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Chile

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Chile pioneered restructuring and privatizing telecommunications in Latin America, and although the motivations and circumstances for this are perhaps unique, the opportunities and problems that have followed are of interest to others less far along the path of liberalization.

The country stretches more than 4,200 kilometers along the Pacific coast of South America and averages only 177 kilometers in width. The Andes form the eastern border, and there are mountains along much of the coast, creating valleys between. It is in the valleys in the middle of the country where most—some 70 percent—of the population of 13.4 million (July 1994 estimate) live, although this is only some 20 percent of the country's 757,000 square kilometers. The three largest cities—Santiago, with 4 million people, Valparaíso and Concepción, each with 700,000—are here. The northern part of the country is one of the driest deserts in the world.

Chile's political and social history since the 1960s, and earlier, has been turbulent, as is discussed later. The legal system is based on the Code of 1857, derived from Spanish law, and subsequent modifications with French and Austrian influence. A Supreme Court can review legislative acts. Since the return to civilian rule after the 1989 elections, presidents serve six-year terms. Members of the lower house of Congress serve four-year terms, eight years in the upper house.

The economy historically was very dependent on copper, and the mineral remains the principal foreign-exchange earner, but there has been significant growth and diversification. Chileans in general are prosperous, especially by Latin American standards; national product per capita on a purchasing-power basis was estimated at U.S.\$7,000 for 1993. The country is considered well along the road to developed status, although poverty and income disparity are concerns.

15.1 Early Development

By the mid-nineteenth century Chile was a nation well established in terms of political institutions. The post-colonial government, established in the 1820s, had been stabilized by the 1830s with a constitution that would last a century. The

centralist regime, with a strong executive branch, organized the state at an early stage. The population was about 1 million in 1835 and 1.44 million in 1854. Although mining was already important, agriculture was the core of the economy and was owned by established families who provided political support to the government. The intellectual class was strongly influenced by European thinking, especially from Britain and France. The 1840s saw something of a cultural revolution as new political theories—as well as new ideas in the arts, sciences, and technological development—flowed in from Europe.

15.1.1 *The Telegraph to 1930*

Telegraph service between the two most important cities, Santiago and Valparaíso, was started on April 23, 1851, by a private company under a license awarded by the government. Although its first response had been licensing private parties, the telegraph's success drove the government to participate in, and ultimately seek to monopolize, the service. This followed the pattern of European countries, especially France.

Thus, in 1854 the government started building a line south from Santiago to Talca, the most productive agricultural region of the country. This service started in 1857. In 1865 service was extended north of Santiago, reaching La Serena, 500 kilometers away; in 1866 the network had 2,000 kilometers and stretched from Caldera and Copiapó on the north to Lota on the south.

In 1857 the first law regarding telegraphy was enacted, covering tariffs. Others followed, including the 1866 Rules and Regulations of State Telegraphs.

Several private companies, as well as the state railroad, offered limited services. These included *Telégrafo Eléctrico Americano*, which extended from Santiago to Casablanca and San Antonio, about 100 kilometers away. International service began when the *Compañía del Telégrafo Trasandino* installed an underground cable through the Andes in 1872, uniting Chile and Argentina. In 1875 the service was extended to the United States and Europe via Brazil. The same year, the West Coast of America Telegraph Company Ltd. joined Valparaíso with Callao, the principal port of Peru, with a submarine cable. At the end of the century, Central and South American Telegraph used a submarine cable to link the United States to Lima and Valparaíso. It connected with *Telégrafo Trasandino's* line to Argentina.

The state telegraph company also continued to extend its reach. The 1879–84 war with Peru and Bolivia led to lines being extended to Antofagasta, and later to Iquique, Arica (the country's northernmost town), and into the Peruvian towns of Tacna and Tarata, which were the battleground. On the south, a submarine cable was installed to Chiloé island. In 1904 a new underground cable was pushed through the Andes. These and other expansions and upgrading in the late nineteenth and early twentieth centuries, despite their high investment and maintenance costs, were undertaken because the country was experiencing rapid economic development. But soon the service was in a crisis.

Tariffs were determined more by political criteria than by financial ones, and for several decades service depended on government subsidies. Receipts were insufficient to maintain the service level attained earlier, as renovations (such as

changing from iron to copper wire) and plant improvements were costly for a shrinking state budget.

In 1928 licenses were awarded to the Chilean Society of Transradio and the International Radio Company (CIRSA) to provide radiocommunication services and communications with the exterior using the recently discovered phenomenon of ionospheric propagation.

15.1.2 The Telephone to 1930

In 1880 Thomas Alva Edison permitted a U.S. citizen resident in Valparaíso to utilize the patents on telephones, and later that year he was named Edison's representative in Chile. After watching a demonstration, the president of Chile signed a decree allowing a telephone license to the *Compañía de Teléfonos de Edison* on April 26, 1880.

In 1881, 250 telephones were in service. New capital was needed to develop the company, which was sought in the United States after a failed attempt in Europe. The company name was changed in 1884 to the West Coast Telephone Company, which operated until 1889. During those eight years, the company extended operations, offering local service in Santiago, Valparaíso, Concepción, and San Antonio (on the coast near Santiago). It also experimented with long-distance telephony between Santiago and San Fernando (100 kilometers away) using the state railroads' telegraph lines.

Valdivia National Telephone was formed in 1893. Valdivia, 800 kilometers south of Santiago, was heavily colonized by Germans in the second half of the nineteenth century. The government recognized the establishment of the company in 1894 when it opened with fifty-five telephones.

West Coast was acquired by Chile Telephone Company in 1889. This new company started activities with 2,907 telephones (1,804 in Santiago, 466 in Valparaíso, and 637 in other localities). The population of Chile was 2.5 million at the time.

Over the next thirty years, various small telephone companies using private capital were started to offer local services in various areas, including in and around the many important mining (nitrate and copper) and agricultural (wheat, timber, and stock breeding) centers. Most of these ultimately were absorbed by Chile Telephone, which also expanded by introducing service in new areas. By 1927 service, provided primarily by Chile Telephone, existed in most cities from Arica (the north of Chile) to Puerto Montt (1,000 kilometers south of Santiago). The company had 26,205 telephones in service, primarily in the central region. However, the company had not established a network. Interurban communications continued to be very difficult even between two cities managed by the same company. The exception was between Santiago and Valparaíso.

Unlike telegraphy, telephony received little government attention other than the granting of the necessary licenses. In 1925 the General Electric Services Law was passed, creating General Electric Services Management to oversee the development of electricity. The law also established the general principles for government concessions, establishing that electrical and telecommunications services

“demanded significant attention of the public authorities.” It thus provided the legal basis for government regulation, as well as for direct government participation through private businesses. The system lasted until 1982, when the first general law for telecommunications was passed.

In 1927 the International Telephone and Telegraph Corporation (ITT) acquired the stock of Chile Telephone. A telecom equipment maker as well as service provider, ITT was acquiring telecom companies throughout Latin America. Other equipment manufacturers were following similar strategies around the world, but ITT was the only significant player in Chile.

Between 1927 and 1930, turbulent years in Chilean political and economic history, ITT contemplated how to organize the company and run its business in Chile. The goal was to find the best approach to assure stability and, of course, profitability. In 1930 a special agreement was signed with the government. The agreement was formally enacted as a law, something absolutely exceptional compared to other operators and economic sectors.

15.2 Disruption and Change

World War I disrupted the country's export markets and deprived it of many imports. As a consequence of this, and then of the worldwide economic crisis, the belief that the government was responsible for the promotion of development of basic infrastructure in all sectors began to spread and develop as a new political agenda. This infrastructure had to be capable of creating the necessary conditions for industrialization sufficient to replace many imports.

In 1925 President Arturo Alessandri had pushed through a new constitution. It provided for direct election of the president, as well as separation of church and state. The resulting political crisis carried into the next decade. Thus, the 1930s began badly. Economic and political problems were having serious effects on public order, on the development of the country, and on the living conditions of the population, which was about 4.3 million in 1930.

In order to achieve the new political agenda, the Chilean government created a special ministry-level institution in 1939, Corporación de Fomento de la Producción (CORFO, or Increased Production Corporation). Along with this institution, several other government businesses established themselves as independent corporate entities. They had government capital but a notable independence when it came to operations. One of the more prominent was the National Electrical Company SA, created in 1944, which successfully developed an electrification plan employed by the entire country. This company later served as a reference and an institutional model in telecommunications.

15.2.1 *The Telegraph, 1930–1960*

Even before 1930, the state-owned *Telégrafo del Estado* had made the government aware of the need to renovate and modernize. The government, however, was unwilling to commit much in the way of financial resources to telegraphy, nor

was it willing to allow tariffs to be high enough for the service to be self-financing. Despite these limitations, the number of telegrams continued to grow.

Several private companies gained importance. One of these was Trans Radio Chilena—Compañía de Radiotelegrafía Ltda (forerunner of VTR Telecommunications)—which was founded in 1926 as a joint venture of several foreign companies including RCA and Siemens. It began providing international telegraph service in 1928 and added international telephone circuits in 1941. Compañía del Telégrafo Comercial established a physical network from Los Andes to Puerto Montt. In 1951 it had 68 offices and dispatched 627,000 telegrams; Telégrafo del Estado had 497 offices that dispatched 6.3 million telegrams.

Use of the telegraph started to decline in the 1950s. Although it continued to be important in remote rural areas, it was being replaced by telex. In 1954 5,845,000 public telegraph messages were sent; in 1969, the number was 4,887,000. By comparison, 954,000 minutes of domestic telex and 315,000 minutes of international telex were transmitted in 1969.

In 1959 a law declared that domestic public telegraph service would be subject to government monopoly, operated by Telégrafo del Estado. However, the government permitted existing companies to continue operating until the end of their concession periods. The government applied the same principle in a new law for postal and telegraph services, promulgated in 1960. This law provided that telegraph and telex services within national territory would be centralized under government monopoly, but private businesses could compete with Telégrafo del Estado in international telegraph traffic.

15.2.2 *The CTC Concession*

In the early 1930s it was believed that Chile's development should be based on government action. Nonetheless, it was during this time that a private, mostly foreign-owned enterprise, Compañía de Teléfonos de Chile (CTC), rapidly became one of the most important companies in the sector, and it remains so to this day. Indeed, it has been the central pivot around which Chile's subsequent telecom history has revolved.

A subsidiary of ITT and successor to the Chile Telephone Company, CTC executed a contract with the Chilean government, promulgated on January 23, 1930, by Law 4,791, that provided radically different terms than those usually applied to concessions for telecommunications companies. At the time, CTC provided service to 37,687 telephones.

In essence, this statutory contract granted a concession for fifty years, subject to renewal every thirty years thereafter. Initially the entire country was covered, but the concession did not stipulate an obligation to provide services in any particular area. The company also had no obligation to interconnect with other concessionaires. Its only obligation was a general one: to "provide the public with a modern and efficient system" based on available technology. Moreover, CTC was permitted to keep its own accounting, only "subject to the systems established by the most advanced telephone companies."

The CTC management also was allowed to set its own tariffs. However, these

required approval by two of the three government-selected members of the company's board of directors. This system was structured to provide a return of 10 percent on net investment, plus 2 percent more for unspecified "reserves." The amount of net investment was to be ascertained by accountants and valued in gold on a monthly basis. This was to protect the company from inflation. Disputes could be taken to the Supreme Court, which had the power to authorize termination of the concession, but in that case the government was obligated to acquire the company for its estimated value in gold according to the financial accounting of CTC.

In the mid-1950s the Compañía Nacional de Teléfonos de Valdivia was the second largest telco. It served approximately 40,000 square kilometers from Loncoche to Puerto Montt, but (in 1954) had only 5,246 lines, of which 47 percent were automatic. It handled 6.2 million local calls annually, and 470,000 interurban calls. By comparison, CTC had 97,475 lines in service (with 1.45 telephones per line), 68 percent on automatic exchanges. In 1953 it handled 371 million local and 23 million interurban calls.

15.3 DFL 4 of 1959

The legislative framework was completely revamped by DFL 4 on July 24, 1959. This was similar to the General Electric Services Law, but it also covered telecommunications. It confirmed the principle of granting licenses to establish, operate, and exploit public and private telecom services. It also provided that there would be no monopolies, except for the national telegraph service. Public service concessions could run for thirty to ninety years, and the public telephone service concession zones could include obligatory areas. Concessionaires would be required to pay the government an initial, and then an annual, tax for the opening and operating of their systems, and they had to interconnect with each other.

As for tariffs, they were to be set to provide an annual 10 percent return on fixed assets, but a company could solicit a tariff adjustment before the annual report was due if operating costs increased significantly over 10 percent. The accounting methods used had to comply with regulatory standards. In January 1970 long-distance tariffs were set using seventy-five distance bands. By July 1972 this had been reduced to thirty-five, and to sixteen by July 1973.

Finally, the General Directorate of Electric, Gas, and Telecommunication Services, answerable only to the Interior Ministry, was formally established to supervise and inspect companies. This group performed tariff analysis and represented Chile in international organizations, among other duties.

However, CTC continued to manage itself pursuant to its 1930 enabling statute. This statute had been generally upheld, but it was affected by judicial interpretation during the 1940s in connection with disputes over its compatibility with other laws. The 1959 law could have modified the precepts of the 1930 statute but did not do so. This meant that CTC maintained various privileges and that the government still expected the telephone situation to be resolved through this private company.

The 1960s was a time when the country tried to establish a development strategy that would permit greater access to service. Even the middle class had trouble

getting a phone, as investment in expanding service was lower than needed to keep up with demand. Many people became convinced that the government had to intervene directly in businesses in various sectors, particularly those related to infrastructure. With this political agenda, successive governments created and operated various kinds of businesses. In the case of telegraphy, the government kept the same service that had been running for a long time but allowed competition from private enterprise, particularly in the lucrative field of international communications.

In the more sensitive case of telephones, national opinion changed gradually. As a newly created private company, CTC had successfully obtained a very favorable contract in the 1930s. For various reasons it never managed to satisfy the demands of the government or of consumers, which created growing tension. The government gradually made known that it thought telephony management also required intervention. This initiative resulted in the creation of a new and powerful company called ENTel and in a partnership between the government and the shareholders of CTC.

15.3.1 ENTel

In 1960 a major earthquake in central Chile made the government realize the scarcity and poor quality of long-distance communications. In fact, the sole link in good working condition was the one between Santiago and Valparaíso. In 1963 the Interior Ministry solicited CORFO to put a long-distance plan into effect. In June 1964, in order to do so, CORFO agreed to create a subsidiary called Empresa Nacional de Telecomunicaciones S.A. (ENTel), which was authorized by a decree of December 1964. The new subsidiary was financed mostly with government funds.

Using a microwave system, ENTel quickly built a trunk network throughout the country. In 1967 the Santiago-Concepción section was inaugurated. It was built with equipment purchased by CTC for this route but transferred to ENTel after government intervention. By 1971 the system in the north, and the extension of the southern system to Puerto Montt, were completed.

In 1965 ENTel applied to become part of Intelsat. By 1968 the first ground station for communications via satellite from South America had been established.

With the creation of ENTel and the 1967 agreement with CTC on the microwave trunk, it was clear that the government had fundamentally changed its policy regarding the regulation and management of telecommunications. The government was no longer confining itself to regulation but was becoming an owner-manager and operator.

15.4 The Rise of the Government

As the 1960s ended, Chile was facing a difficult political crisis that brought radical changes in the patterns of social and economic development. There wasn't a sector of national life left unaffected.

During the presidency of Eduardo Frei Montavala (1964–70) the government began to buy the U.S. copper companies operating in Chile and to expropriate land, which had been concentrated in the hands of a small number of holders, for redistribution. By the end of the 1960s the government had become the principal economic actor, particularly in the sectors responsible for infrastructure.

Despite all the efforts to promote local production and instigate self-sufficient development through import-substitution policies, increased demand outpaced solutions. In the face of the increased activity by the government, private businesses started acting defensively, which reduced their access and willingness to become involved in projects they otherwise would have participated in. The political situation became increasingly radical.

The 1970 presidential election offered a choice between the relatively conservative Frei and an avowed Marxist, Salvador Allende. Allende narrowly won with a plurality. During the three years of his regime, large segments of the government and of the opposition adopted radical viewpoints, as each side became more intent on destroying the other than on promoting its own beliefs. Several foreign businesses with investments in Chile supported those opposed to the government. One of the businesses anxious about its investments was ITT. The government accused ITT of contributing to destabilization and sedition. Numerous private businesses were nationalized, including basic services like telecommunications, but not CTC.

15.4.1 Taking Control

The 1967 contract with ITT seemed more a truce in the dispute over the control of the sector than an agreement. Those advocating nationalization of foreign businesses and basic service companies were obviously not pleased with it. Probably ITT was also dissatisfied, even more so after a Marxist government took power.

In September 1971, the Allende government accused CTC of serious technical problems in its operation of telephone services, whereupon the Electric, Gas, and Telecommunications Services Directorate took over administration of the company. The government also compelled the owners of *Teléfonos de Valdivia* (which had about 12,000 lines) and *Teléfonos de Coyhaique* (with only 500 lines) to sell participation rights, which were then purchased by CORFO. Through ENTel, CORFO already controlled long-distance service, as well as some local service. In Arica, the service provider, *Empresa Telefónica Municipal* with 4,000 lines, was already indirectly under government control.

The Allende government tried to present a political agenda for the sector that would achieve several goals. These included integrating existing interurban and international networks (excluding military ones); forming independent government businesses for the operation of the sector; centralizing sectorial planning in CORFO; and creating a domestic equipment-manufacturing industry. However, these intentions never went into practice. Centralizing planning at CORFO became enormously complicated because the idea was to make it responsible for coordinating all strategic sectors. This was too ambitious. In spite of these setbacks, CORFO made some progress, such as concluding a contract for new equipment for CTC, signed with SESA-España, another ITT company, in 1972.

In February 1973, to complete the transfer of control from CTC to the government, the 1930 enabling statute was formally revoked and all contracts affiliated with it were terminated. The governing statute became DFL 4 of 1959.

15.4.2 Promoting a Domestic Equipment Industry

Before the 1970s, local manufacturing of telecom equipment had been all but nonexistent. A subsidiary of ITT, Standard Electric, had a plant in Santiago that provided some items to CTC. In 1971 CORFO created a subsidiary, Empresa Electrónica Nacional (ELECNA), that built a semiconductor plant in Arica. The objective was to supply both the national and Andean regional markets. Shortly after it was completed a radiocommunications equipment factory was built with the same objectives.

However, these expectations were frustrated; the factories were not completely developed because demand for their output was not as large or sustained as had been projected initially. When CTC was nationalized, Standard Electric lost its assured contracts and ITT was no longer the sole equipment provider for CTC. In the face of rapid technological changes and uncertain markets, Standard did not have the resources to upgrade its plant. Because of this, the company remained primarily a commercial representative. The plant was acquired by Alcatel when ITT exited the telecom equipment business. The 1973 military coup affected business adversely, as it contributed to the distancing of Chile from its neighbors, causing those markets to be lost.

During the 1980s, when digitalization and other technological innovations swept telecommunications, Chile had essentially no national equipment manufacturing. Custom rates were low, and no effort was made to protect any emerging domestic companies. Thus, equipment was almost entirely imported.

15.5 The Tide Turns Again

The 1973 coup that installed Augusto Pinochet Ugarte as president completely changed the telecommunications situation. The new regime sought to reorder government involvement in businesses and the economic system in general. State-run businesses faced profound restructuring and were seriously affected by the loss of qualified personnel, and the management staff allied with the previous government. Moreover, in 1975 the government implemented a painful contractionary policy that drastically reduced demand in many sectors.

Once the severest years of the crisis had passed, the Pinochet government had to develop a policy to deal with the large number of state-owned businesses. The government had chosen open-market policies but had not resolved the ownership issue. In 1974 in the Declaration of Government Principles (Declaración de Principios del Gobierno) it was proclaimed that there should not be a government business where there is private business interest.

A large number of small government businesses were privatized quickly, but it was not until 1977 that privatization was seen as a solution for larger businesses in

strategic sectors, including public utilities. This conclusion was reached by many economic officials in the government, but privatizing utilities was opposed by many in the military and by almost all of the political opposition. In the field of telecommunications, the differences and problems took several years to resolve.

15.5.1 Regulation and Policy, 1973–1977

With a military junta in charge of the government, telecommunications became beholden to the National Defense Ministry. The ministry worked with the advice of the Telecommunications Management Directorate on matters concerning tariff, technical, legal, and concession regulations. While CORFO continued to hold the government's interest in the companies, the directorate had administrative control of the companies. In 1974 the government decided to resolve the situation regarding CTC through expropriation of ITT's 80 percent interest, under Law 801. The purchase took place the same year, with the shares going to CORFO.

The government decreed some important changes to improve the status of companies and make the public sector more efficient. Thus, in 1974 service to the public sector was suspended if bills were not paid, and in 1975 government-owned companies had to charge delinquent customers 150 percent of the current interest rate for a delay in settling an outstanding bill.

Although DFL 4 of 1959 and CTC's enabling statute provided for a 10 percent return on fixed assets, inflation had been outpacing rate increases since the mid-1960s, so the statutory return had not been earned. The company had been able to offset this problem somewhat by systematically overestimating its fixed assets. After 1973 the theory was that tariffs should be based on costs, but very little was known about the structure and level of CTC's costs. Another problem with this approach was that its application took an inordinate amount of time. However, from 1975, lower inflation and more frequent tariff adjustments allowed the sector to lose less ground.

The government kept investment at such a low level that it was not possible to catch up with demand—there had been a long waiting list for some time. In some cases, such as ENTel, companies used credit with providers or multinational companies, but companies without that option were especially hard hit by the 1975 economic contraction.

During the 1970s the two main telcos, CTC and ENTel, were completely under government control—and unable to overcome the distance between them. Their origins were too different; their technical and economic practices came from very different sources. The companies had frequently attacked and long mistrusted each other. To merge under a single owner would not be easy.

Both companies wanted to control the long-distance network because of the greater profit margin, as well as the ambition to be the leader in Chilean telecommunications. To achieve this end, ENTel counted on ownership of most of the long-distance transmission networks, whereas CTC counted on the fact that the structure of this network required interconnection. Interconnection was CTC's area of expertise and where investment would be cheaper if it were combined with local exchanges. This conflict continued into the 1980s.

15.5.2 SUBtel

In 1977 the group in charge of regulating the telecommunications sector was restructured as an undersecretariat (Subsecretaría de Telecomunicaciones, or SUBtel) within the Transportation and Telecommunication Ministry.

This new regulator, SUBtel, was made responsible for several things. These included preparing policy proposals and coordinating telecommunications in the country; setting technical standards and overseeing their implementation; formulating and updating the principal technical plans; administering the spectrum; representing the country in international organizations and agreements; processing applications for concessions and licenses; and applying administrative sanctions. However, the sector continued to be formally controlled by DFL 4 of 1959, which had not been revoked. Even though the creation of SUBtel was significant progress, the substance of DFL 4 left the situation confused, as the spirit of the regulatory system it involved was quite different than that animating SUBtel.

In some ways, regulation had been designed so that technical aspects were supervised by SUBtel and economic aspects by the antimonopoly tribunals created in 1973. Consequently, regulation resided partly in the administrative authority of the executive power and partly in the judicial power. This setup made proceedings exceedingly slow, ambiguous, and unpredictable.

15.5.3 Telephone Service, 1977-1990

For a long time, CTC has supplied basic telephone service to over 90 percent of the population. A municipal company also provided service until 1977, when it was incorporated into CTC. Compañía Nacional de Teléfonos (CNTV) and Compañía de Teléfonos de Coyhaique (CTCoy) have operated in Regions X and XI where CTC has no license to operate. (Chile is divided into thirteen regions, which, while they have names, are commonly referred to by numbers, except for the metropolitan Santiago region. Regions X and XI are in the extreme south of the country.) In December 1975, CTC had 434,000 telephones in service; CNTV, 14,334; Arica, 5,272; and CTCoy, 907. In 1977 total CTC telephones in service had increased to only 466,000, and growth at the other companies had been practically nil. As ever, a backlog of people wanting service persisted. In 1977 the waiting list equaled 46 percent of installed phones, and it normally took years to get a line. Many people did not even bother to register, others used friends or political influence. Still, and even though it was a time of economic crisis in the country, the number of lines installed and in service increased.

Local and long-distance calling also continued to increase, particularly after introduction by CTC of direct distance dialing (DDD) at reduced rates in 1980. As with the old manual service, the new DDD service was provided jointly by ENTel and the local telcos. By 1989 more than 70 percent of long-distance calls were DDD.

15.5.4 *Mobile and Cellular Service*

In 1981 the government granted mobile and cellular telephone concessions to Telefonía Móvil CIDCOM, a private company of local and North American investors. Using International Mobile Tracking System (IMTS) technology, the company installed and started operating mobile systems that same year in Santiago, Valparaíso, and Concepción (the three largest cities). Shortly thereafter, service was extended to include the highway between Santiago and Valparaíso, and from Santiago 80 kilometers south to Rancagua.

In order to exploit the high-power coverage, CIDCOM offered fixed wireless service (private and pay phones) in rural areas within its service areas that wire-line networks wouldn't reach.

In 1988 CTC decided to establish a cellular system in Santiago and Valparaíso, and it went into operation in early 1989. A few months later CIDCOM established its own cellular service in this area. By the end of 1991 there were over 25,000 subscribers on the two systems. Most large cities in Chile obtained cellular service in 1991 when two other companies began operations. At the end of 1994 there were some 120,000 cellular phones in the country.

15.6 *The Economic and Political Context, 1977–1993*

In 1977 the Pinochet government was past the phase of political and institutional self-affirmation and was ready to try to redesign government and policy. From the beginning, the new government had been favorably disposed to an economy that gave a fundamental role to open markets and competition. This produced reactions from political and social groups that felt their well-being was threatened; these protests were immediately stifled.

A fall in the price of copper (Chile's principal export) combined with rising oil prices and interest rates during 1979–81 exacerbated imbalances in the economy. In addition, there had been an enormous increase in external debt. The government decided to devalue the currency in June 1982 and to introduce a strong contraction in expenditures. The ensuing severe recession of 1982–83 drastically reduced per capita gross domestic product and many companies went bankrupt. To avoid a collapse of the nation's financial system, the government guaranteed private foreign debt and assumed the private banks' bad debts.

In the following years the economy recovered, and by 1987 it had regained its 1981 level. But political opposition also grew stronger. By 1988 the government made public its desire to extend its leadership but was defeated in a plebiscite. This led to elections in December 1989.

Patício Aylwin (Christian Democratic Party, PDC) was elected president with a majority of the vote cast, and the PDC formed a coalition in Congress. The new government took office in March 1990. Although while in opposition the PDC and its allies had opposed many of the previous regime's economic policies, including privatization, they have basically continued almost all of them—but

have placed more emphasis on social issues. In 1993 Eduardo Frei Ruiz-Tagle, also a PDC member, was elected president.

15.6.1 National Telecommunications Policy

Overall, during 1967–77 the telecommunications sector was particularly frustrated. Three different political regimes tried their formulas on the sector and none was satisfactory, although the approaches of 1967–70 and 1970–73 can be considered unconsummated because external factors interrupted them. Telephone demand increased beyond supply and the quality of basic services deteriorated on several occasions. A number of problems appeared, including the adequacy of tariffs and deferral of maintenance. A profound renewal would be needed to solve these problems.

The 1977 law creating SUBtel was a significant step. However, it was not enough to ensure development of the sector. In 1978 the general principles for development were formally laid out through the issuing of a national telecommunications policy. In general terms, the government wanted a competitive system with strong participation by the private sector. Interconnection was obligatory so as to allow for an integrated system, possibly of many companies. As to the electronic and telecom equipment industries, the policy was succinct, announcing only security standards for the people who used the equipment. Tariffs were not mentioned at all.

Among the characteristics of the Chilean telecommunications regulatory system were that it barred legal monopolies or exclusivity periods and it did not require payments from concession holders, except for a modest amount for spectrum usage. In principle, any license requested would be granted if it complied with the technical standards. Where there were limitations, such as spectrum availability, the law used the date of the request for a license. A holder could transfer a license for a profit.

Two new private telephone companies—Compañía Telefónica Manquehue (CTM) and Compañía de Teléfonos (CMET)—obtained licenses for local service in 1981. To allow these companies to develop, the government stopped new CTC investment in their service areas, which were high-income sections of Santiago where lack of supply had brought willingness to pay very high sums for a telephone line. This paved the way for operations with high initial profits.

In 1977 a complaint was filed demanding that CTC be compelled to modify Article 17 of its General Regulation, which said that only equipment managed by the company could be connected to its network. The Comisión Preventiva, a government antimonopoly tribunal, found for the complainant. This promoted growth of a market for equipment that previously had been controlled exclusively by CTC. Users could now buy or lease equipment from companies other than CTC.

In 1979 CTC was required to accept an open market in telephone lines with only technical restrictions. Until then, CTC had had the exclusive right of connection for each subscriber, who could not sell or sublet a line. This system had been severely criticized because many felt CTC administered a shortage it had created for its own benefit. The result was an increase in economic efficiency in the

assignment of scarce telephone lines. An active market for lines was established in areas where there were significant shortages.

15.6.2 The General Telecommunications Law of 1982

In 1982 the General Telecommunications Law was promulgated, providing a formal legal basis for the 1978 policy principles and effectively repealing DFL 4 of 1959. This document, with a few amendments, continues to be the main judicial basis for telecommunications in Chile. Also in 1982, the law giving the government a monopoly on domestic telegraph and telex service was repealed.

The new law provided for the classification of service: public, private or limited, broadcasting, amateur radio, and intermediate services (added later). It also established procedures for obtaining licenses and concessions and specified there would be no exclusive concessions; operators would have to meet a set of technical standards, including allowing interconnection between systems.

Again, mention of tariffs was minimal, establishing only the principle of free tariff setting and indicating as exceptions cases in which "market conditions or regulations were insufficient to insure free competition." In these instances, the government would set the tariffs for the respective services.

There were areas the law did not deal with clearly. One was the nature of the act of granting a concession. There had been a debate as to whether it was necessary to maintain a government concession-granting system or whether it could be replaced by a system of registered areas of operation. Finally, the concession system was maintained, although some people thought the government might use this power to raise unjustified barriers to entry.

Network interconnection between companies was another point of legal dispute. The procedures the National Telecommunications Policy had established as obligatory were not sufficiently detailed in regarding how costs should be assigned. From the start in 1981 this situation provoked ongoing conflicts between the new telephone companies and CTC that ultimately were taken to court. This was the first time a conflict had not been solved within the sector's regulatory framework.

It was generally agreed that monopoly services should have rates set at costs. A restructuring of tariffs gradually occurred as cost studies were made. Ongoing inflation meant rates were rising steadily in nominal terms; rebalancing was done by adjusting the relative increases. Thus, long-distance rates were increased less than local service tariffs, and commercial services received smaller increases than residential services. Unexpectedly, consumers accepted these modifications without much protest.

15.6.3 CTC and ENTel in Government Hands

Although there was no explicit legal requirement to do so, until the 1970s the government granted new concessions only to CTC and ENTel. There were a few private companies, such as CNTV, operating under prior concessions.

In 1982 separate managements were designated for each company, but both

depended on a specially created office in CORFO called Holding de Telecomunicaciones CTC-ENTel. It was responsible for "defining and orienting the coordinated development of government companies." The same year, the government considered whether to merge the two companies, and yet another commission was formed to "study telecommunications policy, the necessary modifications that needed to be introduced, and to establish the permanent coordinating standards required for the organization of the sector." This organization also did not succeed in functioning: the differences and tensions between the companies were too strong.

In 1984, CORFO tried to coordinate the activities of both companies by assigning clearly separated types of services in specific areas to each. These efforts were challenged and opposed by various parties, among them the private shareholders of CTC. In October 1987 the Anti-monopoly Commission ruled CORFO could not do this.

Then SUBtel issued a technical developing plan in 1984 suggesting CTC install interurban centers at the primary level (as defined by the ITU), while ENTel could do it at the secondary and tertiary levels. Although this seemed appropriate for a time, eventually it became insufficient because there was no way to guarantee an adequate distribution of traffic (and income) in the interurban network.

From 1985 both companies realized how difficult it was to establish a stable long-term development plan when it was clear they would soon be privatized, and until then the government would not allow additional debt. Long-term decisions would necessarily need the new owners' approval. As a result, CTC staff proposed a plan with limited objectives. This so-called Link Plan involved adding 117,000 digital lines; the winning bidders were NEC, Telrad (an Israeli company), and Ericsson.

15.6.4 Modifications

A 1985 amendment to the 1982 law was intended to clarify the old problem of the obligation to grant concessions if there were no technical objections, but the problem persisted. Another amendment introduced an "intermediate services" category. This referred to those providing services to other telecom companies but not the public. It specifically singled out long-distance carriers that offered services to telcos and others.

The most innovative legislation came in 1987. In the text of 1987 DFL 1, several important tariff and financing changes were introduced. Users were told that they had to pay periodically for the right to use the spectrum. Probably the most important section was devoted to tariffs. A detailed system was developed in the law for determining how the regulated services would be identified and their rates set; other services would have rates set by the market. Tariffs would be determined for each service, each operator, and each geographic zone. The rates would be for five-year terms, including a formula indexing them to variations in costs. Costs were those for a hypothetical efficient company, which would be allowed to earn a specified return on invested capital. International services were excepted, as their tariffs were fixed differently, taking into account the tariffs of the correspondents.

Telephone companies were obliged to provide services to any potential subscriber in urban areas within two years of the request for service. There was a transition period of ten years before this was to be completely enforced. Telephone companies could require a refundable fee equal to the average cost of installing an additional line. Issuing company stock to the subscriber could be used to satisfy the requirement of the fee being refundable.

The 1987 amendment solved the tariff problem very practically by setting tariffs for public telephone service, including ENTel's long-distance services. The policy went into effect on January 10, 1989. During the initial five-year term it was expected that cross-subsidies between services would be eliminated. The obligation to provide basic service in urban areas gave the companies incentive to push their development plans to preempt competition in their concession area.

Various impediments kept companies from collecting the refundable fee the law had granted them. These consisted of legal obstacles and difficulty establishing values for the stock. Eventually the process was abandoned. In any case, privatization had opened new financing resources to the companies.

15.7 Privatization

The original government plan emphasized liberalization and privatization. Liberalization meant promoting market growth and facilitating entry of companies bringing new, private capital. But the prospect of additional capital did not move the government to start selling existing small and medium companies to bidding until 1982, and large companies until 1986.

Several things were done to pave the way for privatization. Under the military government, Decree-Law 600 established attractive conditions for foreign investment with guarantees regarding remitting profits and capital. Importantly, Chilean foreign debt could be used at face value to buy companies being privatized. Because such debt generally sold at a discount, this was a substantial benefit for investors. In addition, the government used several methods to promote "capitalismo popular"—the participation of workers in privatization. One of these was subsidized credit to workers to acquire interests in the government companies where they were employed, and even in others. A mechanism frequently drawn on was the advancing of retirement or severance pay to employees for the acquisition of shares.

15.7.1 *Beginning the Process*

In 1982, CORFO decided to sell its interests in the two regional telephone companies it controlled: *Compañía Nacional de Teléfonos (CNT)*; later renamed *Telefónica del Sur*), operating in region X; and *Compañía de Teléfonos de Coyhaique (CTCoy)*, operating in region XI. The country's long-established international telex operator, *VTR Telecommunications*, acquired the government's interests in both companies in public bidding. Five foreign telecom companies owned VTR.

15.7.2 Selling CTC

In the early 1980s the government studied dividing CTC into regional companies, but potential investors were not interested in pieces, and there was also the matter of existing private shareholders, who still held 8 percent of CTC. To determine a selling price, the government had several estimates done valuing the company on the basis of its growth potential. The method was similar to the one defined in DFL 1 in 1987 for estimating a value for shares that consumers were to have been required to buy to get a new phone line.

The first sale of CTC shares was during April and May 1985. This sale placed just 0.04 percent of CTC shares. It was more a symbolic step to test the mechanism for a significant transfer. Additional stock was sold during 1986 and 1987 and, by the end of 1995, 25 percent of CTC shares were in private hands.

In August 1987 CORFO invited international bidding for 30 percent of CTC, with the opportunity to acquire an additional 15 percent. Australian investor Alan Bond, through Corporación Bond, bid slightly higher (U.S.\$118 million) than Telefónica de España, but because of administrative objections by the General Comptroller's Office, the offer had to be rejected. However, CORFO sold shares to Corporación Bond in January 1988 on Bond's terms. This gave Corporación Bond 50.13 percent of the company's shares, but the company's statute permitted any one shareholder to hold only a maximum of 45 percent. In October, Bond agreed to reduce its holdings within four years and to vote no more than 45 percent of the total shares.

Then, in January 1989, Bond agreed to sell its entire participation in CTC to Telefónica Internacional de España for U.S.\$392 million. Control was transferred three months later. By July, CTC was trading a new issue of nonvoting shares on the New York Stock Exchange as an American Depositary Receipt (ADR). In 1990 CORFO continued to sell shares, reducing its holdings from 2.9 percent at the beginning of the year to less than 0.1 percent by December, which concluded the process of privatizing CTC.

15.7.3 Selling ENTel

The privatization of ENTel was handled differently; a controlling interest was not sold and there was no issue of new shares. In November 1985 CORFO, which then held 99.97 percent of ENTel, agreed to sell 30 percent of the company within five years. This was done to meet the requirements of Law 3500, which reformed the pension system by making it private. The new private pension funds had the ability to buy ENTel shares if they were available.

During 1986 CORFO reduced its interest by the full 30 percent. The buyers were mostly pension funds, no one of which could hold more than 5 percent of ENTel's shares. A further 3 percent was sold during 1987, and CORFO reduced its holdings substantially during 1989, so that by the end of the year it held just 1.11 percent. Two large buyers were Telefónica de España and a local subsidiary of Banco Santander, a Spanish commercial bank. Each held 10 percent, and they informed the authorities they intended to coordinate their holdings. In the last

months of the military government, some of CORFO's holdings were transferred to the military, so at the end of 1989 it had a 10 percent interest. In 1990 the military sold its shares to Telefónica de España, and the coordination agreement with Banco Santander was ended.

15.8 The New Era, 1988-

By the end of 1990 the government had no significant telecommunications company properties except for Televisión Nacional de Chile (TVN), which was the national television channel. It owned several ground links, as well as satellite and broadcasting systems employed for its exclusive use as a means of mass communication.

In 1988, soon after Corporación Bond took control, CTC announced plans for several new businesses, including cellular telephones and long-distance transmission (not only exchanges). Later ENTel indicated an interest in opening calling centers with public phones and other services, information services, and cellular telephones, among others. Soon, other companies, such as Telex-Chile and VTR, entered data services and began providing domestic and international long distance. Clearly, liberalization and privatization had created a competitive environment for many services. The only exception was local telephone. Two small companies founded in 1981—CMET and CTM—operated networks that partially overlapped with CTC's, but generally, although there were no legal restrictions against new entrants, local service was still considered a natural monopoly.

A new problem emerged from all this: how to regulate relations between incumbent companies and their new competitors. More particularly, how could anyone control CTC, which had a virtual monopoly on local services and thus an edge on other companies?

15.8.1 *The Internal Structure of the Companies*

The two major companies, CTC and ENTel, adopted new internal structures, creating wholly owned subsidiaries to offer specific services. For CTC these were CTC-Cellular (September 1988) for cellular telephones; CTC-Negocios (December 1988) for marketing equipment and services, especially to large clients; and CTC-Regional Transmissions (April 1989) for providing signal transmission services (basically, long distance).

Subsidiaries of ENTel include Global (March 1989) for marketing services and equipment, and leasing equipment, and ENTelDATA (December 1988) for information and telematic services, and marketing associated equipment. In September 1989 ENTel-International was formed to provide international consulting and investment. In addition, ENTel joint ventures include Telecom Chile (August 1988) for cellular telephone throughout the country, except metro Santiago and region V (Motorola holds two-thirds); SATEL (March 1989) for satellite communications such as IBS and VSAT (COMSAT owns half); and Buenaventura (Octo-

ber 1990), a cellular telephone equipment owner owned equally with VTR Cellular (both have licenses in the same geographic area).

In 1990 VTR Telecommunications was established to hold VTR's interest in several other companies. These were *Compañía Nacional de Teléfonos*, or *Telefónica del Sur* (91 percent owned), *Compañía de Teléfonos de Coyhaique* (88 percent), and *VTR Cellular* (50 percent). By 1991 the group had restructured to become a financial holding company, *VTR Investments*, with diverse subsidiaries. Shares of the subsidiaries were spun off to the owners of VTR.

15.8.2 System Expansion

When control of CTC went to *Corporación Bond*, there was a notable change in the approach to development plans. They were both more carefully and more ambitiously formed, with well-defined quantitative objectives, such as entering businesses previously not considered by the company. In the words of the company's new president, CTC stopped being "a technical operating company and turned into a private service-oriented company focused on development and results." From 1988 on, the development plans expanded. Each year the number of lines scheduled for installation increased, with contracts signed with NEC and Alcatel. When control of CTC was transferred to *Telefónica de España*, some modifications were made to the contracts and administration of plans, but progress was not interrupted.

In 1989 CTC developed a satellite transmission project for public communications between interurban stations and VSAT networks. That June, CTC acquired a transponder on Panamsat's PAS-1 satellite and the appropriate ground station equipment from Scientific Atlanta. The company also designed a fiber-optic system between Valparaíso, Santiago, and Temuco, 600 kilometers south of Santiago.

There was substantial progress for CTC's projects, such as cellular telephones and diverse services for commercial consumers. By the end of 1991 there were 18,500 cellular lines in service, 17,952 private lines, and 17,049 pay phones, all free of government tariff regulation. In terms of personnel, the proportion of technician and professional staff increased in the late 1980s and early 1990s.

In 1988 ENTel started to digitalize its microwave trunk network, a task finished in 1991. The company also digitalized certain national and international satellite networks. In 1990 it installed its first urban fiber-optic network. Then ENTel decided to install fiber optics in the national trunk network, a task begun in 1991. In 1992 ENTel invested in international fiber-optic cables.

15.9 Government-Company Relations

After privatization there were three areas in which government-company relations adopted a more formal quality. These were tariff setting, license granting with corresponding interconnections, and the supervision of technical and economic operation of the companies, particularly in the cases of monopolistic services.

The regulator SUBtel remained in charge of setting the technical standards for

the quality of telecommunications services and supervising their execution. It adopted recommendations from countries with more developed systems as norms for quality, although in some instances the norms were slightly lowered. Historically, SUBtel and its predecessors had few resources with which to do their job. Moreover, its power to impose fines and penalties had been reduced, replaced by judicial proceedings.

Regulating power was vested primarily in SUBtel, which is under the Transportation and Telecommunication Ministry, but a number of other parts of the government have important roles. Thus, the Ministry of Economics is involved in tariff setting and subsidies for rural services; the Antitrust Commission, more closely related to the judicial than to the executive branch, has strong powers in matters dealing with competition; and Congress has become an important arena for discussion of some issues.

15.9.1 Tariffs

Until the 1982 General Telecommunications Law had been promulgated, tariffs had been regulated by DFL 4 of 1989. This set tariffs to provide a 10 percent return on fixed assets. Given that the companies were in government hands, the process consisted of each company presenting proposed tariffs to the Ministry of Economics. The ministry would either modify the tariff or accept it. Regardless of calling volume, subscribers paid a flat monthly charge that discriminated by type of subscriber: residential, basic (offices, professional studios, small businesses), commercial, and trunk PABX.

In March 1981 measured local service was begun in the public telephone system, initially by adding the appropriate equipment to automatic exchanges then in service in the three largest cities, and then in other locations. Each call was charged a fixed amount plus an amount determined by the origin, destination, day, time of day, and duration of the call. The structure of calling charges was modified frequently according to its impact on the volume of traffic. The fixed component became increasingly less important.

In early 1989 tariffs set under DFL 1 of 1987 went into effect. In general, local rates kept their previous structure—that is, a basic monthly rate plus a charge for each call based on its duration and time (of day and of the week). Local rates increased markedly, as eliminating the subsidy between local and long-distance rates was one of the goals of the new tariffs. In early 1994, when a new five-year term for tariffs began, the monthly basic rate was about U.S.\$12, local calls cost about U.S.\$0.03 per minute during the day and U.S.\$0.005 at night. Installation was about U.S.\$250, but it has been reduced since.

As for long distance, during 1989–94 rates were fixed for ENTel, and the local telco would add an access charge. In 1994 a competitive, multicarrier system was introduced for both domestic and international long distance with rates set by the carriers, except for local access, which is regulated. As of April 1996, eight companies were offering service. Subscribers can choose the most convenient one for each call by dialing a prefix, or by dialing direct they automatically use their specified carrier.

15.9.2 Concessions and Interconnections

Two aspects of concessions have been especially complicated: the technical and economic specifications of the interconnections and the prevention of monopolistic practices.

From the perspective of the two dominant companies, additional subscribers at another company can be beneficial if they could not have otherwise provided them service and if the cost of interconnecting them does not exceed the incremental revenue from doing so. This was not always the case, though; as a result, the new companies frequently complained that the networks they were legally entitled to use were not in optimal condition. These small companies obviously depend on CTC's and ENTel's networks to do business.

The most difficult obstacle for the new companies has been setting the economic conditions of the interconnection. In a few cases where agreement was not reached, the matter was taken to court. The courts have not known how to deal with these conflicts, which has meant that the cases have been subject to long delays and verdicts that did not leave either party satisfied. More broadly, the courts have received many accusations of inappropriate conduct on the part of the major telecom companies, and verdicts have largely been in favor of the complainants.

In 1988 CTC had studied the possibilities for expansion into new areas of business. Among these was long-distance communications, which led to acquisition of equipment the following year. In 1989 SUBTel consulted the antimonopoly courts before granting CTC permission to offer long distance. Both the Comisión Preventiva and the Comisión Resolutiva considered the problems posed by having CTC participate in long distance. On the one hand, it was argued that because CTC practically monopolized local service, it would be able to offer a service preferable to its competitors. In short, it would be impossible to have real competition. On the other hand, it was argued that with adequate protective measures, competition was possible.

In 1989 the Comisión Preventiva ruled CTC and related phone companies could not participate in the long-distance market where it offered local service. On appeal, the Comisión Resolutiva overturned the ruling, deciding CTC could operate its system on condition it was a separate subsidiary and that subscribers actively select it as their carrier, which is known as multicarrier dialing. The Supreme Court subsequently ultimately upheld this action. While the Court was considering it, the matter was investigated by the Congress, which came to the same conclusion as the Court. The process took about five years.

Simultaneous ownership in competing companies has been another important issue. Telefónica de España was the indirect owner and controller of over 40 percent of CTC and 20 percent of ENTel. The antimonopoly courts held this illegally undermined the pattern of free competition and ordered Telefónica to sell its interest in one of the companies. Telefónica appealed to the Supreme Court, but the lower court decision was upheld. Telefónica disposed of its interest in ENTel in 1994.

From January 1989 to May 1994 the rates for regulated services in Chile were governed by Decrees 135 and 136, which set tariffs for a five-year period. On

March 10, 1994, Law No. 19302 amended the existing telecom law, allowing providers of local service, through either an affiliate or subsidiary company, to provide long-distance and international services using their own equipment. At the same time, long-distance network operators were allowed to compete in local markets on the same terms. Now CTC competed through its subsidiary CTC Mundo. Eleven concessions to run long-distance and international traffic were awarded. Only eight are operational, and they include ENTel, CTC Mundo, Chile Sat, VTR, BellSouth, CNT-Carrier, Iusatel, and Transam. Only three of these have their own long-distance networks.

Maximum market shares were laid out by the Ministry of Telecommunications as follows for July 1995:

CTC	Long distance, 35%
	International, 20%
Others	Long distance, 80%
	International, 70%

Actual average 1995 market share for long distance for the top four carriers, ENTel, CTC Mundo, Chile Sat, and VTR, was 37.36 percent, 28.9 percent, 21.89 percent, and 7.92 percent, respectively.

The competition for long-distance and international service has continued and resulted in rate decreases. Rates for both services have decreased by roughly 50 percent from August 1994 to January 1996. Competition is fierce, with price wars common. In the first six months after competition started in August 1994, prices dropped by 80–90 percent, but they quickly rebounded as companies realized that they were losing money.

As of June 1996, there were 13.6 lines per 100 inhabitants, with 1.754 million telephone lines in the country, with 100 percent digitalization. It is estimated that by the year 2000, there will be 3.016 million lines in the country, with penetration of 21.90 lines per 100 inhabitants. In 1996, there were seventeen authorized providers for telecommunications services, six for local and eleven for long distance, of which eight are currently offering service. As an example of the increase in service, new line requests are fulfilled in less than thirty days on average. Rates have been rebalanced so that business customers no longer subsidize residential service, and long distance no longer subsidizes local service.

Cellular service was provided by four companies, two of which have subsequently merged. The companies CTC Cellular and VTR Cellular merged and currently control more than 50 percent of the market. BellSouth Inversiones and Telecom Chile are the other two competitors in the market, but as of this writing, they were studying the possibility of merging to better compete with the CTC Cellular-VTR Cellular company. Cellular serves 200,000 subscribers, with a penetration of 1.4 lines per 100 inhabitants, with 350,000 subscribers estimated by the end of 1996.

Cable providers have also been investing heavily in infrastructure to provide more services. Four cable providers—TISA, VTR, Telefe, and Video Cable Communications—are competing to be the first to offer multimedia and interactive

television services. Cable companies have been laying down fiber-optic and hybrid fiber-coaxial networks. Video-on-demand systems have been tested by Intercom in Santiago, and Intercom plans to go commercial with the service by the end of 1996. Cable companies are also planning to provide local telephony services over their networks, although launch dates for the service have not yet been announced.

15.10 Taking Stock

The era of liberalization and privatization began in 1977, and the process continues. There have been three phases: establishment of the formal foundations for liberalization (1977–85); privatization of CTC and ENTel (1985–88); and repositioning of the private companies in new areas of business (1989–).

The positive aspects are undoubtedly the tremendous developments made in the quantity, quality, and variety of services. Since the late 1980s, the spread of basic telephone coverage has been noteworthy. Several services not available at the beginning of the period have spread quickly. Although substantial foreign capital and technology have been involved, the process has been planned and directed primarily by Chileans.

A difficult point has been establishing tariffs and competition. Under the old system, tariffs were way under costs and, on occasion, even unrelated to costs. There was the kind of cross-subsidization found in most countries when service is provided by a state or otherwise regulated monopoly: individuals, rural areas, and local calls benefited relative to businesses, urban areas, and long distance. In Chile, low-income individuals had particularly benefited from low rates. Tariffs based on marginal costs have eliminated much of the subsidy, a result acceptable for economic efficiency but not necessarily good social policy.

This leads to an important negative result of liberalization: the limited capacity of the government to promote projects that are beneficial socioeconomically unless they also are profitable. Rural telephone service is one of many examples in telecommunications. Since the telcos are not interested, it has been left to the government to develop it. But liberalization has left the government without effective tools for promotion of such projects.

A possible solution is to auction grants to companies interested in taking on the projects. This mechanism was utilized in Chile with funds from the central government, but it was intended to cover only the costs of installing rural pay phones, not private phones. Regional and local authorities were assigned the task of determining the geographical areas needing subsidizing and formulating projects. However, the ability of local authorities to formulate projects was limited, the cost-benefit methodology used for determining the necessary subsidies was complex and imprecise, and no supervision was provided for project operation.

The era of liberalization has, overall, brought substantial net benefits to Chile. However, there are numerous unresolved problems. Some of these have carried over from earlier times, others have been precipitated by liberalization.

15.11 Decree 95 of May 1994

Law No. 19,302, issued by the Chilean government on March 10, 1995, allowed CTC the right to compete in the long-distance and international markets. Previously CTC was forced to use ENTel for long-distance service. The new Decree 95 also permits CTC to circumvent ENTel's access charges and high tariffs.

Law No. 19,302 permits long-distance carriers to compete in the local network—clearly, a blow to CTC, the traditional provider of basic service. The Decree 95 provided yet another blow. A new tariff—based on an index including the Wholesale Price Index, the peso-U.S.\$ rate, and overall Chilean salary levels—had the effect of giving CTC a lower rate of return. Cutthroat competition and the aforementioned change in accounting methods helped to account for CTC's 5.5 percent revenue decline by 1995.

However, other benefits of the new decree might allow CTC to stay the course. The company is no longer limited to billing by the flat rate method, as opposed to measured service. It can bill more for "peak hours." The new law permits more hours to be defined as "peak hours." Also, CTC can, for the first time, charge higher line rental fees if fewer lines are in service (and where it is unable to benefit from economies of scale).

15.12 Conclusion

When the telegraph and telephone first emerged in the nineteenth century, the concept of directing the development of a sector in an organized fashion for the nation's benefit was only being initially formulated. By the turn of the century, the governing circles of Chile had adopted the idea that they should oversee development of telecommunications, although actual operations would be by companies holding concessions. By the 1930s, many people had become disenchanted with this strategy. They believed the government should be more active and should accelerate expansion and availability of telecommunications and other public services. From then on, almost all important national activities, including telecommunications, were subject to direct government involvement and support. In a notable exception, a special concession was granted to a private company, *Compañía de Teléfonos de Chile* (CTC), to operate the country's telecommunications.

In the three decades following this grant, the gap between its proponents and opponents was maintained and even increased. Finally, the government created a company of the same stature: ENTel was made responsible for operating long-distance services. Ultimately, the government assumed the responsibility of ensuring telecom development. This was a failed effort. Paradoxically, as it became more evident that national telecommunications needed to intensify its progress, it was recognized that the advances were insufficient, and new paths were tried, unsuccessfully.

In the mid-1970s yet another new path was taken, with initiative for development given to private companies. This change was terribly exciting for the sector, although it required significant adjustments. Services grew considerably more

widespread and improved in quality. For the first time in decades, it seemed that Chile had hit on a successful road.

Finally, in the 1980s and 1990s, Chile's telecom markets moved toward even more open competition. By 1994, traditional operators of local and long-distance services were allowed to cross over into each other's turfs.

However, there are unresolved questions. What role should the government take in strategy and policy? If telecommunications are increasingly indispensable for everyone, how does one guarantee no one is without access within a market framework? How does one organize a market in which there is such a range of size and power among the participating companies? What are the prospects of the present strategy of development of the sector? Or are we condemned to continue the tradition of changing strategies after a few years?