional contrasts inside the country. Secondly, there is a competitive disadvantage for the country in a global information society. Although telecommunications technology is heightening development, it might widen the already large gap between rich and poor countries.¹⁵

Although the telecommunications infrastructure in Colombia has grown faster than in other developing countries, penetration rates are still inadequate. Telecommunications underdevelopment is the consequence of structural failures. Economic, social and political structures determine the actual level of penetration and must be considered during the policy-making process.

The Gap between Rich and Poor Countries

Underdevelopment is attributed to "pervasive market imperfection".¹⁶ Developing countries require a vigorous approach to universal service different from that utilized in high-income economies. Under the current circumstances, global welfare will be difficult to achieve.¹⁷ While a small part of the world has easily-accessible telephone service, four-fifths of the world's population does not have the same facility.¹⁸

¹⁵ "Without action on the part of the world community, there is a very real danger that the global information society will be global in name only; that the world be divided into the "information rich" and the "information poor"; and that the gap between developed and developing countries will widen into an unbridgeable chasm." ITU, *World Telecommunications Development Report 1998, Executive Summary*, http://www.itu.ch/ti/publications/WTDR_98/wtdr98se.pdf (date accessed: 2 April 1998).

¹⁶ A. Amsden, *A Strategic Policy Approach to Government Intervention* (Ann Arbor: The University of Michigan Press, 1996) at 120.

¹⁷ "As we never tire of repeating, in spite of the marvelous progress of technology, perhaps two-thirds of the world's people have never made a phone call." H. Chasia, "Innovative Options for Rural

Some statistics help to illustrate these discrepancies:¹⁹

- Sixty-two percent of all main telephone lines have been installed in twenty-three developed countries, which comprise only fifteen percent of the world's population.
- Although sixty percent of the population in developing countries lives in rural areas, more than eighty percent of the main telephone lines are found in urban regions.
- Eighty-four percent of mobile cellular subscribers, 91 percent of all facsimile machines and 97 percent of all Internet host computers are found in developed countries.²⁰
- In 1992 the number of main telephone lines in the world for each one hundred inhabitants was 10.49. In 1996 this number increased to 12.88. While this represents a 20% increase in 4 years, little of that increase has spread to developing countries.
- There are more cellular phones in Thailand than in the entire continent of Africa.
- Only thirty-four percent of households worldwide have access to telephone service.
- Forty-two million households worldwide are currently on the waiting list for telephone service.
- Six hundred and seventy-six million households cannot afford a telephone connection. This number is higher than the number of households with telephone service, which is 504 million.
- One-quarter of International Telecommunications Union (ITU) members have less than one telephone for every one hundred people.
- While more than ninety percent of Canadians have access to a telephone, ninety percent of southern Africans have never used one.²¹
- There are more telephones in Hong Kong (population of 6 million people) than in the southern African region (130 million people).²²

This thesis supports the hypothesis that two different approaches to universal service are needed in Colombia, one for urban areas and one for rural areas. In urban areas, effective regulation of competition can better accomplish social objectives than excessive State intervention through universal service regulation; the rigid cross-subsidization structure

Telecommunications" (Speech at ITU Conference in Intelevent 97, Budapest, 30 September 1997), <http://www.itu.int/chasia/speeches/1997/intlev97.html> (date accessed: 7 July 1998).

¹⁸ "Approximately 4 billion of the world's 5 billion people still do not have a telephone". Mody, Bauer & Straubhaar, *supra* note 3 at xvi.

¹⁹ See ITU, "ITU Releases Key Report on Universal Access to Telecommunications" <http://www.itu.ch/newsroom/press/releases/1998/98-07.html> (date accessed: 2 April 1998).

²⁰ See *ibid.*

²¹ The southern African region includes Angola, Namibia, South Africa, Zambia, Botswana, Tanzania, Mozambique, Malawi, Swaziland, Lesotho and Zimbabwe. See S. Tabares, "Regional Telephone Communications Law and Development in Southern Africa" (1996) 3 *Telecomm. & Sp. L. J.* 231 at 233.

²² See *ibid.*

currently in place is not socially efficient because it does not induce solutions to the deepest social problems. On the other hand, rural areas require more government intervention and participation. The Colombian countryside is characterized by violence, poverty, migration and regional disparities, and due to these factors, the State must intervene in order to promote social development. In contrast, in rural areas market forces alone will not increase the public benefits resulting from the telecommunications infrastructure. The current universal service policy has failed to equalize intervention and investment in these two different sectors of the Colombian territory. This thesis ultimately suggests that policy makers and regulators must concentrate their universal service policies and investments in rural areas.

This study is divided into four chapters. The first chapter examines the universal service theory and universal service policies in Colombia. The second chapter analyses the public benefits of the rigid cross-subsidization structure in Colombia's urban areas. The third chapter analyzes the structural considerations of telecommunications development and the impact of this structure on rural areas. Finally, the fourth chapter explains the necessity to recognize regional differences within the universal service policy of Colombia.

Developing countries should be informed about the problems associated with following a uniform model of regulation.

CHAPTER 1

UNIVERSAL SERVICE IN COLOMBIA

This chapter describes the basic universal service theory and the approach to universal service in Colombia.

"I dreamed of wires extending all over the country and of people in one end of America talking to people in another part of America."²³

The concept of universal service was introduced at the beginning of the century by then AT&T President, Theodore Vail,²⁴ who wanted all consumers to subscribe to his telephone system.²⁵ He believed that the more lines his company installed, the more important the system would become. However, few lines made the new service almost useless.

There are two substantive elements to the current analysis of the universal service concept. Firstly, digitalization and convergence have led to increased competition. Secondly, universal service is an evolving concept.²⁶ This study shows that access to telephone lines is the first step in achieving universal service, given that Colombia has not yet achieved anything close to complete penetration of telephone lines.

²³ Alexander Graham Bell, quoted in C.C. Miller, "Whither Unregulated Access Competition?", Book Review on *Universal Service: Competition, Interconnection, and Monopoly in the Making of the American Telephony System* by M.L. Mueller Jr., <http://www.lawindiana.edu/> (date accessed: 8 February 1998).

²⁴ See *ibid.*

²⁵ See *ibid.*

²⁶ Once a universal service goal is accomplished, the definition may change.

1.1 The New Environment in Telecommunications

The break up of AT&T in 1984 started a revolution in the telecom market²⁷ that has had a number of regulatory landmarks, including the 1987 European Commission Green Paper on the Development of the Common Market for Telecommunications Services and Equipment²⁸ and the 1996 World Trade Organization (WTO) agreement to liberalize basic telecommunications services. The Reference Paper that forms part of the WTO Agreement states that "any member has the right to define the kind of universal service obligation it wishes to maintain".²⁹ The purpose of the Agreement is to liberalize the global market. However, this approach purports to protect market players from anti-competitive regulations rather than obligating them effectively to guarantee universal service. It is worth asking whether, in this era of globalization, markets have become more important than society and consumers more important than people.

When telephone service was provided by monopolies, the State pursued universal access through rules imposed on the providers. But only the most developed countries achieved any significant levels of penetration for telephone service.

²⁷ In 1982 the Modification of Final Judgment in the United States divested AT&T's local-exchange operation by providing the local exchange companies with equal access to all the interchange carriers of long-distance services. See A. Danielsen & D. Kamerschen, *Telecommunications in the Post-Divestiture Era* (Lexington, Mass.: Lexington Books) at 18.

²⁸ S. Laudo, "The European Community's Road to telecommunications Deregulation", (1993) 62 Fordham L. R.

²⁹ See WTO, "Reference Paper - Agreement on Basic Telecommunications Services", <http://www.wto.org/press/refpap-e.htm> (date accessed: 9 February 1998). The Reference Paper is incorporated into the commitments of over 60 Member States.

Within the new competitive telecommunications market, providers might not offer services in non-profitable sectors of society,³⁰ which are primarily rural areas composed of low-income consumers³¹ that require special protection by the State.³² However, new technologies have made network expansion cheaper.³³ Furthermore, effective competition should increase the market players' interest in acquiring new customers. The question is whether, in the current environment, low-income earners can be effectively protected by universal service regulation.

1.2 The Theory of Universal Service

1.2.1 The Problem

A service is "universal" when everyone in a given territory has access to it. Policy makers have two main concerns. The first is whether people can afford universal service and network development, while the second is how to define universal service.³⁴ The definition

³⁰ "People have a right to essential services regardless of where they live or their ability to pay. Government Business Enterprises have an obligation to take into account structural inequities which restrict access by some groups to essential services. Low income people will be disproportionately affected by prices changes." Victorian Council of Social Services submission to a Parliamentary inquiry in Australia. For the quotation, see OECD, *Universal Service Obligations in a Competitive Telecommunications Environment*, Information, Computer, Communications Policy No. 38 (Paris: OECD, 1995) at 25.

³¹ Economic and location factors have determined whether or not one person has access to a telephone line. The first factor refers to affordability and the second to those areas where the development of the network is more expensive.

³² However, some authors do not support the above point of view. Gwen Urey holds that the argument that supports the necessity to extend services to the less privileged sectors is only a political discourse. "Even in industrialized countries, marginal groups, by definition, are irrelevant to arguments about strategic industries." G. Urey, "Telecommunications and Global Capitalism" in Mody, Bauer & Straubhaar, *supra* note 3 at 78.

³³ See M. Feldman, "Commercial Speech, Transborder Data Flows and the Right to Communicate under International Law" (1983) 17 Int'l Lawyer 87.

³⁴ See C. Kirkham, "Busting the Administrative Trust: An Experimentalist Approach to Universal Service Administration in Telecommunications Policy" (1998) Colum. L. Rev. 620 (LEXIS/NEXIS).

is important because it determines the scope of services that should be considered universal in order to determine the obligations of the providers.

The regulatory process must, in addition to basic considerations, weigh structural factors, such as history, geography, economic performance and welfare distribution among people and regions.

1.2.2 Defining Universal Service

A proper definition seeks an appropriate balance between the interests of the consumers and those of the providers.³⁵ Regulators must establish the types of services that should be considered to be "universal" in order to guarantee their availability.³⁶ For example, the US Telecommunications Act of 1996³⁷ incorporated, within the scope of universal service, the obligation to provide advanced services to schools, libraries and health care institutions, and the Federal Communications Commission (FCC) established subsidized Internet access

³⁵ "Defining the scope of the universal service obligation represents a delicate balance. Too narrow a vision of universal service and the citizen may be kept out of full participation in society. Too broad a vision and the competitive forces which are the principal driver of better services, lower prices and greater innovation will be held back as new players in the market will be deterred from entering the market." EC Commission, *Universal Service for Telecommunications in the Perspective of Fully Liberalized Environment*, <http://europa.eu.int/en/record/telecom/en/chap3.html> (date accessed: 2 April 1998).

³⁶ See Access for All, "Universal Service", <http://accessforall.org/universal.html> (date accessed: 29 June 1998).

³⁷ See A. Hammond, IV, "The Telecommunications Act of 1996: Codifying the Digital Divide" (1997) 50 *Indiana L. J.*, http://www.law.indiana.edu/cgi-bin/print_hit_bold.pl/fclj/pubs/v50/no1/hammond/html (date accessed: 8 February 1998).

for schools. Telecom providers are opposed to such high obligations.³⁸ High universal service obligations may hinder firms' competitiveness in local and global markets.

The European Commission has adopted a restrictive definition,³⁹ which is based on three arguments: (1) that a broad concept may result in users paying for services they do not want,⁴⁰ (2) that an extensive definition may decrease the interest of new entrants, and (3) that the EC must achieve its first universal service objective (telephone penetration) before assuming another.⁴¹

1.2.3 The Definition in Colombia

Resolution 087 defines "universal service" to mean the following in Colombia: "Universal Service is the minimum group of telecommunications services established from time to time, of a certain quality, accessible to the entire population independently of their geographical location at a reasonable price."⁴²

³⁸ The "Education Rate Program" attempted to collect \$1.3 billion in 1998. Most of the money came from long distance providers. Infobeat News, "FCC Will Underfund but Not End School Internet Subsidy", <http://www.infobeat.com/stories/cgi/story.cgi?id=2554601631-ca9> (date accessed: 16 June 1998).

³⁹ Community Legislation defines universal service as "a defined minimum set of services of specified quality which is available to all users independent of their geographical location and, in the light of specific national conditions, at an affordable price." EU Commission, *First Monitoring Report on Universal Service in Telecommunications in the European Union*, <http://www.ispo.cec.be/infosoc/telecompolicy/en/unisrvmain.doc> (date accessed: 20 march 1998).

⁴⁰ See E. Paul & G. McKenna, "Universal Service: The EU Approach" (1996) 3 *Telecomm. & Sp. L.J.* 213 at 216.

⁴¹ See *ibid.*

⁴² Resolution 087 de Septiembre 5 de 1997, art 1.3.65. [Translated by Comision de Regulacion de Telecomunicaciones (C.R.T.)] [hereinafter *Resolucion 087*].

It is important to note some distinctions among concepts. For instance, the ITU differentiates between "universal service" and "universal access". "Universal service" is considered to be a developed-countries approach, referred to as a telephone line in every home,⁴³ while "universal access" means access to a telephone line within a reasonable distance.⁴⁴ Under these definitions, developing countries should establish "universal access" objectives.

In Colombia, both "universal service" and "universal access" have different meanings. Resolution 087 of 1997 defines universal access as "the right that all users of Basic Public Switched Telephony (PBST) have to communicate with any other user of the telecommunications network of the Government or with any other foreign telecommunications network".⁴⁵

A third concept to be considered is social telephony. The "Social Telephony Plan" has as an objective the operation and maintenance of telephony service for urban and rural users who, because of their income levels, cannot pay the entirety of the rates for the service.⁴⁶

It is important to note the differences among the three concepts. "Universal access" is a right for current customers. "Universal service" defines the minimum set of common services. "Social telephony" is the public policy that pursues universal service. For the

⁴³ See ITU, "World Telecommunications Development Report 1998: Universal Access - Executive Summary", http://www.itu.ch/ti/publications/WTDR_98/wtdr98se.pdf (date accessed: 2 April 1998)

⁴⁴ See *ibid.*

⁴⁵ See *Resolución 087*, *supra* note 42, art 1.3.2. [Translated by C.R.T.].

⁴⁶ See *ibid.*, art 1.3.44. [Translated by C.R.T.]

purposes of this thesis, the term "universal service" is used to describe the general objective of making telephone service accessible to everyone in Colombia.

Universal service is an evolving concept. According to Resolution 087, the minimum level of services that should be considered in the range of universal service may change in the future.⁴⁷ Due to the increase in technology and new offers of services, what today is considered a new technology might tomorrow be considered an essential service. For example, the Internet is a new and growing telecommunications service whose penetration in Colombia is below one percent of the population.⁴⁸ According to the National Plan of Communications,⁴⁹ by the year 2007 Internet penetration will have reached only 2.7% of the population.⁵⁰ However, in the near future the Internet may be included within the scope of universal service in some developed countries.

1.2.3.1 The Scope of Universal Service

The range of services supplied pursuant to a universal service obligation should not be more extensive than needed by the country. Universal access obligations in Colombia are limited to voice telephony. Providers have four basic universal service obligations:⁵¹

- (1) to make available public phones, which must be adapted to transmit voice, fax and data when possible;

⁴⁷ See *ibid.*, art 1.3.65.

⁴⁸ In 1997, there were 164,000 users. Penetration reached 0.5% of the population. See Ministerio de Comunicaciones, "Plan Nacional de Comunicaciones", <http://www.crt.gov.co> (date accessed: 2 March 1998), table 4.1 [hereinafter *Plan Nacional de Comunicaciones*].

⁴⁹ In 1997, the Ministry of Communications proposed a National Plan of Communications for the period 1997-2007. The Plan is divided into ten chapters, one being the Social Telephony Plan.

⁵⁰ See *ibid.*, table 4.1.

⁵¹ See *Resolucion 087*, *supra* note 42, art. 6.3.

- (2) to contribute five percent of gross revenues to the Communications Fund;
- (3) to offer access to telephone books; and
- (4) to offer special access to people with disabilities.

This range of services is meant to reflect the capacity of the sector. However, policy makers have failed to monitor whether phones thus supplied are in fact used effectively. It is questionable for the Communications Fund to finance the installation of telephone lines unless social and economic research documents their use. It seems that public policies focus on increasing the number of lines for the sake of "increasing the number of lines" rather than ensuring that increases reflect increased access.

1.3 Measuring Penetration

"Teledensity", the most common measure of universal service, assesses the number of main telephone lines per every one hundred inhabitants.⁵² However, teledensity weighs the development of the infrastructure rather than the level of penetration. For example, with the advent of the Internet, more lines for residential customers are necessary, but such demand is restricted to those customers who already have a telephone line. Consequently, an increase in the number of telephone lines does not mean that they will be used by people who did not previously have access to a phone.

⁵² A teledensity of 10 indicates that there are 10 lines for each 100 people.

According to ITU statistics, a teledensity of forty-five implies penetration reaching more than ninety percent of the population.⁵³ In 1996, the teledensity in Colombia was only twelve lines per one hundred people.⁵⁴

Teledensity is a useful parameter for drawing comparisons.⁵⁵ However, there are other yardsticks to determine penetration:⁵⁶

- (1) Distance. This is measure of the number of lines per kilometer. This criterion gives a better idea of communication in rural areas. However the National Plan of Communications does not consider this indicator.⁵⁷
- (2) Time: This is measure of the number of lines within a specific number of walking minutes.⁵⁸
- (3) Other indicators: One telephone per family,⁵⁹ and one community telephone per village.⁶⁰

The current policy in Colombia is based on two indicators: (1) the percentage of people with access to basic services,⁶¹ and (2) the number of villages with access to main telephone lines.⁶²

⁵³ See ITU, *Universal Access Report*, <http://www.itu.int/newsroom/ress/WTDC98/WTDR/sld017.htm> (date accessed: 2 April 1998) [hereinafter *Universal Access Report*].

⁵⁴ See ITU, *supra* note 43.

⁵⁵ ITU comparisons among countries are based on teledensity. See *ibid.*

⁵⁶ See *Universal Access Report*, *supra* note 53.

⁵⁷ See J. Rentería, "Plan Nacional de Telecomunicaciones Visto por Dentro", (1997) 4.11 *Revista Colombiana de Telecomunicaciones*, <http://www.colciencias.gov.co/cintel/revista/vol4n11/visto.html> (date accessed: 23 March 1998).

⁵⁸ See ITU, *supra* note 43.

⁵⁹ China follows a mixed system: there is one telephone per family in urban areas and a telephone service to every administrative village in rural areas. See *ibid.*

⁶⁰ For example, Colombia.

1.4 Telecommunications Development and Sector Structure in Colombia

Basic Telecommunications Indicators in Colombia:*

Figure 1

Indicator	Value as of 1996
Telephone density (lines in service)	13.7 lines per 100
Telephone density (lines installed)	17 lines per 100
Public Telephone Density	1 per 1,000
Mobile cellular and PCS density	1 per 100
Line waiting time average	8 months
Number of failures per line per year	1.7
Time to fix a line failure	40% of lines fixed within 10 days
Household coverage	30% (estimate)
Range of rural coverage	From 60% to 72% of villages
TV access rate	90% households
TV per-subscription access rate	20% households
Internet access	25,000 users

* International Telecommunications Union, "Case Study of the Changing International Telecommunications Environment: Colombia" (Draft Report 1998), http://www.itu.ch/wtpf/cases/final/colom_tk.pdf (date accessed: 28 April 1998).

Network development is directly related to penetration. In Colombia, the number of telephone lines has increased slowly. In 1965 there were 365,850 lines,⁶³ and the number increased to 878,000 by 1975.⁶⁴ In 1985, there were 2,057,980; in 1995 the number had increased to 4,904,746.⁶⁵ These statistics show a uniform increase of 230% per decade.

⁶¹ "Secondly, it is the purpose of the government to accomplish penetrations of 75% in estrato 2 households, and 25% of estrato 1 households in the National level." This amounts to 15 lines per 100 inhabitants in estrato 2 and 5 lines per 100 inhabitants in estrato 1. *Plan Nacional de Comunicaciones*, *supra* note 48 at 6-3.

⁶² *Ibid.*, s. 6.

⁶³ See Empresa Nacional de Telecomunicaciones, *Del Maguare a la Fibra Optica: Crónica de las Comunicaciones* (Santafé de Bogotá: Gente Nueva, 1995) at 244.

⁶⁴ See *ibid.* at 253.

⁶⁵ See J. Tafur, "Desarrollo de la Telefonía Social en Colombia", *Revista CINETEL*, <http://www.colciencias.gov.co/cintel/revista/> (date accessed: 20 March 1998).

Furthermore, digitalization reached seventy percent in 1995, which is expected to grow to eighty-three percent by the year 2000.⁶⁶

Despite the fact that teledensity does not measure the number of people who can communicate, it gives an indication of telecommunications development. In 1996, there were 13.7 lines in service per one hundred people.⁶⁷ In comparing the teledensity of South American countries, Colombia is behind Argentina, Chile and Uruguay.

Figure 2*

Country	Population Total - Density**	GDP per capita in US \$	Main Telephone lines per 100 inhab.
Argentina (92)	33.1 - 12	3,945	11.12
(96)	35.22 - 13	8,042	17.38
Bolivia (92)	7.8 - 7	660	2.38
(96)	7.59 - 7	939	4.32
Brazil (92)	156.3 - 18	2,745	6.83
(96)	157.8 - 19	4,591	9.57
Chile (92)	13.6 - 18	2,340	8.92
(96)	14.42 - 19	4,714	15.59
Colombia (92)	33.4 - 29	1,310	8.44
(96)	39.51 - 35	2,044	11.76
Ecuador (92)	- 23	1,070	4.95
(96)	11.7 - 25	1,563	7.33
Paraguay (92)	- 11	1,420	2.83
(96)	4.96 - 12	1,820	3.56
Peru (92)	21.9 - 17	2,295	2.81
(96)	23.9 - 19	2,440	5.99
Uruguay (92)	- 17	3,155	15.72
(96)	3.2 - 17	5,564	20.89
Venezuela (92)	20.7 - 23	2,655	8.71
(96)	22.7 - 25	3,438	11.74

* Based on Basic Indicators International Telecommunications Union 1994 and 1998.

** Density per km².

⁶⁶ See ITU, Draft Report, *Case Study of the Changing International Telecommunications Environment: Colombia* (1998), http://www.itu.ch/wtpf/cases/final/colom_tk.pdf (date accessed: 28 April 1998) at 6 [hereinafter *Case Study*].

⁶⁷ See *ibid.*

Despite the number of lines, the main problem in Colombian telecommunications development is its focus on urban centers, particularly in the biggest four cities. In 1987, despite the government's efforts to expand the service,⁶⁸ 75% of the telephone lines were installed in four cities and 94% were in forty urban centers.⁶⁹

1.4.1 Regulation

The State is responsible for the development, exploitation and distribution of public services.⁷⁰ The Ministry of Communication is the policy maker. The *Comisión de Regulación de Telecomunicaciones* (C.R.T.)⁷¹ is an independent regulator, as established in 1992. It has operated independently from the government since 1994.⁷² However, the fact that its members are nominated by the Colombian President⁷³ suggests vulnerability to political interference.

The Ministry of Communications' Decree 1900 of 1990 was the first regulatory measure modifying the telecommunications environment,⁷⁴ and in 1994, Law 142 of 1994 introduced the general framework for competition⁷⁵ and liberalization.⁷⁶ Before the market

⁶⁸ In 1978 the government proposed the National Plan for Rural Telephony.

⁶⁹ See *Empresa Nacional de Telecomunicaciones supra* note 63 at 256

⁷⁰ See *Constitucion de Colombia*, art. 334.

⁷¹ Telecommunications Regulatory Commission.

⁷² See *Resolucion 087, supra* note 42, title VIII.

⁷³ The CRT is composed of four members: The Ministry of Communications and three experts, which are appointed by the President. See *ibid.*, art. 8.7.

⁷⁴ Market liberalization spread to Latin American countries by 1990. The Colombian President, César Gaviria, introduced several reforms to the State, including relaxation and incentive to foreign investment, labor reforms, and market liberalization.

⁷⁵ See *Ley 142 de Julio 11 de 1994*, art. 2.6 [hereinafter *Ley 142*].

⁷⁶ Every person has the right to operate public services enterprises. See *ibid.*, art. 10.

opened to competition, the structure was composed of one long distance monopoly, *Empresa Nacional de Telecomunicaciones* (TELECOM), and thirty-seven local operators.⁷⁷ In 1996, competition started in the local service market.⁷⁸ Liberalization of the long distance market has been affected by several obstacles.⁷⁹ In 1992, the Colombian President, Cesar Gaviria, developed a process to privatize some public entities.⁸⁰ The government wanted to open up the long distance provider, TELECOM, to private sector ownership.⁸¹ As a result, TELECOM's labor union sabotaged long distance telecommunications for one week.⁸² Negotiations ended with an agreement to suspend the privatization process. So far privatization has not been possible, but competition in the long distance market started in 1998.

1.4.2 Universal Service Policy

Two elements are the backbone of the universal service policy in Colombia. Firstly, network development is supported by the Communications Fund. Secondly, low-income consumers are subsidized by high-income consumers. The following describes the main elements of the social telephony policy in Colombia.

⁷⁷ See *Case Study*, *supra* note 66.

⁷⁸ In 1996, CAPITEL, owned by TELECOM Colombia, entered into competition with the former monopoly, *Empresa de Teléfonos de Bogotá* (ETB).

⁷⁹ Despite governmental efforts to open the long distance market to competition, the process was not successful until October 1998.

⁸⁰ This process was called "Apertura". See J. Ramirez, "The Colombian Apertura: An Assessment" in E. Posada-Carbo, ed., *Colombia: The Politics of Reforming the State* (London: Institute of Latin American Studies University of London) 187.

⁸¹ In February, 1992 the government proposed the privatization of TELECOM.

⁸² See *Empresa Nacional de Telecomunicaciones*, *supra* note 63 at 288.

1.4.2.1 Social Telephony

Social telephony is the public policy that attempts to supply telephone services to inhabitants in rural and urban areas who cannot afford regular tariffs.⁸³ The subsidy system in Colombia is different from that of other countries because the structure is supported by the cross-subsidization among customers. In most rural regions, the long distance monopoly, TELECOM, provided the service.⁸⁴ However, since the introduction of competition cross-subsidization among services is no longer permitted.⁸⁵

Tariffs for public services are established according to economic stratification.⁸⁶ Subsidies are granted to the people with the lowest incomes, and the installation is financed by using regional⁸⁷ and national funds.

The system consists on six "*estratos*",⁸⁸ *estrato* one composed of the people with the lowest income and *estrato* six, of the people with the highest incomes.⁸⁹ Subsidies are granted to *estratos* one, two, and three.⁹⁰

Estrato 1: 50% of the regular tariff.

Estrato 2: 40%.

⁸³ See *Resolucion 087*, *supra* note 42, art. 1.3.44.

⁸⁴ See *Plan Nacional de Comunicaciones*, *supra* note 48 at 6-1.

⁸⁵ See *Resolucion 087*, *supra* note 42.

⁸⁶ See *Ley 142*, *supra* note 75, art. 86.2.

⁸⁷ See *ibid.*, art. 89.1.

⁸⁸ The following are the six residential *estratos*: 1. Low-low. 2. Low. 3. Middle-low. 4. Middle. 5. Middle-high. 6. High. See *ibid.*, art. 102.

⁸⁹ Each municipality must divide its population among these six *estratos*. Neighborhoods are classified according to the average incomes of their inhabitants.

⁹⁰ See *Ley 142*, *supra* note 75, art. 99.6.

Estrato 3: 15%.

Estrato 4 and Public Offices: Neutral.

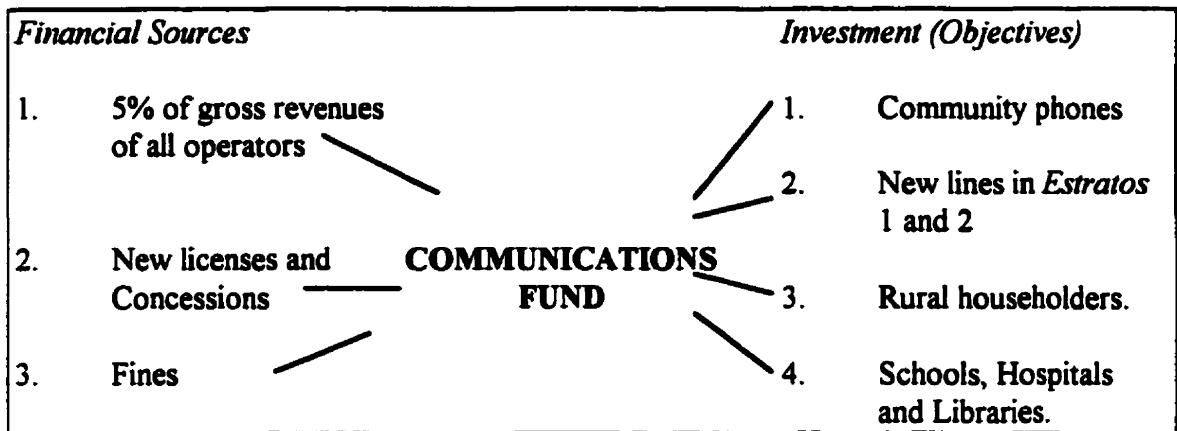
Estratos 5 and 6: 120%.

A person in *estrato* one benefits from the universal access policy in two ways. Firstly, the installation may be financed by the Communications Fund through the local operator. Secondly, once a customer has the service, he or she will be given a preferential rate of 50% of the regular tariff. The first mechanism is the social telephony policy and the second is the subsidy system.

Although this is the national policy, it is not easily applied in every region. While in Santafe de Bogota there are many users in *estratos* five and six, in small towns there are no consumers in the highest *estratos*. If there are not enough customers in the highest *estratos*, there are no subsidies.

The second "actor" of the policy is the Communications Fund, whose main objective is to finance universal access. Figure 3 outlines the main financial sources and the general objectives of this policy structure.

Figure 3



The Communications Fund has three main sources of financing: five percent of the gross revenues of all operators, concessions to new operators and services, and fines imposed on operators.⁹¹ The fund's income is expected to grow to US \$2 billion in the next ten years.⁹² The Universal Service Plan has four main objectives.⁹³ The first objective is to install community phones in those villages without service.⁹⁴ The government estimates that 2,000 villages in the country do not have access to telephone service. All of them should have service by the year 2000.⁹⁵ The second objective is to install 1.7 million telephone lines in *estratos* one and two in the next ten years.⁹⁶ The third goal is to increase penetration in rural areas. Two hundred and ten thousand lines should be installed in not-

⁹¹ See *Plan Nacional de Comunicaciones*, *supra* note 48 at 6.

⁹² See *ibid.*

⁹³ See *ibid.* at 6-2.

⁹⁴ Community phones will be installed in those sectors where householders cannot afford even subsidized services. See *ibid.*

⁹⁵ See *ibid.* at 6-4.

⁹⁶ See *ibid.*

remote rural areas.⁹⁷ Finally, there is an institutional objective, which is to supply access to information systems to schools, hospitals and public libraries.

According to the marketing forecast of the Communications Plan, the number of installed lines is expected to increase from 18.8% in 1997 to 30.1% by the year 2007, while the number of lines in service is expected to increase from 15% in 1997 to 24% by 2007.

*Figure 4*⁹⁸

Year	Expected demand	Installed lines	Lines in services	Number of lines per employee
1997		6,700 lines 18.8% penetration	5,360 lines 15% penetration	198
1998		7,362 20.3%	5,840 16.2%	174
1999		7,981 21.6%	6,385 17.3%	155
2000		8,572 22.8%	6,857 18.2%	139
2001		9,163 23.9%	7,331 19.1%	127
2002		9,754 25.0%	7,803 20.0%	118
2003		10,943 26.0%	8,755 21.6%	110
2004		10,943 27.1%	9,253 22.5%	103
2005		11,566 28.1%	9,757 22.5%	98
2006		12,196 29.1%	9,757 23.3%	93
2007		12,827 30.1%	10,262 24.0%	89

⁹⁷ Non-remote rural areas are those that are no further than 5 kilometers from the center of the municipality.

⁹⁸ See *Plan Nacional de Comunicaciones*, *supra* note 48, figure 4.1. at 4.3.

Despite the fact that there was not any ten-year plan in previous years, the expected increase in telephone lines is the same increase per decade since 1965, 230% in ten years.

1.4.2.2 Funding Plan

Social telephony plans were implemented in 1995. In the first year, the Communications Fund invested \$10,198,000,000 pesos (1995 US \$10 million), financing the installation of 12,980 new lines;⁹⁹ 9,030 were installed in rural areas and 1,888 in urban centers.¹⁰⁰ In 1996, the Fund invested US \$7.3 million in the installation of 3,183 new lines in rural areas, and US \$8.6 million for 41,246 new lines in urban areas.¹⁰¹ One million new lines should be installed in 1,018 municipalities between 1997 and 2000.

The C.R.T. established the goals that should be accomplished by the Social Telephony Plan between 1997 and 2000:¹⁰²

- (1) Penetration for villages must increase from 60% in 1998 to 100% by the year 2000.
- (2) The Fund should invest only in the following: local community phones, local public phones, rural community phones, rural public phones, and private phones in *estratos* 1 and 2.

⁹⁹ See Consejo Nacional de Política Económica y Social (CONPES), "Documento CONPES 2925: Plan de Telefonía Social 1997-2000", <http://www.dnp.gov.co/Publicac/Conpes/Docs/776/2925.htm> (date accessed: 20 June 1998).

¹⁰⁰ See *ibid.*

¹⁰¹ See *ibid.*

¹⁰² Resolución 067 de Mayo 21 de 1997.

- (3) The priority is the installation of community and public phones.
- (4) The Plan must be revised annually.

1.4.2.3 Financing Rural Areas

The Social Telephony Plan considers three kinds of areas: (1) sub-urban, (2) non-remote rural, and (3) remote rural.¹⁰³ The Communications Fund should finance the total investment in sub-urban areas¹⁰⁴ and non-remote rural regions.¹⁰⁵ In remote areas,¹⁰⁶ where future use rates will not guarantee recovering the investment, the Fund will only finance the installation of community phones;¹⁰⁷ they will be installed in convenience stores and public places. These kind of public phones must be able to make and receive calls.¹⁰⁸ In the next ten years, the government will invest US \$24.2 million in order to install two thousand community phones.¹⁰⁹

¹⁰³ See *Plan Nacional de Comunicaciones*, *supra* note 48.

¹⁰⁴ Sub-urban areas are considered to be small urban centers, which are different from big and intermediate cities.

¹⁰⁵ See *supra* note 97.

¹⁰⁶ Those areas that are located more than 5 kilometers away from the center of the closest village.

¹⁰⁷ See *Plan Nacional de Comunicaciones*, *supra* note 48 at 6-9.

¹⁰⁸ See *ibid.* at 6-9.

¹⁰⁹ See *ibid.*

1.4.2.3.1 Social Minorities and People with Disabilities

Resolution 087 recognizes some additional obligations for operators of basic services. Users will also have other rights, such as access to unified telephone books, and telephones will be accessible to people with disabilities.¹¹⁰

1.5 The Goal: Universal Access

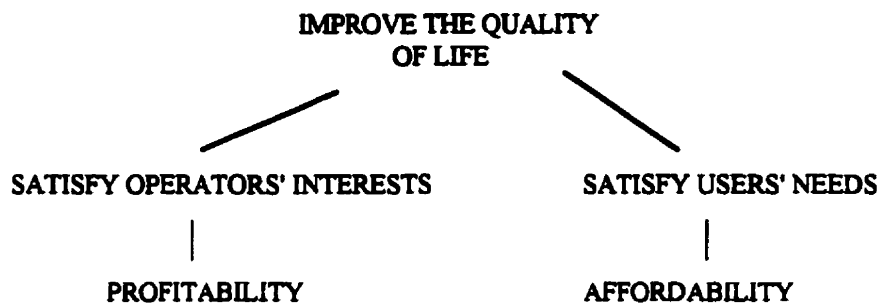
The goal of the telecommunications sector in Colombia is to elevate the quality of life of Colombian inhabitants through its telecommunications infrastructure.¹¹¹ Telecommunications should promote the political, economic and social development of the country.

The following section describes the structure and the different assumptions supporting telecommunications infrastructure.

¹¹⁰ See *Resolucion 087*, *supra* note 42, art 6.3.

¹¹¹ "Los servicios de TPBC deberán ser utilizados como instrumento para impulsar el desarrollo político, económico y social del país con el objeto de elevar el nivel y la calidad de vida de los habitantes en Colombia." *Resolucion 087*, *supra* note 42, art. 2.1.

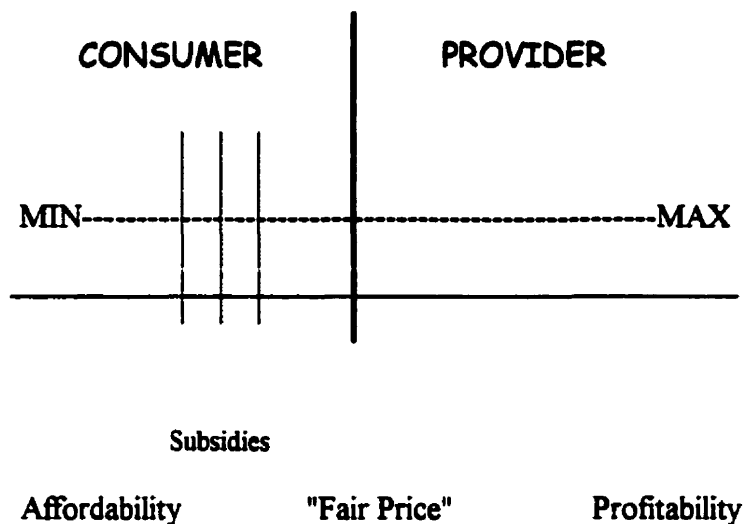
Figure 5



In competitive markets, universal service can be explained as a conflict between affordability and profitability. The conflict can be explained using the following assumption: Any service has a specific fair price. Anything above that price means more excess profitability for the provider and anything below that price means excess affordability for the customer.

Customer and provider interests thus oppose each other. Since some people cannot afford the service, the key for regulators lies in reconciling both interests. On the one hand, making the service a profitable business attracts investment. On the other hand, making the service more affordable attracts customers. In the case of low-income consumers, regulators seek to find a compromise.

Figure 6



This simple graphic describes the conflict of interests faced in achieving universal service. According to the consumers' interests, the optimum price would be zero, and according to the providers' interests, the optimum price would be the maximum that it could charge a consumer without provoking cancellation of subscription. A variety of factors can alter this equation. Government intervention can oblige market players to offer service to low-income users (subsidies). This relation between the interests of market players and users might be interpreted as the relation between efficiency and equity.¹¹² The State has tried to protect efficiency in order to offer competitive services, and equity in order to guarantee social justice. At first glance, competition pursues efficiency and regulation seeks equity. Cross-subsidies promote access for low-income users and high-cost areas. The economic

¹¹² See González, *supra* note 12.

discussion concerns how efficient the protection of equity is through subsidies, and how efficient the protection of competition is through regulation.

The following section describes the subsidy system as the key element in the current structure so as to find the proper balance to the conflict of consumer and provider interests.

1.6 The Subsidy System

An adequate pricing system is instrumental in promoting cost efficiency and expanding the network. Cross-subsidization has been a common practice in telecommunications. For example, telecom providers used to cover the operation of one service at a lower incremental cost,¹¹³ by using revenues from another service.¹¹⁴ Cross-subsidization has used the following rate-setting concepts:¹¹⁵

- (1) Long-distance service subsidizing local service. The Fully Distributed Cost methodology distributes costs among categories of services of regulated firms.¹¹⁶

The regulator allocates common costs of the network between local and long-distance services.¹¹⁷

¹¹³ "Incremental cost is the addition to the firm's total cost when its output of a service expands by a selected increment." F. Miller, "Predatory Pricing in Deregulated Telecommunications Markets" (1997) 21:2 World Competition: L. & Econ. Rev. 65 at 82.

¹¹⁴ "A cross-subsidy exists when the revenues from one service are used to price another service below its incremental costs." A. Larson, "Cost Allocations, Predation, and Cross-Subsidies in Telecommunications" (1988) 14:2 J. Corporation L. 377 at 380.

¹¹⁵ See L.S. West, "Deregulation Telecommunications: The Conflict Between Competition and Universal Service" (1996) 9 DePaul Bus. L.J. 159 (LEXIS/NEXIS).

¹¹⁶ See Larson, *supra* note 114.

¹¹⁷ See West, *supra* note 115.

- (2) Business customers subsidizing residential users. This involves the "Value of Service Pricing" system. Despite the fact that the cost of providing the service is the same, the rate is determined by the value the service has for different customers.¹¹⁸ While the cost for the provider is the same, the cost for the business customer is higher than for the residential customer.
- (3) Light users subsidizing heavy users. Through flat rates for local service, customers pay a monthly rate without considering its use.
- (4) Urban and Rural areas. Regulation has been required to expand the network to those areas with low or nil return on the investment. The Rate - Averaging system requires all the users of a service to pay the same price for the service.¹¹⁹
- (5) High-income households subsidizing low-income households. This is the current structure in Colombia. High-income sectors of the population pay more, while low-income sectors pay less.

In Colombia, the fully-distributed cost and rate-averaging systems have been used to subsidize rural areas. The long distance monopoly has provided the service in some rural areas, and local operators have averaged their rates for rural and urban users. Nevertheless, in urban areas cross-subsidization has benefited low-income consumers.¹²⁰ Tariffs for telecommunications services are established according to income levels and economic stratification.¹²¹

¹¹⁸ See *ibid.*

¹¹⁹ See *ibid.*

¹²⁰ See ITU, "Case Study of the Changing International Telecommunications Environment: Colombia, Draft Report", http://www.itu.ch/wtpf/cases/final/colom_tk.pdf (date accessed: 5 May 1998).

¹²¹ See *Ley 142*, *supra* note 75.

The following example represents the pricing system in the city of Manizales in July 1998:

Figure 7 ¹²²

In US dollars. 1 dollar: 1.450 pesos.

	Min. charge per call	Consume	Installation
Estrato 1	1.90	0,007 per min	107.04
Estrato 2	2.27	0,008	128.42
Estrato 3	2.66	0,010	150.43
Estrato 4	3.54	0,013	199.94
Estrato 5	4.24	0,016	239.93
Estrato 6	4.24	0,016	239.93
Industrial	4.24	0,016	239.93
Commercial	4.24	0,016	239.93
State offices	3.54	0,013	199.94

Some authors¹²³ in the United States have discussed the economic efficiency of the subsidy system.¹²⁴ Kaserman and Mayo suggest that fully-distributed cost pricing may reduce efficiency losses by more than US \$10 billion annually in the United States.¹²⁵ Such subsidies among services ~~is~~ not permitted under the current regulatory framework in Colombia.

¹²² Email from andres.villegas@usa.net (Andres Villegas, Billing Department, EMTLSA) to montoy_a@lsa.lan.mcgill.ca (Andres Montoya), "Billing Telephone Services in Manizales" (received 28 July 1998).

¹²³ See West, *supra* note 115.

¹²⁴ "An efficient pricing system usually exists when the price of a good or service is equal to the marginal cost of producing it." D. Kaserman & J.Mayo, "Cross-Subsidies in Telecommunications: Roadblocks on the Road to More Intelligent Telephone Pricing" (1994) 11:1 Yale J. Regulation 119 at 123.

¹²⁵ See *ibid.* at 121.

It is argued that the system creates disincentives to use the service.¹²⁶ Furthermore, subsidies might better be invested by developing new technology. Besides, advances in technology have decreased costs. On the other hand, it is argued that the cross-subsidization system is designed principally to maintain political support.¹²⁷

Despite the fact that subsidies according to the economic stratification is an incentive for low-income consumers, it is an expensive obligation for the provider, especially in small cities, where the number of customers in the higher *estratos* is a relatively small minority.¹²⁸

Tariffs in Colombia are lower than in other Latin American countries.¹²⁹ The National Plan of Communications suggests that these tariffs should increase, risking affordability.

¹²⁶ "If the Universal Service charge were lower, long-distance rates would drop and the amount of minutes sold would increase." *Ibid.*

¹²⁷ Kaserman and Mayo consider the system to be pervasive and inefficient. Regulators have not adopted a more efficient system due to "important political consequences". Kaserman & Mayo, *supra* note 124 at 120.

¹²⁸ In Manizales, for example, almost eighty percent of public services users are located in the four lower estratos. Only twenty percent is in the higher category, which means that twenty percent of the users must support the large majority. Consequently, prices must go up in order to preserve the system. See "Desmonte de Subsidios: Corto Circuito" *Periódico [Newspaper] La Patria*, <http://www.lapatria.com/hoy02.shtml> (date accessed: 11 November 1998).

¹²⁹ See *Plan Nacional de Comunicaciones*, *supra* note 48 at 4.1.

CHAPTER 2

CROSS-SUBSIDIZATION IN URBAN AREAS

*"Every exercise of the lawmaking function is accompanied by certain tacit assumptions, or implicit expectations, about the kind of product that will emerge from the legislator's efforts and the form he will give to that product."*¹³⁰

The government can utilize different means to finance access for low income customers. General tax revenues should attend to other investment priorities, and any increase has considerable political costs. Consequently, the sector must distribute its own resources. Cross-subsidization has been common practice in telecommunications. There are two basic sources for subsidization. Firstly, the government pays the provider a subsidy for the provision of the basic service to low-income customers.¹³¹ Secondly, the service provider directly finances the provision of the service to low-income customers.¹³²

Cross-subsidization is usually associated with economic inefficiency,¹³³ and universal service may be considered "an instrument for regulatory capture".¹³⁴ The following chapter proposes that the current universal service regulation (USR) in Colombia does not

¹³⁰ L. Fuller, "The Implicit Laws of Lawmaking" in K.I. Windston, ed., *The Principles of Social Order* (Durham, N.C.: Duke University Press, 1981).

¹³¹ In Colombia, it is used in electricity services.

¹³² See B. Mitchell & I. Vogelsang, *Telecommunications Pricing: Theory and Practice* (Cambridge: Cambridge University Press, 1991).

¹³³ See Kaserman & Mayo, *supra* note 124.

¹³⁴ T. Kelly, "Universal Service: An Instrument for Regulatory Capture?" (1995) 2 *Telecomm. & Sp. J.* 1995 at 75.

necessarily promote the public utility benefits that it purports to pursue in urban centers. On the contrary, the current structure restricts competition. Although competition is not an end in itself, effective competition can better benefit public interests. Effective competition, for example, lowers prices. In OECD countries, prices have fallen faster in competitive than in non-competitive environments.¹³⁵ In the Philippines, new licenses were awarded in 1993. The increase in lines was greater in one year than "in all the previous years added together".¹³⁶ Chile adopted different policies to improve the telecommunications infrastructure, one of them being to eliminate cross-subsidization.¹³⁷ Chile has increased penetration more than any other Latin American country.¹³⁸

The following are the main arguments supporting the hypothesis that the current subsidy structure in Colombia does not necessarily further its well-intentioned objectives:

- (1) Universal service regulation is vulnerable to the economic and political influence.
- (2) The current structure does not encourage social development.
- (3) The incumbent monopolies would be injured if universal service were accomplished.
- (4) A rigid tariff structure limits innovation in competitive markets.
- (5) With the advent of competition and new technology, low-income consumers are potential market players.

¹³⁵ See *ibid.* at 79.

¹³⁶ *Ibid.* at 79.

¹³⁷ See H. Buchi, *La Transformación Económica de Chile: Del Estatismo a la Libertad Económica*, (Bogotá: Norma, 1993).

¹³⁸ See figure 2 above.

2.1 USR is Vulnerable to Narrow Economic and Political Interests

Despite the fact that regulation seeks to guarantee social benefits, some of its characteristics suggest that it does not always accomplish its explicit social objectives. The economic theory of regulation¹³⁹ explains this phenomenon. It is not the purpose of this thesis to prove particular economic or political benefits of telecommunications regulation in Colombia. However, this study presents some arguments against the current system and regulation.

2.1.1 Vulnerability of the Telecommunications Sector to Regulatory Capture

Regulation interferes with market performance,¹⁴⁰ and such interference may advance or impede social goals. Sometimes regulators must help one sector of the economy in order to protect public interests.¹⁴¹ Regulation is the result of different interests. Thus, there are two types of regulation: (1) regulation that protects public interests, and (2) regulation that responds to self-serving interests. This chapter emphasizes the economic and political interests involved in telecommunications regulation.

¹³⁹ George J. Stigler proposed this theory in 1971 in his article entitled "The Theory of Economic Regulation".

¹⁴⁰ See B.M. Mitnick, *The Political Economy of Regulation* (New York: Columbia University Press Review, 1980) at 2.

¹⁴¹ For example, when the purpose is to protect a socially sensitive sector because of the employment it generates. Those means might be tax benefits, subsidies, or import controls.

2.1.1.1 Public Interest Theory of Regulation

Telecommunications is a social commodity.¹⁴² The State must intervene in order to guarantee equal access and opportunities, a concept that is based on the assumption that telecommunications providers will not supply the service to non-profit-generating consumers. Consequently, the State intervenes through regulation that attempts to correct market imperfections.¹⁴³ This is the "rationale of government regulation".¹⁴⁴

The public interest theory of regulation explains regulation as a process of seeking public interest benefits.¹⁴⁵ In telecommunications, "regulators will adopt pricing policies that enhance overall economic efficiency while simultaneously promoting universal service".¹⁴⁶ Price caps are a common practice used to protect consumers from market players' abuse.

2.1.1.2 Economic Theory of Regulation

*"As a rule, regulation is acquired by the industry and is designed and operated primarily for its benefit."*¹⁴⁷

¹⁴² "A commodity is defined as socialized if every consumer is given the opportunity of equal access to the consumption of the good or service regardless of his income or wealth." See D. Bös, *Public Enterprise Economics: Theory and Application* (Amsterdam: Elsevier Science Publishers B.V., 1986) at 35.

¹⁴³ See Peacock, *infra* note 148 at 8.

¹⁴⁴ *Ibid.*

¹⁴⁵ See Kaserman & Mayo, *supra* note 124.

¹⁴⁶ *Ibid.* at 142.

¹⁴⁷ G.J. Stigler, "The Theory of Economic Regulation" (1971) 2:1 *Bell J. Economics & Management Science* (quotation in Peacock, *infra* note 148 at 15).

At first glance, market players might dislike regulation because it restricts market freedom. However, market players can also be protected by regulation because it restricts market entry. Hence, regulation can be used by market players to avoid new competition. Some studies suggest that regulation is used by market players in order to protect or augment their profits.¹⁴⁸ Current tariff regulation in Colombia restricts new competitors' ability to enter because it is difficult to penetrate a market under high universal service obligations.

The economic theory of regulation explains that regulators' decisions reflect particular political or economic objectives.¹⁴⁹ This behavior is also called "regulatory capture".¹⁵⁰ It assumes that people are motivated by the same reasons not only in their private but also in their political behavior.¹⁵¹ Consequently, regulation is subject to political and economic pressure. Under such pressure, interest groups benefit from regulation.¹⁵² According to the "Interest-group Theory of Government", all government activities can be interpreted as a response to interest-group pressures.¹⁵³

2.1.1.3 Regulatory Capture in Colombia?

The telecommunications sector is particularly vulnerable to regulatory capture, as suggested by two recent facts in the development of the sector. The first is the process of

¹⁴⁸ See A. Peacock, *The Regulation Game: How British and West German Companies Bargain with Government* (New York: Basic Blackwell, 1984).

¹⁴⁹ See Kaserman & Mayo, *supra* note 124.

¹⁵⁰ See Peacock, *supra* note 148 at 14.

¹⁵¹ See *ibid.*

¹⁵² See Kaserman & Mayo, *supra* note 124.

¹⁵³ See *ibid.*

opening up the long distance market to competition in Colombia. The second is that two recent awards of license in the telecom sector have been questioned in light of corrupt practices.

1. The liberalization of the long distance market suggests vulnerability to regulatory capture

Competition in telecommunications services was introduced in Colombian legislation by Law 142 of 1994. However, competition only began in October 1998 because the process was extremely slow. Political factors account for this.

The TELECOM Union paralyzed long distance communications in 1992, demonstrating its strong political position. The Union's power became even more evident during a period of political instability between 1994 and 1998. At this time, the President of Colombia, Ernesto Samper, was accused of having received money from Cali's drug trafficking cartel. The accusations created the worst political instability in the past two decades. However, the President gained the support of the main labor unions, including TELECOM. Had the government opened up the long distance market to competition, it would have lost the union's support. Thus, the government was not interested in opening the market, a factor that benefited the State-owned provider.

The introduction of competition depended on the coming into force of a C.R.T. resolution. This resolution should have been promulgated ten months after the adoption of Law 142 in

1994,¹⁵⁴ but a resolution was suspended by the *Consejo de Estado*.¹⁵⁵ A new resolution was promulgated only in 1997; only as a consequence of several *acciones de tutela*.¹⁵⁶ The Commission might not be interested in taking the final step in the liberalization process during a period of political instability, and the government was protected by the Union's support.

2. Corruption in public auctions

During the same period of political instability, the government had the opportunity to confer new licenses in radio and TV. In the course of the licensing process, the Minister of Communications was caught in a private conversation, the objective of which was to favor one of the bidders in the public process, something he in fact did. One of the President's supporters was favored in the public auction.¹⁵⁷

The second notorious incident provided the granting of TV news licenses. In 1996, the government awarded new licenses for newscasts on the two main State-owned networks. The licensing of newscasts by the *Comisión Nacional de Televisión*¹⁵⁸ favored the political

¹⁵⁴ Resolución 014 de Agosto 14 de 1994.

¹⁵⁵ The Consejo de Estado is the Supreme Court of Administrative Law.

¹⁵⁶ The *acción de tutela* is a public process used to protect any person from violation of his/her fundamental human rights. The *Comisión de Regulación de Telecomunicaciones* promulgated four resolutions in order to comply with judges' orders. See Resolución 068 de Junio 11 de 1997, Resolución 078 de Julio 8 de 1997, Resolución 079 de Julio 18 de 1997, Resolución 080 de Julio 18 de 1997, which all complied with judicial orders and established the requirements for Resolución 087.

¹⁵⁷ See Revista Semana, "Conversación entre Ministros", <http://semana.com.co/users/semana/ago18/nacion.htm> (date accessed: 18 July 1998).

¹⁵⁸ National Television Commission.

supporters of the President during the political crisis while eliminating the President's main political rivals from public newscasts.¹⁵⁹

2.1.1.4 The Regulatory Threat

The previous examples are only indications of regulatory capture in the Colombian telecommunications sector. The main regulatory threat is that Universal Service has required strict tariff regulation, and this regulation may protect incumbent monopoly providers. If current universal service regulation benefits market players rather than society, its structure should be modified according to the telecommunications' goal.

2.2 Social Efficiency of the Subsidy Structure

Subsidies to market demand are a social policy based on "*focalización*".¹⁶⁰ The government identifies vulnerable groups in the population and grants them subsidies.

The current subsidy structure in Colombia clearly demonstrates income redistribution goals. Through a subsidy structure, governments gain political support. Since it is a social policy, we will concentrate on the social efficiency of the current structure.

¹⁵⁹ E.g., see Semana, "La Revancha de Mejía", <http://semana.com.co/users/semana/nov10/television.htm> (date accessed 18 July 1998).

¹⁶⁰ "*Focalización*" is a social policy that identifies vulnerable sectors of society and offers direct subsidies upon demand. In Latin America it was introduced by the Chilean government in order to solve the housing problem. See Buchi, *supra* note 137 at 131.

Regulators have assumed that low income customers require a lower tariff in order to use the service. Despite the positive effects of establishing subsidized tariffs, they are not necessarily socially efficient. The following arguments suggest that the structure can produce the opposite effects.

1. Telecommunications providers will concentrate on high income customers because it is the most profitable business

"*Empresa de Telecomunicaciones de Servicios Agregados*" (EMTELSA) is a local operator of telephone service.¹⁶¹ The firm studied the economic effects of the current stratification structure and concluded that the enterprise cannot afford more than two customers in the lowest two *estratos* per every six customers in the highest two *estratos*.¹⁶² While *estratos* five and six pay 120% of the regular tariff, *estratos* one and two pay only 50% and 60%, respectively. In order to subsidize one customer in *estrato* one, the operator needs three customers in *estratos* five and six. On the other hand, only twenty percent of the population in Manizales¹⁶³ live in *estratos* five and six.¹⁶⁴ This means that if the operator offers the service to all the population, the enterprise would end in bankruptcy. Consequently, EMTELSA has had to reject applications from low income customers under the argument of no available telephone lines.¹⁶⁵ If twenty percent of the population in one city has to subsidize the other eighty percent, universal service will never

¹⁶¹ It is the local operator in the city of Manizales.

¹⁶² See Villegas, *supra* note 122.

¹⁶³ Manizales is an intermediate city in the Andean region of the country. Its has a population of approximately five hundred thousand people.

¹⁶⁴ See La Patria, *supra* note 128.

¹⁶⁵ See Villegas, *supra* note 122.

be accomplished because the sector must be profitable to generate those subsidies. Moreover, prices will finally increase, making the service less accessible to everyone.¹⁶⁶

Subsidized tariffs increase access for some low-income consumers. However, the opposite effect is that subsidized tariffs do not encourage telecom providers to offer the service to low income customers. On the contrary, unless the subsidy has neutral income effects for providers, their market strategy concentrates on high-income consumers.

2. Subsidies can promote service waste rather than rational use

Communication means are used for different purposes, and not all of them ought to benefit from universal service policy. For example, economic activity, access to emergency and health systems and political participation are purposes that merit promotion. However, the telephone can also be used for "unnecessary communications". For example, one can use the telephone for gossip. In the Colombian society, such conversations can last for hours. When a subsidized service is used for gossip and "useless" conversations, subsidization is not accomplishing its purpose. However, it would be impossible for the telecom provider to differentiate between useful and useless conversations. One system might be to create usage caps; once the use has reached the cap, the user would lose the subsidized tariff.

When the budget of a customer is limited, he/she must ration its use. Consider the following example.

¹⁶⁶ See Buchi, *supra* note 137.

A seeks a telecommunications service. A's economic capacity to afford the service is "1X". However, the price is 2X. In order to equalize A's capacity and the price, there are two options:

Option 1: To reduce the price (2X) to 1X through a subsidy.

Option 2: Telecommunications tariffs depend on the use of the service. Consequently, in order to equalize the capacity and the price, the user will use the service less than someone who can afford the total price. Because of A's economic capacity, A will have to use the service only half of the desired time. This is rationing. Subsidization restricts operators' interest in the low-income market while failing to consider the consumer rationing alternative.

3. Effective competition can better reduce prices than government intervention

"One key to the formulation of appropriate deregulatory policy is the recognition that where competition is effective, the market regulates the activities of firms far more surely in the public interest than can be achieved by the best of public-utility style regulation".¹⁶⁷

Under the current conditions of technological change, a market with efficient competition can well serve the public interest. This assumption favors the emergence of a multi-supplier private sector. However, it is commonly argued that public policies should not favor market players in sensitive sectors such as public services. Politically, it has been

¹⁶⁷ R. Willig, "Contestable Market Theory and Regulatory Reform" in J. Allison & D. Thomas, eds., *Telecommunications Deregulation: Market Power and Cost Allocation Issues* (New York: Quorum Books, 1990) 103 at 104.

easier to promote a clear social policy such as subsidization rather than favoring market forces.¹⁶⁸ The former Finance Minister of Chile, Hernán Buchi believes that the challenge of the government is not to favor the private sector. The real task is to persuade people that the market can be more efficient in delivering social benefits than State intervention.¹⁶⁹

The fact that competition is possible in the telecommunications sector does not guarantee that competition *per se* will increase public benefits. In the absence of significant market power,¹⁷⁰ the presence of competitors or the lack of barriers to market entrances will control prices. Incumbent providers will maintain affordable prices, and competition can increase the number of customers while reducing prices.¹⁷¹

Competition is effectively protected under the current regulation.¹⁷² The regulation also guarantees interconnection rights and establishes a different tariff structure according to market power. Resolution 087 of 1997 establishes three different kinds of tariffs: (1) regulated tariffs, (2) supervised tariffs, and (3) tariff freedom.¹⁷³ Regulated tariffs are established for those providers with market power. Whatever the tariff regime, providers must maintain the subsidy structure.

¹⁶⁸ An inhabitant with no economic background will believe that a tariff favoring low income people is equitable. However, policy makers cannot prove the social justice of structural policies that eventually will reduce prices for all.

¹⁶⁹ See Buchi, *supra* note 166 at 155.

¹⁷⁰ Market power determines several regulatory conditions. For example, in Colombia it determines the tariff system. In Germany, market power determines the identity of the universal service provider.

¹⁷¹ For example, during the first two months of competition in the long distance market, prices decreased by more than fifty percent, which is equivalent to the subsidized price in estrato one.

¹⁷² Resolución 087, *supra* note 42, title III.

¹⁷³ See *ibid.*, art. 5.8.

Nevertheless, as is discussed in the following section, subsidies can dissuade the entrance of new competitors. The theory of perfectly contestable markets¹⁷⁴ supports the argument that in the absence of market power, effective competition is the best way to serve public interests.¹⁷⁵ Public style regulation cannot guarantee public benefits in the same way as markets can.¹⁷⁶

4. *The subsidy structure is a regulatory barrier to new entry and capital in the sector*

The current rigid subsidy structure does not in itself impede new competitors from entering the market. However, it does discourage investor interest because of the high operating costs it implies. Entrepreneurs seeking profitable opportunities for entry will enter into a market if they can offer better prices than the incumbent provider and if the service will still be profitable at these lower prices.¹⁷⁷

The current pricing system forces new entrants to compete for the small segment of *estratos* five and six customers so as to offset the unprofitable subsidized customers. But this puts them in a price squeeze, since they must lower *estratos* five and six prices to get those customers, which in turn makes subsidized customers, paying a fraction of *estratos* five and six prices, more expensive.

¹⁷⁴ See Willig, *supra* note 167.

¹⁷⁵ See *ibid.* at 104.

¹⁷⁶ "It is equally valid and widely understood that public-utility style regulation, no matter how well intentioned and skillfully implemented, cannot succeed in achieving the same benefit for the consuming public as competition would provide if it were viable." *Ibid.* at 104.

¹⁷⁷ See *ibid.*

The telecommunications sector requires high investment. Recent history shows that the State was unable to invest the high amounts of capital that the sector requires. If investors are discouraged from investing, this affects competition negatively.

The system denies the less privileged population access to the market place. It does not trust their ability to ration use. In addition, it limits social justice to satisfaction of needs rather than orienting public policy toward deeper social structures such as unequal distribution of incomes.¹⁷⁸

5. The tariff structure does not necessarily embody the redistribution principle it pursues

While incomes are thirty times higher in the highest *estratos* than in the lowest,¹⁷⁹ the prices of public services are no more than three times lower. Therefore, redistribution is only partial. Furthermore, even at subsidized prices, universal service is a far off dream in some sectors of society.

If the provision of the service has a price, under current economic conditions universal service will not be possible in several regions. It is not possible for people whose daily income is less than US \$2 to afford private service. The following example illustrates this problem:

¹⁷⁸ See González & Argos, *supra* note 12 at 175.

¹⁷⁹ See Introduction, above.

Consider a new user in *estrato* one in Manizales¹⁸⁰ whose monthly income is the minimum wage (US \$180). His family is composed of his wife and two children. If he makes phone calls an average of only ten minutes per day, he will pay approximately US \$6.¹⁸¹ Despite the fact that the installation charge is deferred for eighteen months, the monthly charge is US \$14.¹⁸² The total charge during one month would be no less than US \$20. Telephone service becomes unaffordable according to his income and expense priorities.

In the absence of downward competitive pressure on overall prices, the subsidization of a high cost service produces a somewhat lower cost, but nevertheless high cost subsidized service.

2.3 The Incumbent Monopolies Do Not Benefit from Universal Service

It might be a contradiction to propose that the incumbent monopolies, which are the main supporters of the universal service policy, do not benefit from the regime. However, this hypothesis will be supported based on some common sense suggestions. Figure 8 proposes some links among what is required to accomplish the goals of the telecommunications system.

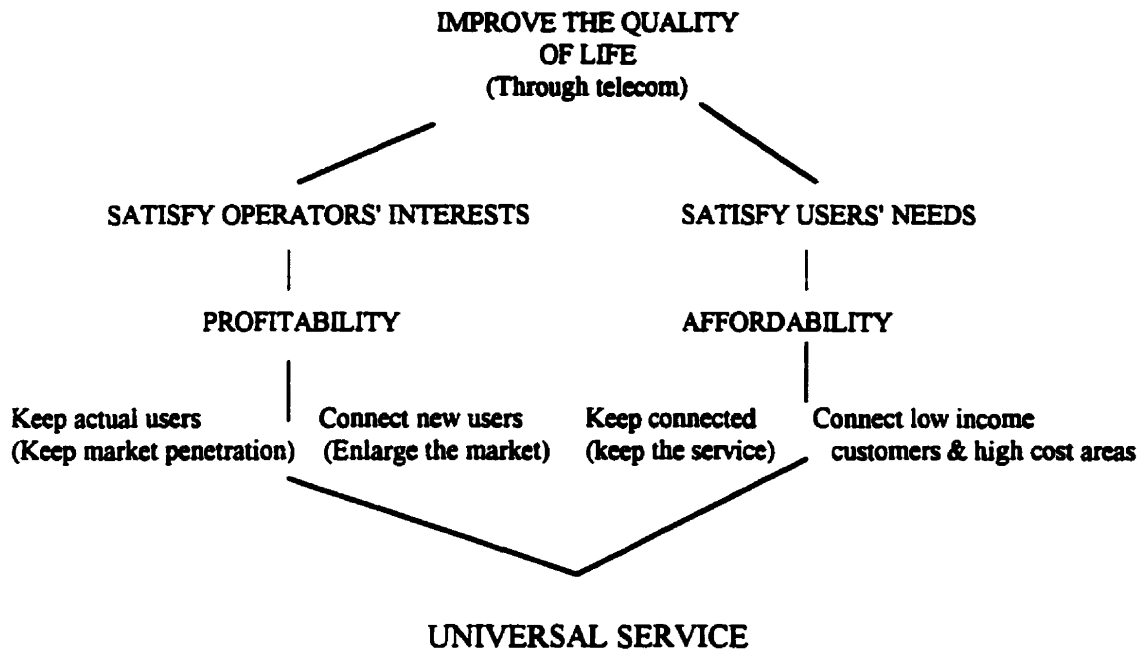
The purpose of telecommunications is to promote the political, economic and social development of the country.

¹⁸⁰ The seventh biggest city of the country. It is located in the center zone. Its telephone provider is EMTLSA, which was the first in the country to offer shares for new investors.

¹⁸¹ See Villegas, *supra* note 122.

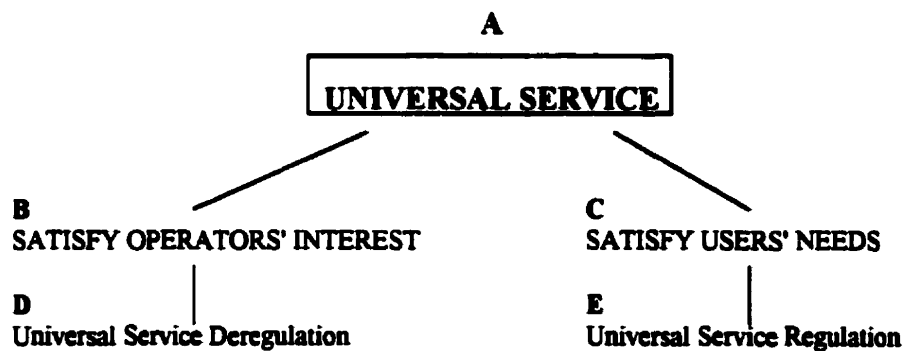
¹⁸² See *ibid*.

Figure 7



According to Resolution 087, the goal is to elevate the quality of life of Colombians through the basic telecommunications infrastructure.¹⁸³

Figure 8



¹⁸³ "Los servicios de TPBC deberán ser utilizados como instrumento para impulsar el desarrollo político, económico y social del país con el objeto de elevar el nivel y la calidad de vida de los habitantes en Colombia." Resolución 087, *supra* note 42, art. 2.1.

Figure 8 describes the effort to extend the benefits of universal service both to operators and customers. The State is responsible for creating a propitious environment for accomplishing the universal service goal. In order to do so, the interests of users' and providers' must be satisfied. Figure 8 sets out the logical links between the goal and the requirements to accomplish it.¹⁸⁴

Goal (A) of the system is universal service in competitive environments.

A-B: In order to accomplish universal service, the State must satisfy the operators' economic interests. Otherwise there would not be private operators.

A-C: In order to accomplish universal service, the State must satisfy the users' needs. If the system does not satisfy user's needs, no one will use the service.

There is an obvious relation between the goal and its main requirements. However, the purpose of this section is to question the social benefits of universal service regulation. Consequently, two simple hypotheses are proposed with a view to exploring the logical links between them.

¹⁸⁴ See E. Goldratt, *What is this thing called Theory of Constraints and how should it be implemented?* (New York: North River Press, 1990).

HYPOTHESIS #1: While operators favor universal service deregulation, users favor universal service regulation.

Universal service regulations are all those universal service obligations that are imposed on the providers. These obligations can be divided into three categories: (1) contributions to the Communications Fund, (2) the subsidy structure, and (3) the provision of the service to a specific number of low-income customers.

For each of these categories, market players would appear to favor universal service deregulation, whereas consumers would appear to favor universal service regulation. This need not always be the case,¹⁸⁵ but it is a hypothesis that supports "command-and-control" public utility regulation in universal service. The hypothesis can be elaborated as follows:

B-D: In order to satisfy the operator's interests the State should DEREGULATE universal service; because:

- (1) the more regulation, the less economic freedom, and
- (2) universal service obligations are expensive charges.

B-D: In order to satisfy the users' needs the State should REGULATE because:

- (1) the State must intervene in order to correct market inefficiencies; and
- (2) regulation is required in order to supply basic services to everyone, which means that regulation is required in order to accomplish universal service.

¹⁸⁵ Some operators might be interested in some kind of regulation in order to be protected against new market entrants. Some users will consider that they will benefit from deregulation as well.

From this we can derive the following postulate:

Postulate 1: *"Universal service regulation" is required in order to accomplish universal service. If universal service is accomplished, "universal service regulation" will not be required.*

HYPOTHESIS #2: Universal service regulation benefits incumbent monopoly providers.

Despite the fact that USR obligations are an expensive charge for telecom providers, some providers might economically benefit from these charges. The main argument is that USR protects incumbent providers from new market entrants, which translates into less competition and more market power. Furthermore, as previously discussed, USR can be an instrument of regulatory capture in Colombia. The following are some USR measures that protect the incumbent monopolies:

- (1) New entrants in the local market must have the same number of low-income consumers as the former monopolies.¹⁸⁶ Universal service charges imply risks to profitability, which makes the market less attractive.
- (2) Communications Fund investments: The Communications Fund has financed the installation of new lines since 1995. Most of these lines have been installed by

¹⁸⁶ See *Resolucion 087*, *supra* note 42, art. 42.

incumbent monopolies, which means that former monopolies have benefited from the Communications Fund's investments.¹⁸⁷

Despite the fact that regulation seeks to protect the competitive environment, the USR can thus protect the former monopoly providers from new entrants.

From this we can derive the following postulate:

Postulate 2: Incumbent monopoly providers benefit from universal service regulation.

This consequence questions the validity of the hypothesis that all operators are interested in universal service deregulation.

CONCLUSION

Now, we can bring into consideration both postulates in order to draw some conclusions.

Postulate 1:

"Universal service regulation" is required in order to accomplish universal service. If universal service is accomplished, "universal service regulation" will not be required.

¹⁸⁷ See CONPES, *supra* note 99.

Postulate 2:

Incumbent monopolies benefit from "universal service regulation".

Postulate 1 + Postulate 2:

If "universal service regulation" is not required, incumbent monopolies will not benefit from "universal service regulation", which means that *the incumbent monopolies do not seek universal service*. In other words, *"the former monopolies need the universal service problem"*.

If the universal service problem disappeared, monopolies would be in trouble. This is the great contradiction of "universal service regulation": The State is trying to solve the problem through players that would not benefit from solving it. After all, one of the main arguments for avoiding liberalization is the universal service problem.

It is not the purpose of this work to suggest extreme positions. Incumbent monopolies have supported access to basic telecommunications in Colombia. They have supported the infrastructure that permits access in rural areas and low-income households. However, in the current competitive environment, regulators should be mindful of the potential contradictions of the system. USR does not simply benefit the public interest; it also benefits market players.

2.4 A Rigid Tariff Structure Restricts Innovation and Limits Low-income Earners' Potential as Market Players

"Casting one's nets very wide, one may find that virtually all laws, regulations, and policies aimed at a country's economy are bound to affect its performance in invention, innovation, and the application of new technology".¹⁸⁸

Competition has market benefits. It demands of market players ongoing improvement, efficiency and innovation. Innovation is the great advantage of competitive markets. Hence, if innovation is constrained in non-competitive markets, the market will fail to improve.

Regulators begin with the assumption that telecommunication providers are only interested in high-income customers. However, telecommunications providers are interested in serving as many customers as possible. The notion that low-income earners are not part of the market is challenged by new technologies such as new kinds of public phones, electronic cards allowing prepayment options,¹⁸⁹ cellular phones¹⁹⁰ and Personal Communications Systems. There is a market for different communications needs that can be satisfied through different approaches. For example, while in some sectors the installation of private lines can be profitable, in other sectors, the installation of public

¹⁸⁸ G. Rosegger, *The Economics of Production and Innovation* (Cleveland: Butterworth Heinemann, 1996) at 252.

¹⁸⁹ See M. Mueller, "Telecommunications Access in the Age of Electronic Commerce: Toward a Third-Generation Universal Service Policy" (1997) 49.3 Federal Communications L. J., http://www.law.indiana.edu/cgi-bin/print_hit_bold.pl/fclj/pubs/v49/no3/mueller.html (date accessed: 8 February 1998).

¹⁹⁰ Despite the fact that mobile tariffs are more expensive, it is a cheaper option in some rural areas.

phones is necessary. Other services might be provided by shops selling per call access to cellular phones. The best way to explore these possibilities is to promote innovation by telecom providers. Telecommunications providers can be so innovative to communicate low-income customers as other industries.

Traditional universal service policies, such as cross-subsidization, focus on the opposed interests of providers and users.¹⁹¹ The policy fails to focus on an important common interest, which is to increase the number of customers so as to increase the value of the network. Herein lies an incentive to pursue universal service. Both providers and consumers need more subscribers. The more subscribers are attached to the network, the more useful it is for the consumer. The more subscribers, the greater the economies of scale that can be obtained by the provider and the greater the revenue base.

A universal policy that focuses on these common interests can obtain better results than one that does not. For example, regulators will consider providers not only as profit seekers but also as universal service seekers. Thus, regulators will concentrate on creating the appropriate environment to allow market players to increase their profits through new customers. Where market conditions allow telecom providers to seek new customers, the State should restrict the role of regulation. This is the case in the main urban centers.

In most urban areas, market forces can define the best way to penetrate the low-income market. The role of regulators is not to constrain the market, but to create incentives to

¹⁹¹ See figure 5, above.

investment, penetration and universal service achievements. For example, the reduction of the gross revenue contributions to the telecommunication fund, tax exceptions, and financial assistance for investment are all economic incentives that contribute to the operators' own goals.

Despite the specificity of the telecommunications industry, other economic sectors provide examples of how some market players can concentrate marketing activities on low-income consumers.¹⁹²

2.5 Increasing Access in Urban Areas

The obvious problem is the limited capacity of low-income earners to afford service. It has been assumed that the poorest sectors of society cannot afford basic public services without preferential rates. However, affordability is not a matter of tariffs, but also of the means to pay for them. When a family's budget is short, it is more appropriate to distribute expenses according to the distribution of the incomes. For example, for low-income consumers, it is easier to pay every month than every two months.¹⁹³ The policy should take account of specific consumers' payment facilities.¹⁹⁴

¹⁹² For example, automobiles and airlines.

¹⁹³ "Affordability is not just a matter of prices and their evolution but concerns the ability to monitor and control expenditure and exploit tariff and billing plans that best suit user needs." European Commission, "First Monitoring Report on Universal Service in Telecommunications in the European Union, <http://www.ispo.cec.be/infosoc/telecompolicy/en/unisrvmain.doc> (date accessed: 20 March 1998).

¹⁹⁴ The European Commission has identified the following measures to help consumers control expenditures: "(i) itemized billing (ii) general or selective outgoing call barring to basic or premium services (iii) pre-determined ceiling of amount spend on telephone service or (iv) pre-payments of bills". European Commission, *supra* note 193 at 16.

While salaries in the lowest estratos are usually paid every two weeks, telephone bills are charged on a monthly basis. This simple factor creates payment troubles. Long-term bills are less affordable for people whose resources are limited. The spending habits of people with low incomes are different from those with high incomes. The tendency is to use public phones according to specific needs. The following example has been considered by the *Fundacion Carvajal* in Cali, Colombia and provides a useful illustration:

Generally speaking, people in higher *estratos* buy food and groceries on a monthly basis. They have stable and higher salaries. On the contrary, most people in *estrato* one do not have stable salaries. Most of them work in informal activities.¹⁹⁵ Their incomes and expenses depend on their daily activity. Besides, *tiendas* or convenience stores play an important role. The *Fundación Carvajal* identified the following characteristics: (1) low income earners in Distrito de Aguablanca¹⁹⁶ use convenience stores instead of supermarkets (which are far away from the zone), and (2) food and groceries in convenience stores are more expensive than the same products in supermarkets. However, inhabitants in Distrito de Aguablanca use *tiendas* because they are closer to their residence and more convenient when shopping on a daily basis. Rather than trying to change these habits or creating non-profitable supermarkets in the zone, the *Fundación Carvajal* created a *Cooperativa de tenderos*.¹⁹⁷ The Cooperative is managed by the community.

¹⁹⁵ In 1990, informal labor was fifty-four percent of the total labor activity. See L. Sarmiento, "Política Social: Estrategia para una Colombia Moderna" in J. Bernal, *Integración y Equidad* (Santafé de Bogotá: Corporación S.O.S. Colombia, 1994) at 283.

¹⁹⁶ Distrito de Aguablanca is the poorest sector in Cali. Five hundred thousand people inhabit the region. Its main characteristic is the lack of access to public services.

¹⁹⁷ The "Cooperativa de Tenderos" (Convenient Stores Cooperative) is a type of supermarket exclusively used by "tenderos". Prices in this cooperative are low, because the intermediaries between the producer and the "tendero" have been reduced. It is one useful way to reduce prices without any subsidy.

Products are sold to "*tenderos*"¹⁹⁸ at lower prices because there is no intermediary between producers and the Cooperative. The owners of convenience stores can obtain the lowest market prices, which finally benefit the consumers.

This example illustrates the spending habits in low-income sectors and the importance of finding mechanisms that decrease market prices rather than subsidizing demand. For example, organized communities can promote public information centers. If the centers are built with community participation, they can offer not only basic but also advanced information services to the community.

Access to Public Phones:

The *Comisión Reguladora de Telecomunicaciones* issued Resolution No. 115 in order to increase universal access through public phones.¹⁹⁹ In the future, public phones must fulfill universal service requirements such as the possibility to receive calls and free access to emergency numbers.²⁰⁰

Public and private providers in competitive environments can consult specific community needs in order to determine the kind of service that should be offered.

¹⁹⁸ Tenderos are the owners of convenience stores.

¹⁹⁹ Resolución 115 de Octubre 2 de 1998, C.R.T.

²⁰⁰ See *ibid.*

CHAPTER 3

STRUCTURAL APPROACH TO UNIVERSAL SERVICE IN COLOMBIA

Universal access depends not only on the so-called "universal access policies", but also on structural considerations. The most important structural solution is to increase efficiency at the firm and industry levels of the sector.

Developed countries have high rates of telephone penetration. Development can be explained from a structural viewpoint,²⁰¹ which describes economic growth as the result of a historical process.²⁰² Productivity depends on facilitating the creation of economic structures,²⁰³ which include three main levels: (1) the firm level, (2) the industry level, and (3) economic relations.

Universal service policy should be based on structural considerations. Specific characteristics of the country have determined particular policies, which must differ from one region to another. Every region has its own economic, social and cultural factors, and when these factors do not facilitate telecommunications development, there are structural failures.

²⁰¹ See R. Lipsey & C. Bekar, "A Structuralist View of Technical Change and Economic Growth" in T. Courchene, ed., *Technology, Information and Public Policy* (Kingston: John Deutsch Institute for the Study of Economic Policy Queen's University, 1994) at 9.

²⁰² See *ibid.*

²⁰³ See *ibid.*

3.1. Economic Relations

Despite the fact that the telecom sector had followed a command system even in the capitalist world,²⁰⁴ market-driven economies, in contrast to planned economies, have been more successful in offering their population a means of communication. Countries of the former communist block used to provide the clearest examples of command economies.²⁰⁵ These countries were unable to accomplish high levels of telephone penetration.

The approach taken by Hungary in the transition to a market economy is a good example of a market-driven approach to the sector that has been instrumental in developing infrastructure.

3.1.1 The Hungarian Example

According to the ITU's World Development Report, Hungary had the highest increase in telephone lines between 1992 and 1996.²⁰⁶

²⁰⁴ The sector was characterized by strong relations between the government and providers, network planning and price setting.

²⁰⁵ See C. Hill, *International Business: Competing in the Global Marketplace*, 2nd ed. (Chicago, United States: Irwin, 1997) at 39.

²⁰⁶ See ITU, *supra* note 43.

Figure 9*

	Population		GDP per Capita	Main Telephone lines	
	Million	Dense		Total	Per 100 inh.
HUNGARY (92)	10.3	- 111	US 3,055	1'291	12.54
(96)	10.2	- 110	US 4,271	2'661	26.06

* Based on ITU World Reports 1994 and 1998.

The country was able to double the number of lines within four years. This increase was not accidental; the Hungarian government adopted several key policies.

Hungary was the first communist country in Central and Eastern Europe to move towards a market-driven economy.²⁰⁷ Although this new economic orientation took place after the collapse of the communist system, Hungary had begun to emulate the world market even before the mid-1980s.²⁰⁸ International long distance rates were liberalized after 1986. At the beginning of the 1980s, a "competitive pricing system" was introduced as a general economic policy.²⁰⁹ This preliminary approach was unsuccessful, but it was instrumental in

²⁰⁷ See R. Wood & E. Talmacsi, "Privatization in Hungary" (1995) 23 Int'l Bus. Lawyer 243 at 243.

²⁰⁸ In the seventies Hungary implemented some market-oriented modifications to the centrally planned economy. See ITU, *Financial Programming and Policy: The Case of Hungary* (Washington: ITU, 1992).

²⁰⁹ See Á. Török, "Competition Policy and De-monopolization in Hungary After 1990" in B. Slay, ed., *De-monopolization and Competition Policy in Post-Communist Economies* (Boulder, Colo.: Westview Press, 1996).

preparing the country for its transition to a market-driven economy. Hungary started its transition to the new economic system by establishing an adequate legal framework.²¹⁰

Although Hungary was more reform-oriented than most of the communist countries in the 1980s, its telecommunications services remained unmodified in a single organizational model that was centrally-planned. It had a single monopoly provider and central administration.²¹¹

The following features characterized the Hungarian model:

Telecom development as a priority: In 1988 the government considered telecom development a national priority. A serious modernization effort required greater investment and special consideration of social differences.²¹²

Long-term effort and vision: The government formulated a ten-year plan. The plan was discussed by Magyar Posta's²¹³ and the Ministry of Transport, Communications, and Water Management. The 1990-2000 plan was based on liberalization, deregulation and privatization.²¹⁴ This plan established specific goals that have been accomplished during the decade.²¹⁵

²¹⁰ The Company Act of 1988 was established to regulate the new economic associations. Act XXIV of 1988 was introduced to regulate Foreign Investment. Hungary became the first country in the region to pass legislation establishing the fundamentals of a market economy. See Wood, *supra* note 207.

²¹¹ See E. Whitlock, "Natural Monopoly Regulation: A Comparison of Hungarian and Russian Telecommunications" in Slay, *supra* note 209.

²¹² See *ibid.*

²¹³ Magyar Posta was the monopoly provider before privatization.

²¹⁴ See P. Horvath, "Telecommunications in Hungary" in G.R. Pipe, ed., *Eastern Europe: Information and Communication Technology Challenges* (Hungary: TIDE 2000 CLUB, 1990) at 107.

²¹⁵ For instance, although the goal for 1993 was to offer 13 lines per 100 people, by this year there were 15 lines per 100 people.

Modernization: The process commenced by building an entirely new digitized network over and around the existing analog network.²¹⁶ In spite of its high initial costs, this strategy was chosen because it could introduce new technology at lower costs over the long run.

Attention to the particularities of the sector: The Hungarian government understood that telecommunications should not be governed by general legislation. Thus, the government promulgated the *Telecommunications Act*. On the other hand, one failure of the Russian reform was to use general legislation.²¹⁷

Participation: Local and regional groups complained about low density targets and scarce installation of lines in residential areas. The government was forced to modify the modernization plan. Public opinion played an active role and was instrumental in creating the Communications Fund. The main purpose of the Fund is to guarantee universal access.

The Hungarian Government adopted the following policies:

Strategic Plan 1990-2000: This was based on strong financial investment virtually independent of State financing.

Legal reform of the provider: In 1991 MATAV was transformed into a wholly State-owned joint stock company, the Hungarian Telecom Company (HTC).²¹⁸ State ownership was initially required to guarantee the control of the plan.²¹⁹

²¹⁶ See Whitlock, *supra* note 211 at 204.

²¹⁷ See *ibid.*

²¹⁸ See *ibid.*

²¹⁹ "Matav was transformed into a US-style telephone network, splitting local operators from the national company and paving the way for competition". Wood, *supra* note 207 at 246.

Privatization: HTC was privatized in 1993.²²⁰ Thirty percent of the company was acquired by a joint venture between Ameritech Corporation and Deutsche Bundespost Telekom.²²¹ In 1995 the government sold forty percent of its participation in Magyarcom (the new name of the Corporation). The same foreign joint venture paid US \$852 million for an additional 37 percent. MATAV became the first operator in the former Communist block to have majority foreign ownership.²²²

Legal obligations were imposed on the provider: Providers are obliged to increase the number of main telephone lines by 15.5 percent annually. As of 1997, the waiting time for installation was not to be more than twelve months.

Local infrastructures. Despite the fact that local network expansion was left to local communities and companies, MATAV was obliged to add 350,000 lines through these companies.

Adaptation of the Regulatory Framework: The 1992 Telecommunications Law offered market access and opened private investment.²²³ The priority was not universal access but rather the modernization of the infrastructure. According to the ten-year plan, only after the most profitable markets were served, in 1995, would MATAV be required to transfer its resources to less profitable sectors.²²⁴

²²⁰ See L. Conner, "Telecommunications in Formerly Communist countries" (1996) 48 Admin. L. Rev. 463 at 474.

²²¹ See *ibid.*

²²² See *ibid.* at 475.

²²³ See *ibid.*

²²⁴ See Whitlock, *supra* note 211 at 205.

The Hungarian approach to the telecommunications sector is a good example of how regulation can take into consideration structural failures and favor market forces. Increasing line penetration does not only depend on so-called "universal service policies".

3.1.2 Economic Relations in Colombia

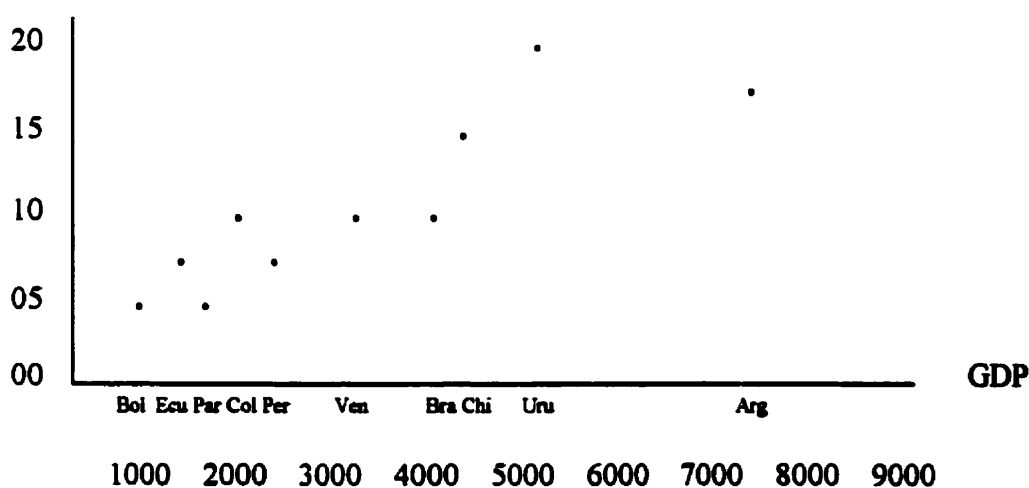
3.1.2.1 Economic Relations

Economic performance is a key factor in penetration. The greater the Gross Domestic Product (GDP), the higher the levels of penetration. The following comparison of South American countries illustrates the influence of GDP on the number of lines.

Figure 10

Teledensity and GDP per capita in the South American Region:²²⁵

Teledensity



²²⁵ Based on ITU indicators.

The question is whether a country is able to incorporate technology due to its economic performance or if it has good economic performance due to the incorporation of technology. In the capitalist world, technology has been a main factor in regional economic development.²²⁶ Technology improves the welfare of nations and individuals. Nations grow through innovation.

Several models explain the competitive advantage of nations. Michael Porter distinguishes two kinds of factors of production: (1) basic factors (e.g., natural resources), and (2) advanced factors (e.g., technological know-how).²²⁷ Advanced factors such as telecommunications infrastructure allow for a greater competitive advantage, whereas basic factors determine only an initial advantage. In the absence of basic factors, advanced factors such as innovation and investment must be promoted if a country is to survive in the global economy.²²⁸ Colombia is rich in natural resources and, consequently, has been an exporter of raw materials (basic factors), which has led to economic dependency on natural resources.²²⁹ The result of this dependency is Colombia's failure to develop the use of advanced economic factors. Japan, Sweden, and Switzerland are examples that prove that good economic performance does not depend on the size of the country or the

²²⁶ "It is the most obvious cause and effect of the cumulative wealth of rich nations." E. Malecki, *Technology and Economic Development: The Dynamics of Local, Regional and National Competitiveness*, 2nd ed. (London: Longman, 1997) at 5.

²²⁷ See M. Porter, *The Competitive Advantage of Nations* (New York: Free Press, 1990).

²²⁸ See *ibid.*

²²⁹ See P. Gibbs, "Prospects for Sustainable Liberalization of Foreign Investment Laws as a Concomitant of Hemispheric Integration in The Americas" (1996) 28 Univ. Miami Inter-Am. L. Rev. 95 at 99.

availability of natural resources.²³⁰ Countries that have depended solely on natural resources have not developed a competitive telecommunications infrastructure.

3.1.2.2 Economic System

According to Article 334 of the Colombian Constitution, the economy is under the direction of the State.²³¹ The State regulates public services pursuing three main purposes: (1) to equalize social opportunities, (2) to guarantee welfare and development, and (3) to protect the environment.²³²

Although the State must provide basic services to every person in its territory, this obligation is restricted to its financial capability.²³³ Economic scarcity explains this restriction.²³⁴ Economic actors, including the State, would like to invest in every single human need. However, resources are scarce, and economic actors cannot afford every single good or service they want.²³⁵ Scarcity is influential in two ways. On one hand, if the State cannot supply every service to everyone, it must establish priorities amongst services. The most common social investment priorities are health and education.²³⁶

²³⁰ See G. Rosegger, *The Economics of Production & Innovation: An Industrial Perspective*, 3rd ed. (Cleveland: Butterworth Heinemann, 1996) at 51.

²³¹ See *Constitución de Colombia*, *supra* note 70 art. 334.

²³² See *ibid.*

²³³ See *Corte Constitucional*, Mg P.E. Cifuentes, Sala Plena de Constitucionalidad C-566/95 de Noviembre 30 de 1995.

²³⁴ See R. Malloy, *Law and Economics: A Comparative Approach to Theory and Practice* (St. Paul, Minn.: West Publishing Co., 1990) at 15.

²³⁵ See *ibid.*

²³⁶ See *Plan Nacional de Comunicaciones*, *supra* note 48.

Although basic telecommunications are important, they are not a priority.²³⁷ On the other hand, people would like to have access to every service (e.g., water, electricity, health, education, communications). However, if they cannot afford them, they will establish priorities. Generally speaking, a telephone line is not a priority.

If economic resources are scarce, investment must be more rational and efficient.²³⁸ Therefore, any investment should maximize benefits. If the State confers subsidies, no subsidy must be granted unless it is strictly required.

The General Law of Public Services²³⁹ follows the social principles of the State. However there is a difference between the "social State" and the "welfare State". The Constitutional Court has acknowledged this difference and, thus, the State is under no obligation to provide public services free of charge, unless it is mandatory under the Constitution.²⁴⁰

Nowadays, the Colombian economy is at risk.²⁴¹ Two main factors, one external and the other internal, explain this situation. In 1998, the fear of economic crisis decreased investment in Latin America. In Colombia, political instability deflected Ernesto Samper's

²³⁷ Furthermore, the sector can generate its own profits.

²³⁸ See Malloy, *supra* note 234

²³⁹ Law 142 of 1994.

²⁴⁰ "A la luz de esta finalidad no puede reducirse el Estado social de derecho a la mera instancia prodigadora de bienes y servicios materiales. Por la vía de excesivo asistencialismo, corre el riesgo de anular la libertad y el sano y necesario desarrollo personal." *Corte Constitucional*, *supra* note 233.

²⁴¹ Economists predict that in 1999 economic growth in Colombia will be at the lowest it has been in the last three decades. The journal "Dinero" forecasts a zero economic growth. *Revista dinero*, "Cero Crecimiento", <http://www.dinero.com/revista/edicion72/portada/portada/revista.htm> (date accessed: 6 November 1998).

government from economic prudence.²⁴² Andrés Pastrana's government has taken measures in order to save the economy from collapse; public expenses have been reduced, and subsidies in public services will soon be eliminated. Under these circumstances, funding opportunities are reduced, not only in the public but also in the private sector.

3.1.3 Political Relations

Some governments place more importance than others on providing communications opportunities. Totalitarian states generally offer a poor level of penetration. For example, the underdevelopment of the telecommunications infrastructure in Southern African countries is considered a "legacy of colonization".²⁴³ Development was restricted to high-income and powerful communities.

Power relations also play an important role in development. Knowledge and opportunities are usually monopolized, particularly in economies characterized by inequitable income distributions.²⁴⁴ For instance, religion has played a preeminent role in Latin American society.²⁴⁵ The Catholic Church and the Protestant movement had different attitudes to the widespread use of printing in the sixteenth century. For example, whilst the Protestant movement took advantage of new technologies to communicate and promote

²⁴² Public expenses grew more than ever before. See *ibid*.

²⁴³ "Roads and rails permitted the transport and extraction of raw materials destined for export but not for travel by indigenous peoples." See Tabares, *supra* note 21 at 232.

²⁴⁴ "As publication on a large scale became cheap, learning exploded. Monopolies of knowledge were upset. Thinkers could communicate with the masses in ways that were quite impossible when the only texts available were written in Latin and were in scarce supply." Lipsey & Bekar, *supra* note 201 at 34.

²⁴⁵ See I. Vallier, "Religious Elites: Differentiations and Developments in Roman Catholicism" in S.M. Lipset & A. Solari, *Elites in Latin America* (New York: Oxford University Press, 1967) at 190.

knowledge,²⁴⁶ the Catholic Church²⁴⁷ of the sixteenth century prohibited the translation of texts from Latin to the vernacular language.²⁴⁸

Less-developed countries are characterized by a strong concentration of power in the hands of a few people and organizations, and little participation in the decision-making processes. In Latin America, public policies have been an instrument for concentrating power. Governments are readily influenced by narrow political and economic interests.

The Colombian Constitution was reformed in 1991 in order to eliminate some ineffective institutions of the 1886 Constitution. It is important to consider this reform because it emphasizes the role of the State in equalizing social differences. The 1991 Constitution was written by the "*Asamblea Nacional Constituyente*", which had the participation of such diverse social forces as three former guerrilla groups,²⁴⁹ religious movements²⁵⁰ and traditional political parties.²⁵¹

²⁴⁶ "The United Provinces of the Protestant Netherlands became one of the most highly and broadly educated societies in history to that time. Enormous efficiency gains followed on the creation of the Dutch information network". Lipsey & Bekar, *supra* note 201 at 34.

²⁴⁷ More than ninety percent of the Colombian population is Catholic. See Conferencia Episcopal Colombiana, Colombia, <http://www.aciprensa.com.co/dtcolomb/htm#5> (date accessed: 17 June 1998).

²⁴⁸ See *ibid.*

²⁴⁹ Guerrillas have been the revolutionary forces against the Colombian regime. For an introduction to the topic, see J. Petras, *Politics and Social Structure in Latin America* (New York: Monthly Review Press, 1970).

²⁵⁰ The Liberal and the Conservative parties have alternately held power during the century, with the exception of the period between 1953 and 1962, during which time there was a military government.

²⁵¹ Movimiento 19 de Abril (M-19) was one of the strongest guerrilla groups in the country. However, after a process of reinsertation that took place in 1989, the former guerrilla group was constituted as a political party. The murder of its Presidential candidate, Carlos Pizarro, and the emergence of new political leaders gave the movement unexpected popular support. Of the 70 seats available in the National Assembly in 1990, the former guerrilla obtained 19. Guerrilla groups have been inspired by communism and socialist states. M-19 supported this ideology.

The political environment during the nineties has been influenced by two ideological positions in Colombia. On one hand, there is a socially-oriented Constitution, which has demanded stronger State participation in equalizing social differences. On the other hand, a dominant economic policy has demanded market liberalization and less State participation.²⁵² These ideological debates are played out against a backdrop of organized violence.²⁵³

3.1.4 Social Relations

There is a huge and increasing gap between the rich and poor in Colombia.²⁵⁴ Historically, access to economic sources has been restricted to the upper social classes;²⁵⁵ access to communications is no exception. Unequal access to political power has created an underprivileged society in which infrastructure is built around the rich and powerful communities. When public services are provided by State-owned enterprises, personal access to government officials becomes an important means of obtaining some kinds of services.²⁵⁶

²⁵² The "Washington Consensus" was a neo-liberal policy orientation in opposition to the "populist policy cycle". The policy is represented in orthodox stabilization, liberalization, export orientation and privatization. See Gibbs, *supra* note 229 at 99.

²⁵³ Three different types of internal violence have become a major societal problem: (1) left-revolutionary forces, guerrillas, which appeared after 1962; (2) paramilitary groups, which are private forces organized in order to fight against the guerrilla; and (3) drug trafficking groups.

²⁵⁴ The misery index reached 36.5 in 1998, up from 29 percent in 1994, and unemployment is 15 percent, the highest in Colombian history. See RCN, <http://www.rcn.com.co/actual.htm#003>, July 27, 1998.

²⁵⁵ "In the closed, stratified Colombian society of the last century, economic resources were monopolized by a small upper class interested in preserving its position and generally unable or unwilling to generate new wealth." C. Bergquist, *Coffee and Conflict in Colombia: 1886-1910* (Durkham: Duke University Press, 1978) at 3.

²⁵⁶ The development of the current telecommunications infrastructure has depended on public providers. The public sector has been identified with inefficiency and political influence, and consequently, those people who have access to managers of public enterprises have benefited from public policies.

From a sociological point of view, there are two basic considerations that have influenced telecommunications use in the Colombian economic context: (1) living expenses, and (2) social behavior according to economic stratification.

(1) Living Expenses: Every person has a minimum set of basic needs. In 1993, the income per inhabitant in Colombia was US \$1,280.²⁵⁷ When incomes are low, expenses must be prioritized, and telephone service, rather than food and health care, is not one of the first priorities.

Telecommunications are instruments for other human needs. In Colombia, the telephone is a new technology. New technologies are not perceived as basic needs until they have been incorporated in to social relations. Once technology is thus incorporated, users act according to market conditions.²⁵⁸

(2) Social behavior according to economic stratification:²⁵⁹ A focus on living expenses takes account of the cost of supplying the service.²⁶⁰ However, other considerations must be taken into account. Policy makers assume that everyone would be interested in telephone service. The "demand curve"²⁶¹ determines response to market pricing.

²⁵⁷ See Sarmiento, *supra* note 195 at 283.

²⁵⁸ For example, when mobile phones entered the market, they were considered to be a luxury item. Nowadays, it is a common need and prices have fallen significantly.

²⁵⁹ "Stratification explains other social life. The theory of historical materialism, for example, explains diverse phenomena - such as religion, marriage, politics, and revolution- with the distribution of the means of production." D. Black, *The Behavior of Law* (New York: Academic Press, 1976) at 12.

²⁶⁰ The "cost or supply curve". Malloy, *supra* note 234.

²⁶¹ "The demand curve represents the amount of goods that consumers will be willing to buy at any given price". *Ibid.* at 23.

Consumers recognize the importance of the service only when it is introduced into the market,²⁶² and personal considerations can decrease market demand.

The social environment influences the incorporation of the service. Social behavior changes from one *estrato* to another. Stratification is not only economic but also social and cultural. Generally speaking, family relationships and friendships are formed on the same socio-economic level. The telephone is used for several reasons. It plays a social role when it is the main means of communications amongst members of a family and friends. Whatever its "socialization" purpose, its use depends on the "social circle" of the person involved.²⁶³ For example, if one's "social class"²⁶⁴ is *estrato* two, social relations will tend to be on the same level.²⁶⁵ Unless there are many users on the same economic level, the need to be connected to the network is low, and there will not be the great interest that policy makers usually assume.

The following comparison is useful in highlighting this fact. Student and academic activities at the Faculty of Law at McGill University are usually announced by E-mail. A law student at McGill knows that everyone within that community has access to his/her E-

²⁶² Saunders, Warford and Wllenius underline three important aspects: Although there is lack of demand, it does not justify low investment. Demand exceeds the supply of the service in developing countries. And, in those villages that did not have the service, demand arises "only after service is introduced at the initiative of the government, an operating company, or a special interest group". R. Saunder, J. Warford & Wllenius, *Telecommunications and Economic Development*, 2nd ed. (Baltimore: The World Bank, 1994) at 9.

²⁶³ Stratification explains several aspects of social life. There is a vertical relation between the distribution of welfare and means of production with other aspects such as religion, politics, friendships, and intellectual life. See Black, *supra* note 259 at 12.

²⁶⁴ See J. Stone & S. Mennell, *Alexis de Tocqueville On Democracy, Revolution, and Society* (Chicago: University of Chicago Press, 1980) at 102.

²⁶⁵ "If people are stratified, it is possible to describe their social life by its location up and down the ranks". Black, *supra* note 259 at 17.

mail account. Consequently, he/she assumes that E-mail is the best way to keep in touch with everyone. This assumption is quite different at the Law School at Caldas University in Manizales, Colombia. At that Faculty, few people have an E-mail account, and a student does not feel the specific need to have access to E-mail. The best way to keep everyone informed is to post a big ad in the main entrance of the Faculty. Consequently, while access to the Internet is a basic need for a McGill student, it is not for a Caldas student. It will become a basic need not only when the technology is available but also when the same technology is used in one's social and academic environment.

This simple example helps to situate the funding problem as only part of the demand curve. Demand not only depends on economic but also on social and cultural factors. The latter example can be applied to any universal access policy. An operator can create the need to use the telephone by installing as many lines as possible in the same group of the population. Private lines are scarcely used²⁶⁶ in the lowest *estratos*, because few people in the same *estrato* use the telephone. On the other hand, a community phone becomes useful when individuals in one particular sector cannot themselves afford the service.

A second consideration concerns the exploitation of particular needs in the same social *estrato*. In the same *estrato* of one neighborhood, there are different customers. For example, a person who works in a factory during working hours will not use a telephone during the day, and the telephone will not have a direct economic purpose. A convenience store owner will use the telephone during the day, and the telephone will have a direct

²⁶⁶ See Villegas, *supra* note 122.

economic purpose. These two people have different needs. In this example, the telephone will have a different impact on their economic activities. Despite the different economic impacts, in both cases the users receive the same subsidy.

Failure to take account of these factors leads to poor use of private phones.

3.1.5 The Industry Level

An industry level analysis considers industrial structure, the degree of concentration, and the amount of cooperation and competition among separate units.²⁶⁷ The structure of the telecommunication industry was quite similar in the more and less-developed countries.²⁶⁸ Nevertheless, within a concentrated if not a monopoly structure, some countries achieved universal access while others were far from doing so. This implies that the industry structure is not a significant factor determining telephone penetration rate differences among countries.

However, at the industry level, technological innovation makes a great difference. While telecom providers in most developed countries invest in research and development, firms in the developing world are less concerned about technological change. For instance,

²⁶⁷ See Lipsey & Bekar, *supra* note 201.

²⁶⁸ Before AT&T's divestiture, the wire-based telecom market was generally characterized by almost no competition or regulation; there was one monopoly provider for long distance service, and several monopoly providers for local services divided among regions. One exception was Finland. "The country has always had an unusual telephone system: in the 1930s it had more than 600 telephone companies, many of them customer co-operatives." "Survey in Telecommunications" *The Economist* (13 September 1997) at 5.

AT&T has registered 25,000 patents since 1925. The United States invests 2.5 percent of its GDP in telecommunications. On the other hand, Mexico, which is one of the largest Latin American economies, only invests 0.5 percent.²⁶⁹

3.1.6 The Firm Level²⁷⁰

Enterprises have re-evaluated the hierarchical model of organizations.²⁷¹ A lateral organization of semi-independent groups enables internal innovation and efficiency.²⁷² Most monopoly firms in the telecom business have been organized according to a hierarchical model. This rigidity is a characteristic of State-owned enterprises with strong controls and regulation. Flexible organizations are difficult to implement under such conditions.

The main change at the firm level is privatization of State-owned enterprises. Most Latin American countries have privatized their telecom providers. Governments have been

²⁶⁹ See A. Ruelas, "Mexico y Estados Unidos en la Revolución Mundial de las Telecomunicaciones" (1995) Universidad Autónoma de Sinaloa, <http://www.lanic.utexas.edu/la/Mexico/telecom/> (date accessed: 10 February 1998).

²⁷⁰ "As we prepare to drive off the road and on to the unfamiliar terrain that lies ahead, it becomes clear that we are going to require a new kind of vehicle, some very different driving skills and a whole new sense of direction. But even more fundamentally, we will need to challenge all our personal and organizational assumptions about the world we are heading into the very different world of the twenty-first century." R. Gibson, "Rethinking Business" in R. Gibson, ed., *Rethinking the Future: Rethink Business, Principles, Competition, Leadership, Markets and the World* (London: Nicholas Brealey Publishing, 1997) at 3.

²⁷¹ See Lipsey & Bekar, *supra* note 201 at 51.

²⁷² "A division of learning that supports an information strategy results in a distribution of knowledge and authority that enables a wide range of members to contribute to these activities." S. Zuboff, *In the Age of the Smart Machine: The Future of Work and Power* (New York: Basic Books, 1984), quoted in Lipsey & Bekar, *ibid.*

motivated by goals such as more efficiency,²⁷³ increase in productivity, lower prices, stimulation of investment, maximization of welfare,²⁷⁴ and improved government revenues.²⁷⁵ In most developing countries, governments have seen privatization as being a good way to raise capital.²⁷⁶

However, privatization has drawbacks. Should a State want to nationalize in the future, it will be much more expensive. Some authors suggest that it is "a painful way for a country to achieve economic development and modernization".²⁷⁷ There are losses of future direct revenues. Moreover, privatization has political implications.

Telecommunications is usually one of the first sectors to be privatized.²⁷⁸ It is a huge industry, with increasing demand for new technology,²⁷⁹ capital,²⁸⁰ and the necessity to develop the sector as a basis for the country's own development.²⁸¹

²⁷³ The following quotation may reflect the general assessment of state-owned enterprises in Latin America: "[I]n Mexico, as elsewhere, the 'government-run telecommunications monopolies' were beset with the same inherent inefficiencies as other 'state-owned enterprises'. For example, Mexico, like other Latin American nations, failed to modernize the system and to control costs. The system deteriorated so badly that fax machines were virtually non-existent by 1989, twenty percent of Mexico's phones were out of order at any given time, and waiting periods for services were over six months. Mexico's telecommunications system, in crisis due to inept government management, needed a healthy dose of market-based reform." B. Vannoy, "Mexican Telecommunications: Privatization and NAFTA open the door for U.S. Expansion into the Mexican markets" (1994) 17 Hous. J. Int'l L. (LEXIS/NEXIS).

²⁷⁴ See A. Chua, "The Privatization-Nationalization Cycle: The Link between Markets and Ethnicity in Developing Countries" (1995) 95 Colum. L. Rev. 223 at 224.

²⁷⁵ This is a strong incentive. "According to a study completed in 1994 by the United Nations Conference on Trade and Development, Argentina earned \$15.89 billion from privatization." C. Davidovich, "The Selling of Argentina: Is the Path to the First World Privatized?" [Fall 1996] 28:1 L. & Policy in Int'l Bus. 151 at 164.

²⁷⁶ See J. Straubhaar, "From PTT to Private: Liberalization and Privatization in Eastern Europe and the Third World" in Mody, Bauer & Straubhaar, *supra* note 3 at 19.

²⁷⁷ In Argentina more than 400,000 employees were fired, and for many of them it has not been possible to find a job. See Vannoy, *supra* note 275 at 167.

²⁷⁸ See A. Vernava, "Latin American Finance: A Financial, Economic and Legal Synopsis of Debt Swaps, Privatizations, Foreign Direct Investment Law Revisions and International Securities Issues" (1996) 15:1 Wisconsin Int'l L. J. 89 at 110.

In Chile, telecom providers were privatized. The new owners had the obligation to invest \$100 million in capital in the first twelve months. In 1993, Chile became the third country to complete network digitalization.

International institutions usually recommend privatization as a useful way to increase universal access.²⁸² Yet, if the market is open to competition, private companies will be concerned about competing with public sector operators. There is a risk that private players might be disadvantaged by universal service regulations.

The privatization of public enterprises in Latin America has been useful in increasing efficiency. Efficiency of telecom providers is a key factor in increasing penetration.

Chile is a good example of how penetration has increased through privatization.²⁸³

However, privatization is not the only way to improve the firm's efficiency. Privatization has sometimes been the most pragmatic way to avoid difficult structural changes.²⁸⁴

Colombia has avoided a radical change in the management culture of the State. Such a

²⁷⁹ See *ibid.* at 111.

²⁸⁰ It is considered that in Asia, the Pacific, Latin America and Africa, in order to meet the demand for basic telephone service by the year 2000, global investment in the region should reach US \$25 billion per year throughout the nineties. See R. Saunders, *Telecommunications and Development* (Baltimore: John Hopkins University Press, 1994) at 309.

²⁸¹ "[G]overnments are realizing that a well developed telecommunications network is essential to survival in the the global economy." D. Raines, "Privatization of Telecommunications in Latin America" (1996) 48 Admin. L. Rev. 479.

²⁸² "Developing a market economy must therefore begin with the privatization of state enterprises." International Monetary Fund, *Fiscal Policies in Economies in Transition* (Washington: IMF, 1992) at 81.

²⁸³ Chile increased teledensity from 9 to 16 between 1992 and 1996.

²⁸⁴ It has been "a reaction against frustrated past experiences". E. Posada-Carbo, "Reflections on the Colombian State: In Search of a Modern Role" in Posada-Carbo *supra* note 80 at 1.

reform requires time and political decision. Any true telecommunications reform should involve:

- (1) Isolation of public enterprises from political parties' dominance.²⁸⁵ Public enterprises in Colombia have been exploited for political purposes. Managers and workers are usually nominated according to election results and political party membership.²⁸⁶
- (2) Avoidance of special privileges of State-owned enterprises, for example, excessive benefits for labor unions.
- (3) A new entrepreneurial perspective for public enterprise. *Empresas Públicas de Medellín* is the best example of a profitable and efficient State-owned enterprise in Colombia.
- (4) Appropriate control of corrupt practices. Corruption has spread within public enterprises. Consequently, the control over public funds has increased and managers are restricted by several internal procedures. However, inappropriate regulation means not only control but also restriction of innovation.

²⁸⁵ "In the managerial perspective, democracy is seen as a consequence of elite competition for popular support, mainly through the competition of political party elites seeking electoral backing and of other elites seeking political power." R. Alford & R. Friedland, *Powers of Theory: Capitalism, The State, and Democracy* (Cambridge: Cambridge University Press, 1985) at 176.

²⁸⁶ This phenomenon is explained by the theory of "clientelismo". The word "*clientelismo*" has been adapted from the business to the political arena. It means that politicians use citizens as clients for political purposes. The consequences are that those citizens who favor politicians with their votes benefit from government decisions such as employment opportunities. E.g., see J. Duarte, "State Weakness and Clientelism in Colombian Education" in Posada-Carbo, *supra* note 80.

There are two approaches, at the firm level, to reform the telecommunications sector. The first is privatization of State-owned enterprises. However, the second one, arguably more desirable, is structural reform of public enterprises.²⁸⁷

²⁸⁷ "This new vehicle - the organization of the twenty-first century - cannot be created through continuous improvement. It can only be created through radical change." Gibson, *supra* note 270 at 8.

CHAPTER 4

A UNIVERSAL ACCESS POLICY THAT IS FOCUSED ON SOCIAL NEEDS RATHER THAN THE CONSUMERS' ECONOMIC CAPABILITY

Successful telecommunications relies on a combination of human need and the availability of technical means. However, policy makers often limit telecommunications policy to the installation of telephone lines. This chapter argues that if universal service policy focuses only on the installation of lines, the policy will be inadequate to consider different communications needs.

Lack of consideration for social and cultural elements has led to the "universalization" of the universal service problem. "Universalization" here refers to the implementation of the same policies in different countries, and the same policy for different regions in one country.

The goal of universal service policy is not the installation of communications means, but rather the facilitation of communication between people. At first glance, these might not appear to be different. However, the telecommunications policy in Colombia has restricted its goal to the installation of lines, and this limited objective fails to consider different needs, interests, and cultures. Consequently, universal service policy is usually curbed due to economic factors. Different regions do not have the same needs. For example, Santafé

de Bogotá²⁸⁸ does not have the same communication needs as San José del Guaviare.²⁸⁹ In Santafé de Bogotá telephone lines are required to promote economic activity, whereas in San José del Guaviare communications means are required to promote development and security for the population. While Santafé de Bogotá presents an attractive market opportunity, San José del Guaviare does not. However, if the State does not intervene in San José del Guaviare, this region will lag behind in communication opportunities.

Cultural factors create constraints to the incorporation of telecommunications means. These factors include language, education level, preferences for personal communications and adaptability to new technology. Against the backdrop of these cultural factors, this chapter will focus on two social factors. The first factor is the social reality of rural development in Colombia, and the second is the adaptation of communication means and different social needs.

4.1 Rural Development, Telecommunications Infrastructure and Poverty

In Colombia, the levels of development between urban and rural areas differ significantly.²⁹⁰ Most rural regions do not have the advantage of an adequate services

²⁸⁸ Santafé de Bogotá is the capital of the country. The city has five million inhabitants and is the center of the government and the main economic activities.

²⁸⁹ San José del Guaviare is the capital of the state of Guaviare. It is one of the few urban centers in the southeastern region. It has a population of three hundred thousand people. While rich in natural resources, the region has been affected by violence and drug trafficking activities.

²⁹⁰ For example, while access to safe water in Colombia is guaranteed to 97 percent of the urban population, the percentage decreases in rural areas to only 56 percent. See UNICEF, *The State of the World's Children 1997* (New York: UNICEF, 1997).

infrastructure. Only 72 percent of "*municipios*" and 60 percent of villages have telephone access.²⁹¹ In 1951, only 39.5 percent of Colombian inhabitants lived in urban areas. However, by 1993 the urban population had increased to 74 percent.²⁹²

Developmental differences between urban and rural areas are not just a Colombian phenomenon.²⁹³ Even most developed countries have experienced these types of differences, which are the result of longer distances and fewer users.²⁹⁴ According to Colombia's National Plan of Communications, investment in rural areas is a government priority.

Despite the shrinking proportion of the rural population, poverty in rural areas has increased to account for seventy percent of the national rate,²⁹⁵ and migration to urban centers has increased due to violence and poverty in the Colombian countryside.

The main characteristics of rural life that bear upon telecommunications policy are: (1) violence, (2) the decreasing productivity of rural areas, (3) economic differences amongst

²⁹¹ See *Plan Nacional de Comunicaciones*, *supra* note 48 at 3-16.

²⁹² See M. Palacios, *Entre la legitimidad y la violencia: Colombia 1875-1994* (Bogotá: Norma, 1995) at 300. See also A. Valdes & T. Wiens, "Pobreza Rural en America Latina y el Caribe", <http://www.rimisp.cl/r7valdes.htm> (date accessed: 2 November 1998).

²⁹³ By the end of the eighties, while 93 to 97 percent of urban households in the U.S. had private telephone service, only 76 percent of rural households had such service. See J. Schmandt, F. Williams, R. Wilson, & S. Strover, eds., *Telecommunications and Rural Development* (New York: University of Texas at Austin, 1991) at 5.

²⁹⁴ See *ibid.* at 4.

²⁹⁵ See Valdes and Wien, *supra* note 292.

regions, (4) the conflict between centralization and decentralization, and (5) the impossibility of "universalizing" universal service policy.

4.1.1 Violence

The twentieth century has been marked by internal violence. "*La violencia*"²⁹⁶ of the fifties and sixties²⁹⁷ between the two main political parties, the war between guerrilla groups and the government,²⁹⁸ the war between guerrilla and paramilitary groups,²⁹⁹ and the war between the government and some drug-trafficking cartels³⁰⁰ have all affected economic development in the countryside. Recently, violence has had a devastating effect.³⁰¹ The greatest social problem is the increasing number of refugees moving from these violent areas to the cities.³⁰² Between 1985 and 1994, approximately 700,000 people were displaced from their homes,³⁰³ and this number increased to 1,200,000 in 1998.³⁰⁴ Refugees are moving to cities such as Santafé de Bogotá, Medellín and Bucaramanga,³⁰⁵ adding to the urban crisis in these already populated cities.

²⁹⁶ "The violence".

²⁹⁷ See A. Tirado, "Violence and the State in Colombia" in Posada-Carbo, *supra* note 80.

²⁹⁸ Since the beginning of the sixties until today.

²⁹⁹ It has increased in the last two decades. Today, it is the main cause of migration from rural areas to the major cities.

³⁰⁰ Since 1984, but decreasing since 1993.

³⁰¹ See Tirado, *supra* note 301 at 112.

³⁰² See Consultoría para los Derechos Humanos y el Desplazamiento - CODHES, "Desplazamiento Rural: Violencia y Pobres", <http://www.derechos.org/nizkor/colombia/desplazados/a.html> (date accessed: 12 September 1998).

³⁰³ See *ibid.*

³⁰⁴ See A. Raffo, "Una Cultura de Violencia e Intolerancia", *El Espectador* <http://www.elspectador.com/9809/05/genotici.htm#02> (date accessed: 5 September 1998).

³⁰⁵ See *ibid.*

The consequence of displacement for telecommunications policy is that many people living in rural areas do not have a permanent residence. Uncertainty defines the future of rural inhabitants in violent areas.³⁰⁶ Since installing private phones would not be profitable for providers, the best solution is to install community phones.

Other dimensions of violence influence the telecommunications policy. For example, violent regions require a better infrastructure because telecommunications can be an instrument to control illegal activities. Furthermore, the technological infrastructure is under the threat of damage because wired communications are supported by physical structures that can be attacked. The operation of the service in unsafe zones is risky and expensive and, thus, operators require better incentives. In addition, the operation should be supported by different technology. For example, *Empresa de Telecomunicaciones de Servicios Agregados*, EMTELSA, is planning to install 12,000 wireless lines in rural areas in order to satisfy particular communication needs.³⁰⁷

It is risky to penetrate markets in violent regions. However, people in areas of conflict arguably need a means of communication more than others. The Government of Antioquia³⁰⁸ has based the fight against the guerrillas on communications. Some civilian

³⁰⁶ Uncertainty of the future, of life, incomes and permanent settlement.

³⁰⁷ This is the so-called "fixed-cellular" technology. Installation costs are still high (US \$1,700 per line) but it guarantees security and continuity of the service. See La Patria, "Minhacienda da Luz Verde a Crédito para Infimanizales", <http://www.lapatria.com/hoy01.shtml> (date accessed: 10 November 1998).

³⁰⁸ Antioquia, located in the Central region, is one the richest states in Colombia. Medellín, the capital of Antioquia, is the second most important economic center in the country.

groups have obtained specific communications means,³⁰⁹ permitting emergency communication with the authorities.

It would be useless to approach the rural problem in the same way for all regions. Peaceful and non-peaceful zones require different telecommunications policies. Economic incentives must stimulate penetration and the use of new technologies.

4.1.2 The Decreasing Productivity of the Colombian Countryside

The Colombian economy relies on raw materials and natural resources. Coffee has been the primary economic activity since the middle of the century and has improved welfare in the region. Economic development in other countries has also depended on the availability of natural resources.³¹⁰ However, the predominant forces of economic growth in world economic activity in the second half of the century have not depended on natural resources. The gap between countries with economic dependency on natural resources, such as Colombia, and those dependent upon information industries has widened. Inside the country, the gap between urban centers, which depend on industrial activities, and the rural areas is larger as well. The countryside depends on agriculture, but globalization has

³⁰⁹ CONVIVIRES are cooperatives whose main objective is to establish communications between the civilian population and governmental authorities. They have been successful in eliminating illegal activities.

³¹⁰ The theory of comparative advantage explained the location of production during the nineteenth and twenty centuries. Natural resources location used to determine economic power. "In the late nineteenth and early twentieth centuries, those with natural resources, such as Argentina and Chile, were rich while those without natural resources, such as Japan, were destined to be poor." L. Thurow, *The Future of Capitalism: How Today's Economic Forces Shape Tomorrow's World* (New York: William Morrow & co., 1996) at 66.

changed this economic activity.³¹¹ The number of international competitors in agricultural products have increased while protectionism has decreased. While some products were once subsidized by the government, most subsidies have been eliminated under regional treaties.³¹² Small farmers must now compete with high technology large scale production in local and international markets. Agricultural and livestock activities, which are the main sources of support in rural areas, have dwindled. Consequently, poverty and migration to big cities has increased. Rural areas are characterized by poor access to public services, and basic telecommunications are no exception.³¹³

4.1.3 Economic Differences Amongst Regions

Colombia is divided into thirty-three *Departamentos* or States. According to geographic location, there are three regions: (1) the Central region, (2) the Eastern region, and (3) West Andean region.³¹⁴ Even though this division is based on geographic distribution, important demographic differences are apparent. While the Central region comprises only 8.6 percent of the territory, it is home to 37.6 percent of Colombia's population. The Eastern region is constituted by 57.8 percent of the territory, but only 27.2 percent of the Colombian population lives there.³¹⁵ The Central and West Andean regions amount for 87

³¹¹ During the 1990s most Latin American countries entered into a new era of free market and economic integration. In Colombia, the César Gaviria government called this process the "*apertura*". See Ramirez, *supra* note 80.

³¹² Colombia is part of two regional treaties: Andean Pact and Group of Three. Furthermore, it has bilateral agreements with South and Central American countries.

³¹³ "The absence of the state is evident in the lack of roads, of schools, of public services, and, above all, in the lack of authority." Tirado, *supra* note 301.

³¹⁴ See H. Kline, *Colombia: Democracy Under Assault*, 2nd ed. (Boulder: Westview Press, 1995) at 5.

³¹⁵ See *ibid.*

percent of the national industry and 73 percent of the population.³¹⁶ The less a region contributes to economic growth, the poorer its infrastructure. In Colombia, it is especially the Eastern region of the country that lacks an adequate communications infrastructure.

Even under peaceful circumstances, economic conditions vary from one region to another. Those regions whose products are more important to the nation's economic performance have a better infrastructure.³¹⁷ Just as there is a contrast of wealth and poverty among individuals, so too there is one among regions. The *estrato* system subsidizes people according to their economic status. Yet, even though poorer customers are subsidized, in Colombia poorer regions are not.³¹⁸ In less productive regions, the population is poorer, and there are very few high income customers. When there are not enough high-income customers, subsidies are not given to low-income users. The result is no service. The *Comisión Reguladora de Telecomunicaciones* requires that, by the year 2000, every village must have at least one telephone line. But, the Fund can only subsidize the installation of lines.³¹⁹ By the year 2000, Colombia will have increased penetration, but these lines will probably have no users. In a sector with insufficient funds, this is wasteful.³²⁰ The installation of lines does not guarantee the incorporation and use of communications technology. Even public phones require some kind of State subsidization in order to guarantee their use.

³¹⁶ See *ibid.*

³¹⁷ For example, the coffee region has a better infrastructure in public services than most rural areas in the country.

³¹⁸ See *Plan Nacional de Comunicaciones*, *supra* note 48.

³¹⁹ See *ibid.*

³²⁰ Even the Communications Fund's market forecast suggests that the difference between the number of installed lines and lines in service will increase from 3.8% to 6.1%. See *ibid.*, table 4.1.

4.1.4 Centralization and Decentralization

Given that not all the regions of Colombia have the same level of economic development, the question is whether telecommunications policy should be the same from one area to another. Telecommunications policy, developed by the Ministry of Communications, is centralized. However, the 1991 Constitution has reinforced governmental decentralization by increasing fund transfers from the central to local governments (*municipios*).

According to Article 334 of the National Constitution, the State must intervene in order to guarantee an equal distribution of welfare amongst regions by promoting productivity, competitiveness and equal development in every region.

This thesis has argued that the starting point for a successful universal service policy in Colombia should be the acknowledgment of regional differences. A strategy that has been adopted in one region is not necessarily useful in another.³²¹ This proposal may appear to suggest an argument in favor of decentralization. However, decentralization is not recommended in telecommunications because of the nature of the sector, the significant risk of local corruption, and indeed precisely because of the great regional economic differences that exist.³²²

³²¹ For example, while public phones are useful in Atlantico, where the population is highly concentrated, they are far less useful in Guaviare, where the population is more dispersed.

³²² See G. Bell, "The Decentralised State: An Administrative or Political Challenge?" in Posada-Carbo, *supra* note 80 at 97.

Although decentralization enhances competition amongst regions, even in Federal States, telecommunications policy has primarily been centralized.³²³ Telecommunications depend on integrated networks, leading to centralized jurisdictions. Furthermore, centralization is required in order to allocate resources efficiently. In pursuing common interests, some regions must contribute to the development of others.

If telecommunications policy followed a completely decentralized model, regional differences would increase. Statistics produced by the *Superintendencia Delegada en Telecomunicaciones* show that while the major local operators in some cities subsidize telephone access for the lowest two *estratos*, local operators in the poorest urban centers and rural areas cannot not subsidize such access.³²⁴ For instance, while *Empresas Municipales de Cali*³²⁵ has installed 27 percent of its lines in *estratos* one and two, *Empresas Municipales de Maicao*³²⁶ does not offer any telephone line for these two *estratos*.³²⁷ This restricted access for poor people in poor regions is explained not only by the limited capability of local providers but also by the inability of their inhabitants to afford such service.³²⁸

³²³ For example, the Canadian telecommunications policy has been centralized. Stentor, which is a consortium of telephone companies, has played a significant role in developing the network.

³²⁴ See Tafur *supra* note 65.

³²⁵ *Empresas Municipales de Cali*, EMCALI, is the local operator in Cali, which is the main economic center in the Western Andean region.

³²⁶ *Empresas Municipales de Maicao* is the local provider in Maicao, a commercial city in the East Region.

³²⁷ See Tafur, *supra* note 65 at 9-10.

³²⁸ Taking into account that the cross-subsidy system is based on overcharging those people in the higher *estratos*, in the absence of enough people in these *estratos*, there are no possibilities for subsidization.

Population distribution and density requires different measures for universal access among regions. For example, the South-eastern *Departamento* of Amazonas is the biggest state of the country, with a land mass of 109,665 km², but its population is one of the lowest (only 39,600 inhabitants).³²⁹ On the other hand, the *Departamento* of Atlántico has 1,879,200 inhabitants in only 3,388 km². While the population density in Amazonas is 0.36 people per square kilometer, in Atlántico it is 554 people per square kilometer.³³⁰ It is clear that the system used to measure telephone penetration these regions must be different.

The key question, however, is whether telecom providers should be directed centrally. While the economic activity in the private sector is becoming decentralized,³³¹ telecommunications development in rural areas in Colombia is still supported by TELECOM, a centralized enterprise. Some analysts have criticized the role of TELECOM in increasing penetration while disregarding regional differences.³³² The need to acknowledge regional differences should lead to decentralized service providers and a centralized administration of resources through the Communications Fund.

In particular, the central government must allocate resources in order to distribute benefits and equalize differences. Otherwise, the gap among regions will increase. A centralized administration should nevertheless be able to oversee different approaches from region to region.

³²⁹ See Instituto Agustín Codazzi, *Atlas de Colombia* (Santafé de Bogotá: Arco, 1995) at 23.

³³⁰ See *ibid.*

³³¹ See Kirkham, *supra* note 34.

³³² See Rentería, *supra* note 57.

4.1.5 The Universal Service Policy Must Not Be So "Universal"

In sum, it is not efficient to have a universal policy for universal service; the policy should be sensitive to regional differences. In Colombia, the goal of universal service cannot be accomplished through "universal policies". A uniform approach to service needs leads to an inefficient allocation of resources.

The traditional understanding of universal service in developed countries is not applicable to developing countries such as Colombia. There are structural differences that are not only economic but social and cultural as well.

"Universalization" fails to consider factors such as the following:

- (1) Universal access is not guaranteed by the installation of telephone lines accessible to the whole population. The problem of poor penetration relates not only the installation of communications means. Installation of means must be linked to effective use according to community needs.
- (2) The "universalization" of *telephone lines* has lead to a misunderstanding in the Colombian policy: The government has established a goal depending on the number of lines per one hundred people (teledensity).³³³ Consequently, the goal has become the installation of lines, not improved communications among people. At first glance it seems there is no difference. However, the system measures efficiency

³³³ The goal for the year 2007 is to increase the number of lines to 27 per 100 people. See *Plan Nacional de Comunicaciones*, *supra* note 48 at 6.

based on the number of lines that operators have installed. No research has been done on the effects of communications means in different rural communities. Telecommunication providers are evaluated according to the number of lines they install. However, one telephone line in one community with a low population density has less impact than one line in a community with a high population density. When resources are scarce, they should be allocated according to the impact they will have on different populations.

- (3) According to the National Plan of Communications, the government assumes that every population center has the same communication needs. However, there are different factors, such as the population density of the immediate area, that determine the effects of adding a telephone line.
- (4) The "universalization" of the telephone fails to consider the person as the core objective of any communication policy. If the number of lines is the objective of the policy, public policy will be reduced to bean counting. The National Plan of Communications contains an economic study of investment in social telephony. But it does not include any consideration of social and cultural factors.
- (5) Under the current levels of investment, universal service is not possible in Colombian rural areas. Seventy percent of the poor population of the country lives in rural areas.³³⁴ Their daily income is no more than 1 US dollar per day.³³⁵ Despite the availability of natural resources, this income is insufficient even for basic needs.

³³⁴ See Valdes & Wiens, *supra* note 292.

³³⁵ See *ibid.*

- (6) "Teledensity" does not measure access in sectors with low population density.³³⁶ This measure cannot be equally applied in urban and rural centers.³³⁷ The policy requires different parameters in rural areas, such as the number of lines per kilometer or the number of lines per walking distance.
- (7) Social investment in the telecommunications sector has taken into account *Unsatisfied Basic Needs* (UBN).³³⁸ UBN considers the following factors: the nature and numbers of people in households, access to public services, access to education, and economic dependency.³³⁹ It thus measures basic needs. However, it does not acknowledge communication needs. Investment in the telecommunications sector is based on the assumption that the same people who need, for example, sanitary water, need communications means. While this might be true in some sectors, UBN is characterized by a lack of specific attention to communications needs.

4.1.6. Understanding Regional Differences

This thesis has proposed understanding the universal service problem according to regional differences. Investment in the telecommunications sector should be prioritized according to these different needs.

³³⁶ See Rentería, *supra* note 57.

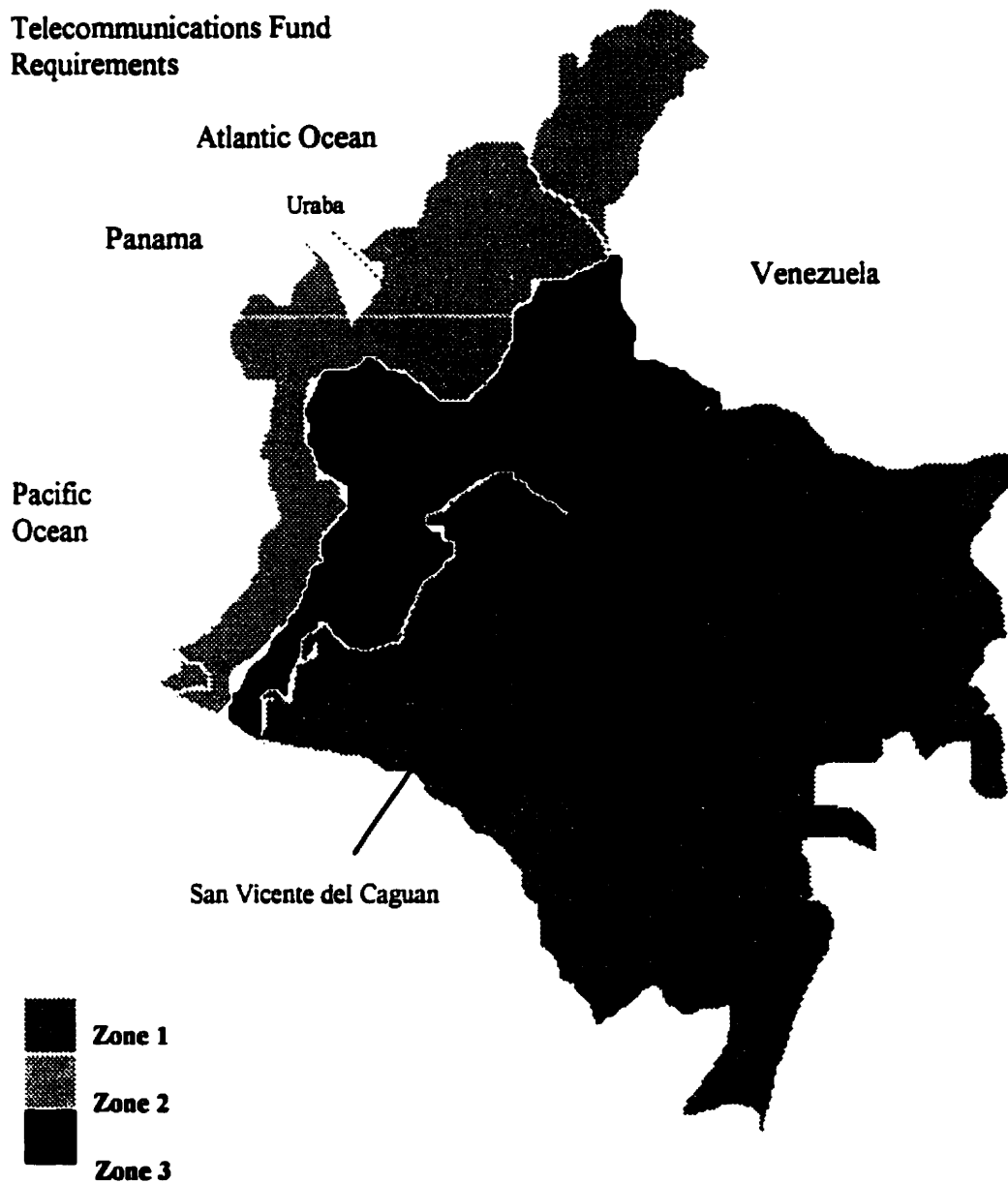
³³⁷ See *ibid.*

³³⁸ See CONPES, *supra* note 99.

³³⁹ See Sarmiento, *supra* note 195 at 279.

Figure 11

**Telecommunications Fund
Requirements**



For most practical purposes, the country can be divided into three main regions, each of which should follow a different policy:

Zone 1 - Eastern Region: It is the region with less population density. Oil excavations and agriculture are the main economic activities. The historic lack of government attention to

this region has cultivated illegal activities, which most of the time are sustained by guerrillas.

Zone 2 - Western Region: Although this region has access to both the Atlantic and Pacific oceans and has great economic importance, the Pacific Coast is characterized by poverty and a poor telecommunications infrastructure. The Atlantic Coast has experienced better economic growth and social development. However the Urabá region is one of the most violent places in the country. Illegal guerrillas and paramilitary activities take place in this region.

Zone 3 - Central Andean Region: This is the most populated region. Most economic activity is located in this region. This is the region with the best telecommunications infrastructure.

Subsidized investment in telecommunications can accomplish its main social and economic objectives if focusing on Zone 1. It is a priority in order to encourage legal economic activities in this part of the Colombian territory.

On the other hand, in Zone 3 telecommunications require less government intervention. This region is more attractive to market forces. Adequate regulation of competition can increase the number of people with access to basic telecommunications facilities.

Resources from the Telecommunications Fund are scarce. Consequently, the State should finance access in the most productive regions only after basic requirements are satisfied in the less productive zones. In Zone I, local authorities through regional funds should invest in information centers in order to guarantee access for low-income earners in urban centers. Information centers could guarantee access to information technology in the near future.

4.2 Further Considerations

The incorporation of technology creates new needs. Once a communications need is created, people will seek communication alternatives. One option is telephone communications. Obviously, if no communication need exists, there will be no demand for telephone lines. Although a few lines in one village can be the result of poor economic capacity, a core cause of poor telecommunications facilities is the lack of developed telecommunications needs. A clear example is the recent increase of telephone lines in San Vicente del Caguán, a town in the Eastern region. Low population density and physical barriers have made San Vicente del Caguan a rural region characterized by social problems. It is one of the centers of illegal guerrilla and drug cultivation activities. During peace talks between the government and the Fuerzas Armadas Revolucionarias de Colombia (FARC), which is one of the strongest guerrilla groups, the first public meeting took place in San Vicente del Caguán. San Vicente is located in the State of Caquetá, a

forest region, eight hundred kilometers east of Santafé de Bogotá. Most of its inhabitants are peasants and population density is low.

According to these characteristics, the town should not attract investment in the telecommunications sector. In November 1998 the town had 300 lines.³⁴⁰ Because of the conflict, the government, public opinion and the media started to be concerned about the town and about opening direct links with the rest of the country. In 1999, when the peace talks started, TELECOM installed 2,200 new lines.³⁴¹

This simple example shows that:

- (1) The installation of new lines did not depend on the economic capability of the consumers; it depended on public attention and developing the population's need to be communicated with.
- (2) The government had not paid enough attention to the basic infrastructure needs of the town. Indeed, the lack of access to public services facilitated the operations of anti-government guerrillas.
- (3) Because of the creation of a basic need, telecommunications operators became interested in the sector as a future market.
- (4) Nowadays, increasing telecommunications penetration in rural areas not as technically difficult as it used to be. In San Vicente, penetration increased by 800% in one year.

³⁴⁰ Revista La Nota, "Negocios", 1999 No. 30 at 20.

³⁴¹ *Ibid.*

CONCLUSION

Telecommunications development has a direct impact on competitiveness, job creation, and economic growth. However, Colombia, like most developing countries, has not given enough consideration to telecommunications development. Despite some efforts to spread the benefits of communications, most telephone lines are concentrated in the main urban centers. Seventy percent of the main telephone lines are found in five cities. Despite the great economic potential of some rural areas and small urban centers, regions such as the Eastern part of the country do not have an adequate telecommunications infrastructure. Infrastructure disparities increase the already large gap between wealthy and less-privileged regions of the country and reinforce several internal conflicts: the concentration of power in a few regions, migration, violence, poverty, low-investment in rural areas, illegal cultivation, guerrillas and refugees. Although the telecommunications sector cannot solve all these problems, access to telecommunications services could be a starting point for economic development in these regions.

Most governmental efforts have been restricted to increasing the number of lines. The number of lines is important for extending network development. However, the number of lines is not an appropriate measure for the social and economic impact of telecommunications development. One new line in the Eastern region would have a greater impact than more new lines in the five major cities of the country because every line in this large part of the country can create new economic opportunities. Furthermore, new

technology and new communications needs create market opportunities in low-income sectors of urban centers.

The following factors suggest that the approaches to universal service in urban and rural areas must be different:

- (1) Developing telecommunications in populated urban centers is less expensive than developing telecommunications in isolated rural areas.
- (2) Rural areas are less attractive to market forces than urban areas. Consequently they require State intervention.
- (3) The State should use its telecommunications infrastructure to promote development in under-privileged regions.
- (4) In areas characterized by violence, migration and poverty, the State is responsible for generating social development. Telecom operators in competitive markets would not willingly operate in these areas. Public investment in these areas would have a greater impact on the country's welfare because it would help to link the government with isolated communities.

Public policy should thus concentrate on developing telecommunications in rural areas. This process should involve the elimination of regulatory constraints in competitive markets in urban centers, while improving access to services in rural and sub-urban areas.

Colombia can be divided into three main regions. Those regions with greater levels of social conflict should be the priority for State telecommunications investment. The government could promote investment on the Eastern region in two ways: (1) by financing investment through the Telecommunications Fund, and (2) by guaranteeing granting regulators preferences to telecom providers in this region, which might even include monopoly rights for a period of time.

The poor state of data on the status of Colombia's telecommunications infrastructure underline the problems with universal service policies. No country can ensure its development without investing in research. Appropriate telecommunications data will help the government and operators to monitor the development of universal service policies. Current data regarding such important factors as penetration, the number of households without phones, and specific regional communications needs are woefully inaccurate. It has been difficult to monitor the social benefits of particular telecommunications policies because statistics are in essence limited to the number of lines per one hundred people. The different kinds communications needs of different regions have not been considered or measured.

There are different ways of guaranteeing affordability than through rigid local cross-subsidization. Affordability is made possible by helping consumers to control their expenditures. For example, it would be possible to limit consumers' use through a ceiling tariff and to adopt a billing system that considers consumers' pay periods.

Telecommunications development in rural areas can help to secure social ties and can thus be an instrument for peace and the promotion of legal activities in areas of conflict and illegal cultivation.

The kind of service that should be considered part of universal service is not the same in every social sector. In urban centers, universal access should be defined as the access of every citizen to a public telephone line within walking distance. In rural areas, the parameters should change according to the following three groups of sectors: (1) areas of violence and poor infrastructure, (2) areas of great economic potential, and (3) areas where the majority of economic activity is currently taking place.

According to the current system, society is divided into six groups of people according to their capacity to pay. However, this parameter does not consider different needs depending upon the community's state of economic development, the place of social and political minorities, and of violence.

The government must recognize that the current rules governing universal service do not aid the most sensitive sectors of the Colombian society. Such uniform rules do not recognize regional differences and the diversity of needs.

The fact that the current policy is based on increasing the number of lines, rather than focusing on the social benefits of every line, has misoriented universal service policy. For

example, for the year 1999, the Communications Fund will have to show impressive results as concerns increases in the number of new lines, firstly, because the *Comisión de Regulación de Telecomunicaciones* (C.R.T.) has demanded that the fund ensure that 90% of all villages in the country have access to a telephone line, and secondly, because the National Plan of Communication has established a goal that is based on teledensity. Consequently, for the purposes of measuring achievement of this goal, it would be easier to install 1,000 lines in urban areas (whose installation is three times cheaper) than 400 lines in high-cost areas. However, these high-cost areas, which are areas of violence and illegal cultivation, require stronger State participation. The social effects of a new line in Zone 1, where installation is more expensive, will be greater than the social effects of a new line in Zone 3. This study suggests that the social effects of telecommunications development does not depend on the number of lines. The number of lines increase the value of the network. However, a greater number of lines in regions such as Guaviare would have a proportionately more substantial effect on economic and social development.

The market-driven approach that has been adopted in countries such as Chile and Hungary has had a dramatic effect on telecommunications development. Long-term plans, such as the National Communications Plan and the promotion of foreign investment, should eventually create an adequate communications infrastructure. Colombia has the opportunity to enter into a new era, where access to information will not put it at a competitive disadvantage in the global economy.

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