11. THE TELECOMMUNICATIONS SECTOR IN THE ANDEAN COUNTRIES

Carlos A. Primo Braga, Volker Ziegler,and Li-Gang Liu[*]

The last ten years have witnessed major changes in the structure of the telecommunications sector in the Andean region.[1] Privatization, growing foreign direct investment and the changing character of government involvement in the sector have significantly altered the structure of the industry and the way in which telecommunications services are provided in the Andean countries.

In this paper, we document these changes, focusing on the evolving regulatory environment and the role of foreign capital in the industry. We argue that despite the significant progress achieved, the establishment of a pro-competitive regulatory environment remains a major challenge for these countries. We also document the roles that the United States is playing as a provider of equipment, as a major source of revenues for telecom services exports, and as a source of capital and strategic partnership for Andean telecom operators. In this context, we point out that U.S. companies are well positioned to benefit from the expanding market for telecommunications in the region, but that this should be accomplished in the context of a non-discriminatory liberalization movement (e.g., by implementing or expanding commitments under the Basic Telecommunications Agreement of the WTO) rather than via preferential agreements.

The paper is organized as follows: Section II briefly presents the evolving telecommunications infrastructure of the Andean countries; the third section, on liberalization and competition, describes developments in privatization and in regulatory reform that have been shaping the transformation of the industry in the region; next, the role of foreign direct investment in the Andean telecommunications market is discussed with special attention to the U.S. presence in the region. The final section assesses some of the remaining points of the telecommunications agenda in the context of U.S.-Andean countries relation.

TELECOMMUNICATIONS INFRASTRUCTURE

With the dawn of the information age and the introduction of structural stabilization and economic reform throughout the region, the telecommunications industry has been at the forefront of rapid economic restructuring. The telecommunications sectors of Bolivia, Colombia, Ecuador, Peru, and Venezuela have all been positively affected by the implementation of new regulatory structures, the set-up of independent regulators, the evolving privatization of formerly state-owned operators, growing foreign direct investment inflows, and an increasingly competitive market. As a result, the telecommunications infrastructure deployed in Andean countries has been greatly improved.

Table 11.1 gives an overview of key telecommunications indicators for the Andean region. Since reform and privatization started in the early 1990s, both overall telecommunications market growth and individual sector performance have been impressive. Teledensity has roughly doubled in most Andean countries. Waiting time for a telephone line has fallen from several years to months. In addition to rapid infrastructure developments, the quality of services is also improving quickly. In most countries the call completion rate has increased to more than 90 percent. The rate of faults per line being repaired within 24 hours has also improved dramatically. Moreover, cellular and wireless subscribers have increased at a breathtaking pace, raising the average cellular penetration rate per 100 inhabitants from almost 0 in 1990 to 1.32 in 1996. Internet connectivity, although still limited, is also expanding at a fast pace. And the cable TV business is booming, with more than half a million households already connected.

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[*] Carlos A. Primo Braga and Volker Ziegler are, respectively, Principal Economist and Information Technology Specialist of the Telecommunications and Informatics Division of the World Bank. Li-Gang Liu is Research Associate with the Institute for International Economics. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily reflect the views of their respective institutions.

[1] For the objectives of this paper the Andean region is defined as encompassing the members of the Andean Group: Bolivia, Colombia, Ecuador, Peru and Venezuela.

TABLE 11.1 TELECOMMUNICATIONS INDICATORS

	1985	1990	1995/6
BOLIVIA			
Teledensity	3	3	5
Cellular/Wireless Subscribers	0	0	24,100
Cable TV	n.a	n.a.	25,000
Internet Users(Per 10,000)	0	0	0.09
Average Call to U.S. (3 min)			$6.1
COLOMBIA			
Teledensity	6	7	14.57
Cellular/Wireless Subscribers	0	0	581,801
Cable TV	n.a	n.a	120,000
Internet Users(Per 10,000)	0	0	0.58
Average Call to U.S. (3 min)			$4.12
ECUADOR			
Teledensity	3	5	6
Cellular/Wireless Subscribers	0	0	55,000
Teledensity	2	3	5.9
Cellular/Wireless Subscribers	0	1,650	185,710
Internet Users(Per 10,000)	0	0	0.35
Average Call to U.S. (3 min)			$5.76
VENEZUELA			
Teledensity	7	8	13.1
Cellular/Wireless Subscribers	0	7,422	454,500
Cable TV			220,000
Internet Users(Per 10,000)			0.52
Average Call to U.S. (3 min)			$6.62

Source: ITU, World Telecommunication Development Report, 1996/97

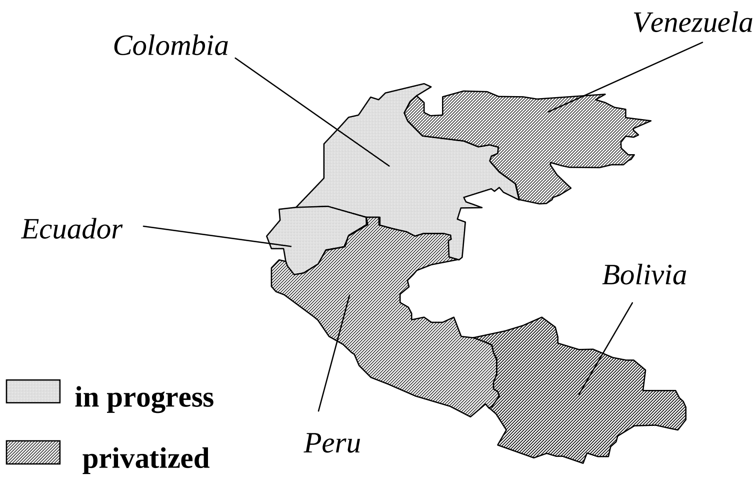
PRIVATIZATION AND REGULATORY REFORM

Privatization has been a powerful force for change in the telecommunications sector all over Latin America.[2] The privatization movement can be traced back to 1978 when Chile started to reform its telecommunications sector by allowing for private investment in discrete areas of telecommunications services. The Andean Community countries only embarked in such a journey in the early 1990s. To date, three countries in the region have completed the privatization process (see Figure 11. 2). Previously state-owned public telecommunications operators (PTOs) have been replaced by private, often partially foreign-owned, telecommunication firms in Venezuela, Peru, and Bolivia.

Ecuador and Colombia have lagged behind in this process. After repeated delays, the Ecuadorian state-owned telecommunications entity, EMETEL, was expected to be privatized in November 1997. In the case of Colombia, strong resistance from the telecommunications workers union has postponed plans to sell TELECOM, the state-owned telecommunications company.

[2] Most of the data on which this section is based are from the following sources: ITU (World Telecommunications Development Report); ITA (Latin American Telecommunications Market); World Bank studies and data bases.

FIGURE 11.2 PRIVATIZATION IN THE ANDEAN COUNTRIES



Venezuela

Venezuela was the first of the Andean community countries to privatize its telecommunications sector. CANTV, the formerly state-owned monopoly, had served as Venezuela's sole telecommunications provider since 1940, and had controlled all local, long-distance, and international telephone systems, telex, and data transmission services. Poor service and insufficient public funds for investment prompted the Venezuelan government to begin to liberalize and privatize the country's telecommunications sector. On November 15, 1991, a 40 percent interest in CANTV was awarded to the VenWorld consortium led by GTE (51 percent), AT&T (5 percent), Telefonica del España, and Venezuelan partners Electricidad de Caracas and Consorcio Inversionista Mercantil Cima. The VenWorld group outbid a consortium that included Bell Atlantic and Bell Canada, among others, with an offer of nearly $1.9 billion . As a part of the capitalization scheme, the Venezuelan government retained 49 percent equity in CANTV and placed the remaining 11 percent in a trust for CANTV workers in an effort to calm labor objections to privatization.[3]

The GTE-led group acquired full managerial control over CANTV, a renewed 30-year concession to provide basic network services, and a monopoly in basic telephone services for a nine-year "exclusivity" period. In return, the new owners assumed $125 million of CANTV's $600 million-dollar outstanding foreign debt and agreed to operational obligations for expansion and service quality requirements. The VenWorld consortium owners are required to install 4.5 million new lines by the year 2000, add more than 100,000 new public pay phones, and increase digitalization from 25 to 80 percent. In addition, the new operators must substantially improve service, cut the waiting period for new lines from eight years to a week, repair damaged lines within six hours, and expand coverage for cellular, satellite, facsimile and data services to all 12 major Venezuelan cities.

CANTV has taken large steps toward meeting these goals. Though dampened by recession, debilitating exchange rate controls, and oscillating regulatory intervention, the privatization process has brought about substantial expansion and development of Venezuela's telecommunications infrastructure. The amount of money raised for infrastructure expansion, in terms of EV per line, is estimated at $3,142. As Figure 11.2 illustrates, Venezuela, like Peru, has attracted growing levels of foreign investment since privatization in 1991. CANTV has spent almost $2 billion since 1991 and its massive investment program is expected to add more than 3.2 million new lines by 1997. Venezuela's teledensity increased from 8.7 phone lines per 100 inhabitants in 1991 to 13.1 lines per 100 in 1995, and continues to rise. Aggressive efforts have brought overall digitalization up to almost 50 percent of the network in 1995. Fiber optic links to all major towns are almost complete and a dial tone is now available within three seconds at least 80 percent of the time.

[3] In the third quarter of 1995, the Goverment of Venezuela announced plans to sell two-thirds of its 49 percent stake in CANTV. However, uncertain economic and regulatory conditions, have weakened investor's interest and delayed sale on the international stock exchanges in New York and Caracas.

CANTV's current expansion plans call for the installation of at least 300,000 new digital lines per year. In addition, CANTV owners plan to import 18,000 coin-operated, magnetic and credit card operated public phones and invest a total of $60 million in public phones. All of these efforts, however, have not matched the burgeoning demand for basic services. According to a recent ITA market survey, an additional $10 billion will be necessary over the next five years to install the approximately 1.6 million additional lines needed to meet only 60 percent of the country's unsatisfied demand. Based upon this report and other estimates of lagging call completion rates, CANTV has pledged to invest $591 million in 1997, $271 million more than its 1996 total. This commitment will further fuel the enormous expansion of the Venezuelan telecommunications sector.

Peru

Peru's telecommunications network, historically one of the least developed in Latin America, has experienced an enormous expansion since the break-up of the 25-year state monopoly. In February 1994, the Government of Peru -- carrying out plans first announced in October 1991 -- decided to privatize the national telecommunications service providers: Lima-based telephone company, Compania Peruana de Telefonos (CPT), and the national telephone company, Empresa Nacional de Telecomunicaciones del Peru (ENTEL PERU). As a part of its privatization plan, the Goverment agreed to sell 35 percent of its stock in ENTEL PERU and 20 percent in CPT, along with managerial control of both companies.[4]

The Comite Especial de Telecomunicaciones (CEPRI TELECOM), the state-appointed privatization committee, fixed the base price for privatization at $535 million. Three international consortia led by SBC Communications (formerly Southwestern Bell), GTE and Telefonica de España presented final offers through a competitive bidding process. In the end, Telefonica de España, far outbid all competitors with an offer of $2 billion and gained control over the two Peruvian phone companies. This amount, which far exceeded the reserve price set by the government, was the largest ever offered for a telecommunications privatization bid in Latin America. The amount of money raised for infrastructure expansion, in terms of EV per line, is estimated at $9,201. The Peruvian government retained $1.39 billion of the winning bid. The remaining $610 million must be invested by Telefonica in telephone infrastructure. In addition to the shares of ENTEL and CPT, Telefonica, as a part of the contract, will earn a management fee of 9 percent of gross operating profit and 1 percent of gross operating revenues. In return, the new operator, is required to meet several performance criteria designed to expand the network, increase teledensity, and improve service over the next five years.

Telefonica must install 638,000 new lines in Lima and 559,000 lines throughout the rest of the country (for a total of at least one million new phone lines at an estimated cost of $1-1.5 billion) by the year 2000, and must reduce the waiting period for a phone line to three months. In addition, the new operator must provide communications for every Peruvian town with more than 500 inhabitants and cut the waiting time for new service from five years to three days. Telefonica has announced that it is prepared to invest an additional $1.9 billion to meet these criteria. Far beyond the base requirements, the newly-privatized operator, is planning to triple the number of lines in Peru by the end of the century, installing at least 1.2 million new lines and sharply reducing the waiting period for service. In addition, Telefonica de España, the parent company of the Peruvian service provider, has announced plans to install 19,000 public phones and extend service to 1,500 rural villages, which because of the mountainous terrain will require satellite technology.

The number of pay phones has increased by more than three-fold, from 7,990 in 1994 to 32,300 in 1996. Mobile phones in operation have soared from fewer than 5,000 in 1990 to approximately 150,000 in 1996 and the recent entry of Bell South into the cellular phone market should spur even more rapid expansion. The number of concessionaries in the telecommunications market was fewer than ten in 1994. Four years into Peru's privatization effort, telephones have been introduced in over a half a million new homes and waiting time for installation has fallen from more than ten years to less than two months. Privatization and reform, clearly, has radically altered the Peruvian telecommunications infrastructure.

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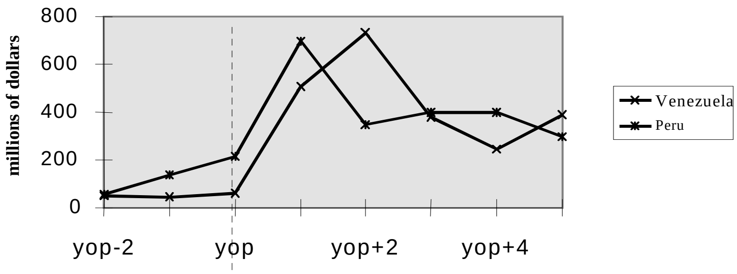
[4] The government gave 10 percent of the shares of ENTEL PERU to employees of the company, and is retaining the other 55 percent for future sale. Individual telephone subscribers, who own 70 percent of CPT, have been allowed to maintain their shares.

FIGURE 11.3 ANNUAL INVESTMENT IN BASIC TELECOMMUNICATIONS IN VENEZUELA AND PERU



Source: Pyramid Research
Note: yop denotes the year of privatization

To illustrate the major role of foreign capital in reforming the telecommunications infrastructure, Figure 11.3 shows overall annual investment in millions of dollars for Venezuela and Peru where foreign operators were important actors in the privatization process. A continued higher level of investment has been sustained as compared to the situation before privatization. On average, the level of annual investments five years (yop+5) after privatization is five times the level of annual investment prevailing two years before privatization (yop-2).

Bolivia

The, Empresa Nacional de Telecomunicaciones, ENTEL, Bolivia's former state-owned utility was privatized in November 1995 under the auspices of the Capitalization Law of 1994. A fifty- percent share of ENTEL was auctioned off through a creative capitalization scheme, which raised $610 million -- much more than the government's estimated book value of $100-150 million. The amount of money raised for infrastructure expansion, in terms of EV per line, is estimated at $4,296 Though three U. S. companies -- Bell Atlantic, MCI International, and Sprint International submitted offers, STET International, an Italian telecommunications firm, outbid all U.S. and other international bidders and secured control over ENTEL.

According to a recent (August 1996 ITA Industry Sector Analysis), "the capitalization reform carried out by the Government of Bolivia has totally altered the telecommunications sector in Bolivia." All telecommunication services in Bolivia are now in the hands of the private sector. STET received fifty- percent equity of the state-owned company. Control over the remaining portion was transferred to private Bolivian citizens and converted into shares, which were deposited in new pension accounts for all adult Bolivians. According to the capitalization scheme the strategic investor's money goes toward increasing the capital base instead of being given to the government. By law, STET is required to invest, over the next five years, the totality of its $610 million-dollar bid directly into ENTEL's operations in Bolivia. In return, STET has been granted a contract with ENTEL that gives it sole managerial responsibilities, a six year period of exclusivity to operate regional and international long distance telephone service, and all telex, telegraph, and satellite services that involve long distance telephony.

The goals of the capitalization plan are to double line capacity, expand and modernize the infrastructure, and increase the types and range of services for the country. Investment will focus on the digitalization of the network and the expansion of service into rural areas, a new cellular phone service, interconnections with neighboring countries, fiber optic lines and other needed telecommunications services. The private owners of ENTEL have responded to the demands for heavy investment in and expansion of the telecommunications infrastructure. Building upon investments made by ENTEL totaling $150 million over the last five years, the newly privatized firm announced an ambitious plan for its first year of operations, which include: investment in 3 mobile switches and 62 cellular base stations, installation of 2,200 public telephones in rural areas and small towns throughout Bolivia, installation of small ground satellite stations (VSAT) for rural telecommunications in 131 small towns throughout the country, and investment in a national fiber optic network.

Ecuador

The Government of Ecuador twice attempted to pass legislation to privatize the national telecommunications infrastructure in 1994. Both proposals failed to obtain congressional approval. In August 1995, after more than a year of debate, a privatization bill was passed. The law divided EMETEL (Empresa Estatal de Telecomunicaciones), the national monopoly, into two operating companies, EMETEL Norte, in the north, and EMETEL Sur, in the south. Thirty-five percent of the shares of each of these two limited liability companies were scheduled to be auctioned off to prequalified bidders in early 1997.[5] The privatization plan granted the purchaser a five-year "exclusivity" period for basic services. Cellular, data, teleports, mutimedia, RDSI, VSAT, and other value-added services were opened up to competition as a part of the privatization process and telephone rates were established based upon real operating costs. In return, as a part of the capitalization contract, private operators were required to include investment plans for rural coverage in their offers.

Five international service providers – including, MCI International, Korea Telecom, GTE International Telecommunications Inc., STET International, Netherlands N. V., and Telefonica Internacional de España S. A. – have all offered prequalifying bids. Goverment price estimates for EMETEL have not yet been determined. However, several sources have produced estimates ranging from $600 million to over $3 billion that are based on 1993 profits, totaling $75 million. Progress has been delayed and the April 1997 deadline came and passed, and auction was rescheduled for November 1997.

Colombia

TELECOM (Empresa Nacional de Telecomunicaciones) -- an autonomous government-owned monopoly established in May 1947 -- is the sole provider of domestic, long distance and international service,[6] as well as national telex service and maritime communications in Colombia. TELECOM also controls local telephone services in some 300 small cities and rural areas (650,000 lines), provides satellite communications and administers the national data transmission network.

In 1991, the Ministry of Communications (MOC) submitted a sector privatization proposal to the Colombian congress. The plan proposed the sale of 100 percent of the government's interest in the company to a "well-recognized" non-Colombian firm. The privatization proposal ignited a strike by SITELCOM, the labor union representing TELECOM operators and technicians. Plans to sell (TELECOM) were shelved and the government of Colombia stated in early 1995 that privatization would not take place for several years.

While outright privatization of basic services is not a current option for Colombia, plans to allow private participation in a range of value-added communications market, such as cellular telephony and in particular, Personal Communications Services (PCS), have spurred continued growth and development of the telecommunications infrastructure. These measures have created a dynamic market, which facilitates expansion and offers a competitive alternative to monopolized basic services, pressuring TELCOM to maintain acceptable service in the present. Thus, legislation such as Decrete No. 2824 (December 1991) and Law 39 of 1992, which created a booming and intensely competitive cellular service market, has been beneficial to overall infrastructure development in Colombia. Even more important, starting in 1998, TELECOM is scheduled to compete for domestic and international long-distance telephone calls, ending its fifty year monopoly. The auction of three long distance licenses has yet to be completed (it was postponed to September 1997). However, following the resolution of labor negotiations, the sale of these licenses, initially valued at $150 million is planned to be concluded by early 1998.

Although the details of the privatization process differ from country to country, privatization of basic services was accomplished in a similar fashion. Venezuela, Peru and Bolivia have all allowed the privatized operators a period of "exclusivity" in basic services. In essence, formerly state-owned monopolies have for the time being been replaced by private firms in an environment still characterized by regulatory barriers to entry to

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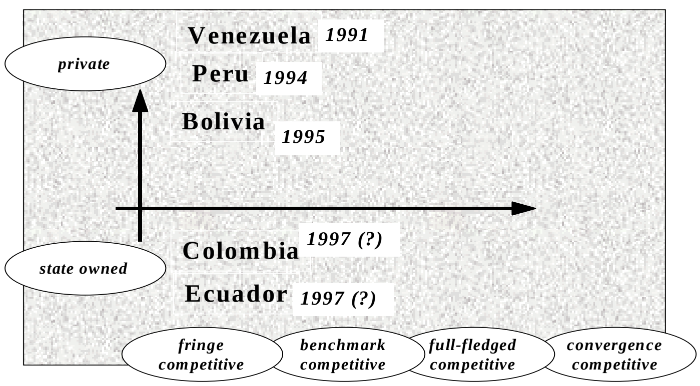
[5] According to the capitalization scheme, beyond the 35 percent stakes that was to be auctioned off, a ten- percent share in each company was to be sold to union workers; the government was to retain the remaining shares.

[6] A legal verdict ordered long distance service to be opened to competition by September , 1997. Colombia has a significant international long distance market, it is the second in Latin America in terms of the number of calls to the United States.

new companies. As the "exclusivity" periods come to a close, regulatory agencies must face the challenge of overseeing the transition to a competitive market, while evolving to meet the demands of a new environment. Liberalization poses a new opportunity for progress in telecommunications reform throughout the Andean community countries. The introduction of competition provides a great potential to supplement or even substitute fixed network voice telecommunication services via the provision of new services (like cellular telephony and, potentially, telephony via cable TV operators and the Internet) or via the entry of new service providers in established markets.

The chart given in figure 11.4 sums up the current status of liberalization in the Andean countries in terms of private and competitive supply of telecommunication services. Whereas there is potential for competition in basic services and, eventually, convergence competition [7] in Venezuela and, to a lesser extent, in Peru and Bolivia, Colombia and Ecuador are still trying to overcome the hurdle of privatization and focusing on fringe competition.

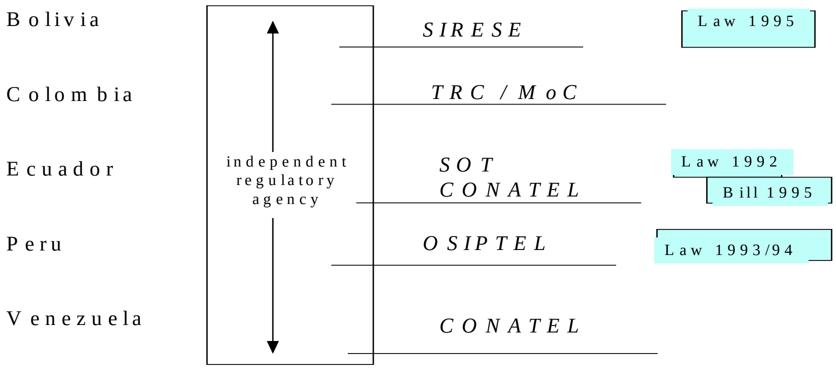
FIGURE 11.4: PRIVATE AND COMPETITIVE SUPPLY OF TELECOMS SECTOR [8]



With privatization and growing competitive pressures, regulatory reform has become inevitable. Throughout the region, governments have assumed the role of policy makers. The establishment of a pro-competitive regulatory regime can foster investment and infrastructure development. Many aspects must be addressed in constructing an effective oversight regime. The first is independence. Creating an independent regulatory body helps to insulate regulation and decision-making from political interference. According to the Reference Paper of the WTO agreement on basic telecommunications, independence is understood as a situation in which "the regulatory body is separate from, and not accountable to, any supplier of basic telecommunications services. The decisions and the procedures used by regulators shall be impartial with respect to all market participants"(WTO 1997). It can also be argued that in those countries where telecommunications suppliers are controlled (even partially) by the government, independence requires that the regulatory body be placed outside the ministry involved in the industry. Independence, however, is by no means the sole criterion of effective oversight. Creating an independent regulatory agency, though a step in the right direction does not by itself add comfort to investors nor does it provide assurance against market power abuse. Formulating objectives, consistent regulations and laws is the first priority. Established laws must be applied uniformly and transparency application of regulations is very important in this context. Figure 11.5 gives a summary of the regulatory agencies and corresponding legal packages in the Andean countries.

[7] This means that CANTV operators, for example, could compete in the basic services arena, too.
[8] The year of privatization of the incumbent fixed-network operator is indicated. Four different stages of competition can be distinguished in the telecommunications arena. (i) *Fringe competition* means competitive supply of a minor percentage of the overall telecommunication services market e.g. satellite, cellular or value added services, whereas the major market segment (e.g. the basic telephony services) is not supplied in a competitive manner (assuming negligible effects of substitution), (ii) *benchmark competition* denotes the approach of awarding licenses to several operators that operate in different geographical regions, (iii) *full-fledged competition* characterizes the competitive supply of telecommunication services in any given segment (e.g. several fixed-line operators competing in the same market), and (iv) *convergence competition* is defined as allowing competition between operators in historically distinct segments (e.g. CATV operators competing with fixed networks telephony operators to offer basic telephony services).

FIGURE 11.5 REGULATORY AGENCIES AND TELECOMMUNICATION SECTOR REFORM LAWS IN ANDEAN COUNTRIES.



THE REGULATORY PROCESS

The Telecommunications Law of July 6, 1995, is the hallmark of Bolivian regulatory reform. The new law, approved by the government during the privatization process, establishes the functions of the Telecommunications Superintendency, the rate-setting procedures for telecommunications services, a market share guarantee for existing private data transmission companies, exclusivity periods for both the new national service provider and local telephone cooperatives, a ban on wiretaps (except with judicial order) and restrictions on callback services.

SIRESE (the Sectorial Regulatory System) and the Superintendency of Telecommunications were both created under the auspices of this new regime. SIRESE is an autonomous government. SIRESE which performs basic regulatory functions, including granting licenses and concessions, regulating rates, and investigating monopolistic practices. The Superintendency of Telecommunications is a part of the System of Sectoral Regulation. The Superintendency is charged with ensuring that the capitalized companies fulfill their contractual obligations; and enforcing telecommunications law and other pertinent decrees and legislation formulated by the Secretariat of Transportation, Communications and Civil Aviation. The Superintendency has a professional technical staff and operates independently of the central government. The goal is to create a competitive telecom sector that encourages private investment in the telecommunications infrastructure and services.

In Colombia the regulatory regime is guided by similar principles. The Colombian Ministry of Communication (MOC) and the National Regulatory Commission (Comision Nacional de Regulacion) regulate the sector and provide technical advice to all communications entities and service providers. The Telecommunications Regulatory Commission (TRC), created in 1992, is responsible for promoting free competition in the telecom sector. The MOC, in addition to supervising the TRC, is responsible for rate regulation, frequency allocation, technical standards, and the issuance of licenses and permits for telecommunications and value-added services. The Ministry's jurisdiction includes TELECOM, the national telephone operator, and extends to the operations of the 29 state-owned companies that provide local and regional basic services. The MOC evaluates all concession application, interconnectivity standards, spectrum utilization and satellite coordination. Its activities are complemented by the Planning Directorate, which coordinates the directorate's policies; the National Planning Department, which sets multi-sectoral development priorities to ensure effective use of resources; and the Superintendency of Residential Public Services, which, in conjunction with the Ministry of Economic Development, oversees providers of rural service.

Ecuador's regulatory regime, though evolving, is much less developed than that of its neighbors. The Special Telecommunications Law of August 1992, along with the privatization bill of August 1995, governs the telecommunications sector. The 1992 law, provided the regulatory framework for the sector and established EMETEL and the Superintendency of Telecommunications. The Superintendency of Telecommunications (SOT), an independent regulatory body, is responsible for international contracting and the restructuring of the telecommunications sector. The Superintendency approves concessions, ensures private sector compliance with all telecommunications regulations, and regulates access to networks for wireless systems. In addition to these duties the SOT issues licenses for mobile radio, messaging services, VSAT, point to point (IBS) and mobile telephone services and is preparing regulations for the private provision of data transmission and value-added services.

The 1995 law slightly adjusts the Superintendency's responsibilities. In addition to laying out the process for privatization, the law created a National Council on Telecommunications (CONATEL) to regulate rates and private operators, as well as to award all new concessions and reorganized the regime amending the Superintendency's role. The National Telecommunications Secretariat will be the executing agent of CONATEL's policies - and the Superintendency will be in the future the administrative and controlling authority as these - were both placed under the control of CONATEL, whose status remains in question. The Ecuadorian regulatory structure is likely to undergo fundamental change following the long-awaited privatization of EMETEL.

In Peru, telecommunications services are governed by the Telecommunications Law (013-93-TCC), the General Rule of the Telecommunications Law (06-94-TCC), and the newly enacted Law No 262285, which directed the privatization of ENTEL and CPT, liberalized value-added services, prohibited call back services, and charted the course of future sector development. The Ministry of Transport, Communication, Living, and Construction (MTLCL) is the regulatory authority, which has historically overseen telecommunications policy in Peru.

The recently formed Organismo Supervisor de Inversion Privada en Telecomunicaciones (OSIPTEL) monitors the telecommunications sector to guarantee an open and competitive market and adjudicates any disputes that may arise as a result of "unreasonable" service provided by Telefonica. More control of the regulatory environment has been transferred to OSIPTEL in recent months for the purpose of integrating supervision of telecom investments with the granting of concessions for public service. OSIPTEL, which is administratively and financially autonomous, is presently responsible for tariff regulation, interconnection standards, quality of service, and monitoring private sector competition.

The Venezuelan regulatory system is very similar to that of Peru. Beginning in 1991, the Ministry of Transport and Communications (MTC) established regulatory oversight of the Venezuelan telecommunications sector, supplanting CANTV, the traditional de facto regulator. In September 1991, the MTC established CONATEL, an independent regulatory authority which coexists with the Directorate General of Communications (DGC). The DGC continues to supervise compliance with the radio and television laws and regulations. However, CONATEL, the Consejo Nacional de Telecomunicaciones - a seven member panel chaired by a director appointed by the MTC - has assumed responsibility for radio spectrum management, the granting of concessions and permits, bilateral and multilateral matters (such as relations with foreign long-distance carriers, satellite operators, and international agreements), and establishment of technical standards for equipment. CONATEL has also been granted jurisdiction over CANTV, all privately owned communications networks, and the Instituto Postal Telegrafico (IPOSTEL), an MTC division responsible for all telegraph and postal services. In addition to these domestic responsibilities, CONATEL is an active member of the CAATEL (the Andean Committee of Telecommunications Authorities).

The Telecommunications Law of 1940, administered by the MTC governs the telecommunications sector in Venezuela. In 1991, during the course of privatization, the Venezuelan Attorney General ruled that new legislation was not required to implement the government's dissolution of CANTV. As a result, the severely outdated existing law has still not been updated. To date, CONATEL has operated on the basis of ad hoc decrees, resolutions, and policies.

FOREIGN DIRECT INVESTMENT AND TELECOMMUNICATIONS

Andean economies have implemented successful stabilization programs, improved their credit worthiness, and achieved modest but steady economic growth -- roughly 4 percent per year in the 1990s. Improved macroeconomic conditions have affected favorably foreign investor's views toward the region. Moreover, the 1990s have been characterized by a more liberal attitude toward FDI both at country and regional level. In May 1991, for example, the Andean Group's Decision 291 adopted national treatment with respect to foreign capital as the norm and eliminated most restrictions on profit remittances and repatriation of capital. This Decision also eliminated market reserves for local investors in certain industries (Rodríguez-Mendoza 1997). An overview of economic and regulatory indicators is given in Figure 11.6.

FIGURE 11.6 SELECTED ECONOMIC AND REGULATORY INDICATORS FOR ANDEAN COUNTRIES (1996)

	Bolivia	**Colombia**	**Ecuador**	**Peru**	**Venezuela**
Country Indicators					
Population (million)	7.6	35	11.3	23.4	21.3 million
GDP (billion dollars)	$6.13	$76.1	$17.94	$57.43	$75.02
GDP/Capita (dollars)	$810	$2170	$1590	$2450	$3520
GDP Growth (percent)	5.0	3.0	1.8	2.8	-1.2
Fiscal Deficit/GDP (percent)	4.0	1.0	1.0	0.0	4.0
Inflation Rate (percent)	10.4	20.8	24.4	11.5	99.9
External Debt/GDP	6.4	5.1	8.5	2.1	6.7
External Debt (percent)	28.9	25.2	26.7	15.3	21.7
Foreign Direct Investment (million dollars)					
Net FDI Flows (World)	$150	$2501	$470	$1895	$900
Net FDI Flows (U.S.)(million	$117	$252	$126	$322	$603
FDI Related Laws					
Ownership Requirement	Up to 100%	up to 100%	up to 100%	up to	up to 100%
Profit Remitance	Yes	Yes	Yes	Yes	Yes
Exchange Rate Control	No	No	No	No	Yes
National Treatment	Yes	Yes	Yes	Yes	Yes

Sources: IMF and World Bank databases.

The net total FDI flow in the region was about $4.92 billion in 1995, compared with $1.13 billion in 1990, with roughly 30 percent coming from the United States. In the telecommunications industry, the role of foreign capital has been significant. The estimated proceeds from already privatized telecom companies in basic services alone in Venezuela, Peru, and Bolivia were about $3.51 billion. Other investments in cellular and wireless sector, network build-up, cable TV, and satellite communications are also large.

Country Overviews

Bolivia

Improved macroeconomic conditions in Bolivia have been leveraged by major structural reforms undertaken by the Bolivian government. The passage of a comprehensive privatization law in 1992 allowed for the privatization of all public enterprises, except for those in mining and hydrocarbons and the Capitalization Program passed in March 1994 is designed to attract private investment and management to sectors traditionally dominated by public enterprises, including petroleum, telecommunications, electricity, rail, air and other public enterprises. Specifically, this law includes provisions for transferring up to 50 percent of ownership to strategic partners and the state's present ownership to the Bolivian people.

Now Bolivia, which permits 100 percent foreign ownership of assets, has no screening and registration requirements and gives foreign investors national treatment. It also guarantees foreign investors the freedom of remitting profits, dividends, interest and royalties and the right to make contract payments in any currency. Foreign investors also have free access to both domestic and foreign currencies.

The telecommunications sector has no specific restrictions on foreign investment or ownership of equipment manufactures or service providers. In 1996 alone, Stet invested $160 million into expanding telephone services: $14 million on expansion of existing lines, $14 million on a long-awaited fiber optic network, and $15 million on installation of public telephones. Given Bolivia's landlocked position and mountainous terrain, cellular telephony is a priority. Therefore, the biggest share of Stet's 1996 investment (almost $67 million) went towards setting up a cellular telephone system. Within two months of the launch, it had signed up 16,000 clients, more than Telecel -- the first company to set up cellular telephony in Bolivia -- had done in five years of operation.

U.S. companies are active in providing services and technology networking, cellular and wireless, satellite communication, and cable television systems. AT&T, MCI, and Sprint offer phone card international long distance service and (Global Communications) provides international call-back services for credit card holders. A 700-kilometer digital microwave link, supplied by AT&T, is used for voice, telex, facsimile, television and radio transmissions between Santa Cruz and Puerto Suanrez. In 1994, DATACOM began marketing Infonet Services Corporation's world net services in Bolivia. In cellular and wireless telephony, the joint venture partner of Telcel, Millicom International Cellular, is a U.S./Luxemburg company. Millicom International owns 69 percent of the venture, with the remainder held by Bolivian investors. Motorola provided the infrastructure for the network which uses the U.S. 800 MHz AMPS standard.

Bolivia relies heavily on satellite communications for domestic long distance and international telephony and domestic satellite television broadcasting. Entel has contracted with Scientific Atlanta (U.S.) for $17 million to install the first phase of a domestic satellite network, consisting 13 satellite earth station. COMSAT Communications has entered into a joint venture with ENTEL to provide satellite data transfer, facsimile service, videoconferencing and electronic mail to the U.S. and Europe. DATACOM also provides data services. With competitive pricing and high quality technology, U.S. telecommunications companies currently have secured a comfortable presence in the Bolivia telecommunications market.

Colombia

Since 1991, foreign investor are granted national treatment and are allowed 100 percent foreign ownership in virtually all sectors of the Colombian economy, including telecommunications. All foreign investments must be registered with the Central Bank's foreign exchange office within three months to assure the right to repatriate profits and remittances. Remittances do not require government approval.

The dominant presence of TELECOM in basic service has steered foreign companies toward cellular and other value-added services. Decree Law 37 (January 1993) opened the cellular market to foreign investment. Presently companies from Canada, Chile, Japan, Spain, U.S., and Venezuela are forming joint venture partnership with local Colombian companies.

U.S. companies are very active in Colombia's cellular and satellite communications business. Millicom International Cellular owns 42.5 percent of CELCARIBE, which provides cellular service for the North coast and has an estimated 14,000 subscribers. McCaw Cellular Communications and LCC currently own 10 percent of CELUMOVIL de la Costa and 35 percent of CELUMOVIL in the North coast and Eastern regions of Colombia.

Satellites form the core of Colombia's international communications services. Colombia is a party to the International Telecommunications Satellite Organization (INTELSAT), with TELECOM as its signatory. Comsat Systems Disvision has partnered with TELECOM to establish a teleport in Bogota that provides domestic and international high-speed data transfer, facsimile, videoconferencing and private voice communications. PanAmSat Corporation, a private U.S. satellite operator, is authorized to provide point-to-point and point-to-multipoint digital satellite services via its PAS-1 satellite, in partnership with TELECOM. Scientific Atlanta won a $14.5 million contract to supply a consortium of four Colombian oil companies with voice and data services via satellite. The integrated satellite communications network will consist of 33 satellite earth stations. And Banco Ganadero, a private bank, purchased an $8.5 million VSAT network from AT&T.

Ecuador

Until 1991, all private investment in Ecuador's telecommunications system was prohibited, as the sector was considered of strategic importance. Foreign investment regulations, issued in June 1991, do not specifically exclude investment in the telephone system, but prior governmental approval is still required. Since then, the rules for foreign investment (including profit repatriation) were greatly simplified, and foreign investors now enjoy equal tax treatment with domestic investors.

As discussed in previously, the government has decided to delay the privatization of EMETEL until November 1997. Five companies -- GTE, MCI, STET, Korea Telecom, and Telefonica de España -- have been prequalified to participate in the bidding process. In the pending privatization plan, 35 percent of the companies will be auctioned to prequalified bidders. The privatization plan will grant a monopoly concession for basic services for five years.

Services not counted under the monopoly concession include cellular, data, teleports, multimedia, RDSI, VSAT and other value-added services.

Two private cellular operators in Ecuador, Conacel and Otecel, served 55,000 subscribers at the end of 1995. Both cellular systems operate on the AMPS standard and covers major cities of Ecuador. Conacel, established in December 1993, operates a Band-A system with Northern Telecom equipment. Local investors own a majority of Conacel, with Grupo IU.S.ACEL (Mexico and Bell Atlantic) holding the minority share. Otecel, started Band-B operations in September 1994 with equipment supplied by Ericsson. Otecel is owned by Planer Overseas Corporation (Panama), local investors and Telia (Sweden).

Several companies, particularly those in the petrochemical and finance sectors -- including Banco de Fomento, Citibank, and Filanbanco -- operate satellite networks using Very Small Aperture Terminals (VSATs) under contract with EMETEL. The networks vary in size. Banco del Pacifico has the largest VSAT network in Ecuador. Vitacom (Canada), Mitsubishi (Japan), and Slena (Italy) have provided VSAT equipment for these networks. PanAmSat Corporations (U.S.) provides VSAT network and digital communications services via its PAS-1 satellites on premise earth stations. The company has a contract to distribute one of Ecuador's private television stations, SiT.

Ecuador has two major cable operators, TV Cable and Envies, both owned by local investors. Foreign investment has not penetrated in the Cable TV industry. Approximated one-half of Ecuador's two million household have television. Ecuador's cable TV 4penetration is estimated at around 3.5 percent, or 45,000.

Peru

Peru subscribes to the Andean Group Decision 291 which gives national treatment to foreign investors, allowing them to benefit from elimination of customs duties and other administrative, financial, or exchange measure governing inter-Andean trade. In addition, the government enacted liberal investment legislation in October 1991. The Law guarantees national treatment to foreign investors (with some exceptions for national security and limitations on foreign ownership of property within 50 kilometers of Peru's national borders). It also guarantees that foreign investors may transfer capital, profits, royalties, and other fees in convertible currency and without prior authorization. Further, foreign entities with more than $2 million investment may sign agreements with the government to retain legal and tax benefits in the future, even if the investment law is modified. This drastically improved investment environment has attracted significant foreign direct investment to Peru.

Since winning control in mid-1994 of what had been Peru's state telecommunications monopoly, ENTEL and CPT, with a $2 billion bid, Spain's Telefonica has invested and transformed the previously backward Peru telecommunications sector at a fast pace. Before privatization in 1994, the average main lines per 100 inhabitant were 3.3, among the lowest in Latin America. Since then, Telefonica has pushed the figure to 5.9 today, with 1.4 million main lines installed. In addition, 85 percent of services are now digital.

In view of Telefonica's exclusivity in basic telephony service for 5 years, the competition for Peru's lucrative telecoms market is mainly in cellular and wireless. Bell South paid $112.2 million for a 58.7 per cent stake in Tele2000, a private Peruvian cellular telephony company. The current joint venture has 30 percent of Peru's cellular phone market. In the cable TV sector, United International Holding (UIH) of Denver has gained a foot-hold in the Peruvian market. In 1996, UIH acquired one of the two small cable companies in the Southern city of Arequipa. UIH also plans to invest $15 million laying fiber optic cable and increasing the number of its subscription by more than 10-fold.

In satellite communications, Hughes (U.S.) provides voice and data access to Lima for 30 remote mining companies via VSATs. MCI began offering private international line services via digital satellite teleports in 1992. The service includes voice, high-speed data transmission, facsimile, and video conferencing.

Venezuela

Like other Andean countries which subscribe to Decisions 291 and 292 of the Cartagena Agreement, Venezuela allows 100 percent foreign investment in the telecommunications sector. Investors can repatriate 100 percent of profits. Exchange rate controls temporarily imposed in 1997, made profit remittance difficult, if impossible. Against this backdrop, foreign direct investment in Venezuela has declined. As a percentage of GDP, the net FDI flows to Venezuela has been below $1 billion in recent years, far behind the levels attracted by Colombia and Peru, for example.

CANTV is controlled by VenWorld, a consortium of GTE, Telefonica de Espana, Eletricidad de Caracas, CIMA Grupo Mercantil, and AT&T. It had 2.8 million telephones lines installed in 1995, up from 1.8 million in 1991. Venezuela's teledensity increased from 8.7 phone lines per 100 inhabitants in 1991 to 13.1 lines in 1995, a 51 percent increase over five years. Overall digitalization stood at close to 50% of the network in 1995, up from only 20 percent in 1991. CANTV has focused heavily on the use of optical fiber links to upgrade and increase the capacity of its network. Recently, CANTV contracted with AT&T Newswork Systems to supply a $7.5 million fiber cable to connect the capital with Guarenas, Guatire and Valencia. Three private fiber optic systems have been installed: SIDOR (the state-owned steel company) in Ciudad Guauna, provided by Japan's Hitachi; Maraven; an oil company in Lagunillas; and IVIC, a research institute in Los Teques, provided by a then-subsidiary of GTE (U.S.). By 1995, Venezuela deployed some 40,000 kilometers of optical fiber within its network. It is projected that by 1998, this figure will increase to 90,000 kilometers.

In the cellular and wireless systems area, two major players, Telcel and Movilnet dominate the market. Telcel, a consortium led by Bell South and three Venezuelan concerns paid $98 million for the non-wireline Band-A concession in 1991. Growth in cellular telephony has been spectacular. Cellular subscribers were 454,500 in 1995, the highest among Andean countries. Average monthly usage of cellular service is 300 minutes, significantly higher than the U.S. average. Per capita cellular usage is estimated to be among the highest in the world.

Besides sizable presence in basic and cellular telephony, U.S. companies such as MCI, AT&T, and Sprint all have their subsidiaries in Venezuela in satellite communications area to offer voice, data and teleport services. PanAmSat Corporation (U.S.) uses VSAT technology for private voice, video and data transmission. VENPRES utilizes PanAmSat's PAS-1 satellite to distribute digital news programming.

In cable television, the market is still dominated by two major providers: Comunicaciones Centruion, C.A., a Venezuelan company, and CABLETEL, a joint venture between COMCAST (UK) and a local partner.

U.S.-ANDEAN RELATIONS: THE TELECOMMUNICATIONS AGENDA

The U.S.-Andean countries' negotiating agenda with respect to telecommunications is likely to evolve around three major topics: market-access by U.S. equipment providers, the ability of U.S. service providers to contest markets in the region (either directly or in the context of joint-ventures) and the international accounting rates regime. In all of these areas, multilateral negotiations and instruments (either at WTO or ITU levels) seem to provide the most effective channels to advance the agenda. Needless to say, regional initiatives at the level of the Andean Group or in the context of the Free Trade Area of the Americas can help in this process, to the extent that these initiatives maintain consistency with the multilateral efforts.

Telecommunications Equipment

The United States has a prominent presence in Andean countries as a supplier of telecommunications equipment. U.S. firms control a large share of the telecommunications equipment market in the region, capturing more than 30 percent of imports in most Andean countries. It is worth noting, however, that U.S. companies are facing competition from European countries and Japan in large ticket telecommunications equipment. U.S. firms lack flexible financing packages compared to their Japanese and European competitors. For example, ITA estimated that almost 90 percent of the $400 million EMETEL's equipment purchase between 1984 to 1991 were financed through government-to-government negotiations with Japan or European countries.

Potential tensions in this area highlight the importance of transparent procedures in government procurement. Although this theme is bound to become less important as the privatization process advances in the region, the most efficient route to address this issue would be for Andean countries to join the United States in the plurilateral Agreement on Government Procurement under the WTO umbrella. In the same vein, accession to the Information Technology Agreement[9] should be discussed as an effective way to advance and bind trade liberalization with respect to these goods.

U.S. firms also have a large presence in satellite communications systems, cellular telephony, and cable TV businesses. Their presence, however, is more limited in the basic services part of the telecommunications sector in the region. Only GTE and AT&T have direct exposure in the context of Venezuela's basic telecommunications service sector. Inevitably, as exclusivity periods come to an end, the question of market access will become a major area of interest. More generally, the evolving regulatory environment for basic and value-added services is of great interest for potential new entrants.

It is worth noting that all Andean countries have participated in the WTO's Negotiations on Basic Telecommunications and most of them have made commitments to further liberalize their telecommunications service industry including voice telephony, mobile services, and satellite services.[10] The following table in Figure 11.7 gives a summary overview of the commitments made.

FIGURE 11.7 SUMMARY OF COMMITMENTS MADE BY ANDEAN COUNTRIES WITHIN THE SCOPE OF WTO NEGOTIATIONS

Country	Voice Telephony	Mobile Services	Satellite Services	Other Commitments (Reference Paper)
Bolivia	yes L (LD) (I) (R)	yes	yes	Partial
Colombia	yes L LD I	yes	yes (fixed services only)	Yes
Ecuador	no	yes (mobile telephony only)	no	No
Peru	yes	yes	yes	Yes
Venezuela	yes (L) (LD) (I)	yes	yes	Partial

Notes: Commitment codes for voice telephony are: L for local, LD for domestic long-distance, I for international, and R for resale of public voice. ( ) are used to indicate phased-in commitments.
Source: WTO

Analyzing the quality of the commitments made by each of the Andean countries, the pattern seems to be well correlated with progress made in terms of privatization and liberalization to date. Peru and Venezuela have committed to the full liberalization of all voice telephony services by the year 1999 and the year 2000, respectively. In addition, Peru has committed itself fully to the Reference Paper on Regulatory Principles; while Venezuela made partial commitments on regulatory principles. Bolivia plans to phase in competition in all domestic long-distance and international basic services by 2001 and is committed to some regulatory principles. Colombia has made more limited commitments, constraining future entry in basic services to an "economics need test" and maintaining a limit (70 percent) on foreign-equity participation for telecommunications service providers. Ecuador is lagging behind in this process committing to competitive access only in the case of cellular telephony.

Overall, these commitments suggest that at least in the case of Venezuela, Peru and Bolivia the trend toward "full-fledged competition," as identified in Figure 11.5, is likely to continue. In this context, FDI should continue to play a major in the development of the regional telecommunications infrastructure in the post-privatization era.

The FDI Link

The importance of FDI for the telecommunications sector is only part of the story. It can also be argued that the degree of market access and liberalization results in higher investment, faster network build-out, earlier coverage of rural areas, and increased fiscal revenue from expanded sector activity (Wellenius 1996) -- may have an impact on overall investment flows.

[9] ITA, the Ministerial Declaration on Trade in Information Technology Products of the WTO.
[10] For details about the outcome of the WTO Basic Telecommunications negotiations see Primo Braga (1997).

FIGURE 11.8 DETERMINANTS OF FDI

Independent Variables	Dependent Variable FDIWD/GDP	Dependent Variable U.S.FDI/GDP
CONSTANT	-.44(1.13)	0.004(1.47)
GDPPCGR	0.05(1.80)[c]	0.0003(0.81)
GOVEDEF	0.25(4.87)[a]	0.0004(0.82)
TRADEPROCT	0.12(4.49)[a]	-0.0004(-1.99)[b]
TELEDENSITY	0.03(.855)	0.0005(2.06)[b]
R^2	0.86	0.32

Note: Superscripts a, b, and c indicate 1, 5, 10 percent significance level, respectively. Values in parentheses are t statistics. A panel of annual data covering the 1986-95 period was used for a least squares estimation with adjustments for time varying and time invarying regressors.

Legend: FDIWD/GDP = World FDI Flows as a Percentage of GDP
U.S.FDI/GDP = U.S. FDI Flows as a Percentage of GDP
GDPPCGR = GDP Per Capita Growth Rate
GOVDEF = Government Deficit as a Percentage of GDP
TRADEPROCT = Trade Protection Measure, Average Tariff Rate
TELEDENSITY = Main Lines per 100 Inhabitants

Data Source: Survey of Current Business, Various Issues, Department of Commerce; World Development Indicator, Various Issues, World Bank; International Telecommunication Union.

In order to evaluate this proposition, we used econometric techniques to assess the determinants of FDI in the Andean region. In this context, we tried to explain FDI flows in terms of growth of per capita GDP, the government financial position, trade protection, and a proxy for telecommunications infrastructure.

As Figure 11.8 shows, the world FDI[11] is positively related with the GDP per capita growth rate, which seems to indicate that market growth positively affect FDI flows. Also, the world FDI flows are positively and significantly related to the government budget deficit in Andean countries. This suggests that privatization (as a source of government financing) was indeed related to FDI flows over the last decade in the region. Trade protection measures, the average tariff rates, are also positively and significantly related to world FDI flows. In other words, inward-orientation (production for the domestic market) seem still to be a major motivation for FDI decisions. The teledensity variable, in turn, was not significant in these estimates.

U.S. FDI flows to the region, however, seem to respond to different variables when compared with world FDI flows. GDP per capita growth and government deficits do not seem to be significant in explaining these flows. Contrary to world FDI flows, trade protection measures are negatively related to U.S. FDI. Moreover, U.S. FDI flows are positively related to telecommunications sector development (as captured by teledensity indicators). This may be due to the fact that U.S. patterns of investment are biased toward information-intensive industries (such as finance and other services) and outward-oriented activities (e.g., petroleum). These results are, of course, tentative and more research is required to confirm their validity. They seem, however, to indicate that the importance of the telecommunications sector for the region is bound to increase as the Andean countries become more services-oriented and the outward-orientation of their economies increase.

International Accounting Rates

The recent U.S.-FCC decision to unilaterally reduce settlement rates for long-distance calls is also bound to figure prominently in the telecommunications agenda for the dialogue between the U.S. and Andean countries.[12] The Andean countries' telecommunications revenue from international calls will be significantly reduced. The impact assessment of the settlement reduction on these countries are estimated to be 74.5 percent for Bolivia, 69.9 percent for Colombia, 65.3 percent for Ecuador, 68.9 percent for Peru, and 64.5 percent for Venezuela.

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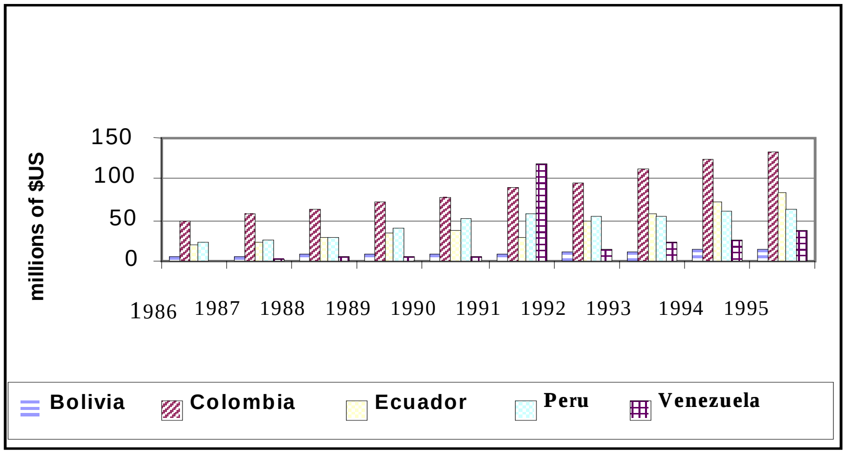
[11] The definition of the world FDI is net inflows of investment to acquire a lasting management interest(10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short term capital.

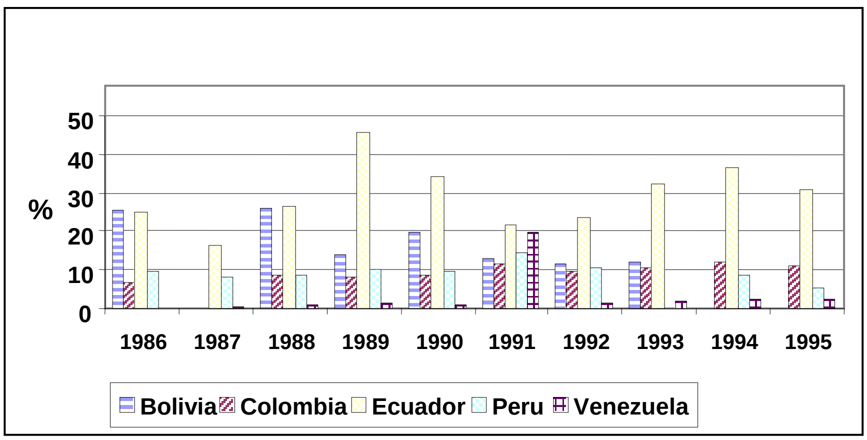
[12] For details about how the international accounting rates regime operates see ITU (1997).

FIGURE 11.9 NET U.S. SETTLEMENT PAYMENTS TO ANDEAN COUNTRIES IN MILLIONS OF DOLLARS FOR THE 1986-95 PERIOD



A time series of the net settlements payments made by the U.S. to the region is shown in Figure 11.9. Colombia and Venezuela are the two largest recipients of U.S. settlement payments. However, when comparing net settlements payments with each country's total telecom revenue, it becomes clear, that the Andean countries with the smallest telecom revenue, relatively speaking, are affected the most by a reduction in settlement rates. Figure 11.10 shows the ratio of settlement payments over total telecom revenue.

FIGURE 11.10 RATIO OF NET SETTLEMENT PAYMENTS TO TOTAL TELECOM REVENUE IN PERCENT



The impact of these changes can be further illustrated by analyzing the determinants of these settlements in the context of the U.S.-Andean countries telecommunications traffic (see Figure 11.11). The net settlements payments are not explained by per capita income differentials ("economic distance"), geographical distance, and the U.S. FDI flows to these countries. However, they are positively and significantly related to the number of immigrants in the United States, government deficits, and teledensity. Taking these results at their face value, it can be argued that the new FCC benchmarks will diminish the capacity of Andean countries to use this source of revenue either to finance their fiscal deficits (the "cash-cow" metaphor discussed in Ergas (1996)) or to expand their telecom infrastructure via cross-subsidies between the international and local markets via monopolistic state-owned telecom operators. In short, the pressure for efficient provision of telecommunications services is bound to increase.

FIGURE 11.11 DETERMINANTS OF SETTLEMENT PAYMENTS

Independent Variables	Dependent Variable SETRATE
CONSTANT	3.8(0.22)
PCIPCU.S.	-121.7(-0.91)
DIST	0.001(0.38)
IMMIGRAT	0.003(3.73)[a]
FDIU.S.INC	258.3(0.91)
GOVEDEF	2.31(1.68)[c]
TELEDENSITY	3.9(1.99)[b]
R^2	0.82

Note: Superscripts a, b, and c indicate 1, 5, 10 percent significance level. Values in parentheses are t statistics.

Legend: SETRATE = Net Settlements Payments from the U.S.

PCIPCU.S. = Per Capita Income of Country I over U.S. Per Capita Income

DIST = Distance of Country I from U.S.

IMMIGRAT = Country I Immigrants in U.S.

FDIU.S.INC = U.S. FDI Flow to Country I

GOVDEF = Government Deficit as a Percentage of GDP

TELEDENSITY = Main Lines per 100 Inhabitants

Data Source: Survey of Current Business,Department of Commerce; Statistics Division, Immigration and Naturalization Service; World Development Report, World Bank; and International Telecommunication Union.

CONCLUDING REMARKS

The Andean countries made significant progress in taking first steps towards opening up their telecommunications sectors. As they advance in this journey, the strengthening of their regulatory agencies ensuring a stable and pro-competitive framework in a highly dynamic market is of fundamental importance for the future development of the sector.

In order to realize the full potential of a thriving telecommunications sector, the challenge is how to maintain the support for continuous liberalization as a lever for economic growth and prosperity in the Andean region. U.S. companies are expected to continue to play an important role in the development of the telecommunications sector in the post-privatization era. The synergy between these players and local actors can be magnified by using multilateral instruments to foster liberalization on a non-discriminatory basis. Moreover, the financial impact of the future changes in the accounting rates regime sparked by recent U.S. actions, increases the importance of reliance on private solutions and competition as a way to promote telecommunications and economic growth in the region.

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