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Guatemala

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Guatemala, in the context of Central America, is best described with superlatives: the biggest population, the biggest economy, the fastest growing GDP, the biggest labor force, and the richest cultural legacy. However, a privileged few have long dominated a large underclass. A legacy of this rule by elites is a country riddled with social, political, and economic inequalities. Other problems relate to the country's position within the global economic system. Guatemala is a rural country with an agriculture-based economy. As such, it is heavily dependent on agricultural exports—principally coffee, bananas, and sugar—and suffers from fluctuations in the prices of these products.

Some 60 percent of the population of 10.8 million (July 1994 estimate) live in rural areas—the highest percentage of rural population for any country in Central America—and over half the labor force of 2.8 million work in the agricultural sector (July 1992 estimate). There is an extremely high population growth rate, despite emigration.

The country encompasses about 109,000 square kilometers. There is a narrow plain on the Pacific coast and a small lowland area on the Caribbean side. The rest of the southern half of the country is mountains and plateau. This highland area is where most of the population lives. Guatemala City, the capital, lies at about 1,500 meters in a valley surrounded by mountains and volcanos. It houses well over 20 percent of the population. Petén, one of twenty-two departments (provinces) makes up the northern part of the country. It is a lowland tropical area with few people.

Mayans, concentrated in the northern part of the highlands, account for almost half the population. Many speak only their Mayan dialect. Most of the rest of the population are *ladinos* (mestizos and Spanish-speaking Mayans). In rural areas, 80 percent of the inhabitants are illiterate.

4.1 Background

The Spanish arrived in the country in the early 1500s, and by 1700 the capital of Guatemala was the center of power for the Central American region. Independence initially came in 1821, but Guatemala was part of the Central American Federation

until it broke up in 1838. The country was ruled by authoritarian leaders, many from the military, from then until 1944. After a ten-year period of civilian rule and reform, military governments returned to power for most of the next three decades.

As part of a shift from subsistence farming to a plantation-based economy, coffee became a major crop in the late nineteenth century and bananas in the early twentieth. Great Britain was a significant investor in Central America during the nineteenth century, but it was eventually surpassed by the United States and Germany. By 1929 U.S. investors in Guatemala were major land owners and held railroads and the principal electric utility company. United Fruit was a dominant force; its land holdings were expropriated in 1950 but returned in 1954.

The economy grew steadily during the 1960s and 1970s, with real GDP increases averaging about 6 percent a year. However, in the early 1980s GDP actually declined because of external economic conditions and internal policy failures. The civilian government elected in 1985 made initial progress in reducing inflation and restoring growth. However, in part because poor tax administration led to a decline in revenue, the government faced a series of crises throughout the decade and into the early 1990s. In order to offset internal fiscal crises, each new administration continued policies favoring competition, foreign trade, and investment (foreign and domestic).

Despite an open investment climate and steady GDP growth in the early 1990s, the government again faced a fiscal crisis in 1994. This was partly because of its failure to pass tax reforms. (Guatemala has one of the lowest income tax rates in the Western Hemisphere, due to resistance by its wealthy elite.) The political and economic instability led President Ramiro de Leon Carpio to call on the armed forces to take charge of internal security.

4.2 Early Telecommunications Development

In 1881 the country's first telecommunications lines were installed, linking the capital city with Antigua. By 1884 lines had been extended to Quetzaltenango. In 1890, a newly organized private company, Telefonos de Guatemala, assumed control of all telecommunications services.

The state intervened in 1916, taking over all Telefonos operations. Service, local and domestic long distance, was thereafter provided by La Direccion General de Telefonos y El Proyecto Telefonico (The General Directorate of Telephones and the Telephone Project). In 1927 the first automatic telephone exchange was introduced.

In 1926 a privately held foreign company, Tropical Radio and Telephone, was permitted to provide international telecommunications services. In 1966 the operation was nationalized.

4.2.1 Guatel

Empresa Guatemalteca de Telecomunicaciones (Guatel) was established on April 14, 1971, by Decree 14-71 as a government entity with a monopoly on local, national, and international telecommunications services.

A board of directors oversees the company, but the general manager and deputy general manager have a great deal of authority. Telecommunications are under the authority of the Ministry of Transport and Communications (MTC). The National Economic Planning Council (CONAPLAN) advises Guatel on tariff issues and investments. The Ministry of Finance provides guidelines for foreign borrowing.

4.3 The Present Situation

In the early 1990s the government began considering privatization and liberalization in the telecommunications sector, and the issue of privatizing Guatel has come before Congress several times. It is highly unlikely Guatel will be privatized any time soon, and the pace and timing of liberalization is indeterminate.

Private networks, value-added services, and rural telephony are the areas most likely to see liberalization. Two companies, Telepuerto SA and Empritel, won concessions in 1990 to provide IBS (Intelsat business service) for Guatemala City and the rest of the country. They offer point-to-point service on a nonexclusive basis for private commercial, agricultural, industrial, and tourism enterprises. Modes of transmission include FM, Single Channel Per Carrier (SCPC), and Time Division Multiple Access (TDMA).

Red tape and bureaucratic delays complicate business transactions in Guatemala. Purchases by government-owned entities are covered by the Government Procurement Law (Decree 35-80, modified by Decree 112-85). Purchases exceeding U.S.\$65,000 must be made through public bidding, with a minimum of five bidders. Foreign bidders must have a locally registered representative, but wholly owned subsidiaries can be registered as local entities. For all foreign firms operating in Guatemala, managers must at least be temporary residents. Often, attorneys are used as local representatives or managers. Foreign investors are by law treated as nationals. There are no legal limits on repatriation of profits.

4.3.1 Telecommunications Services

In the metropolitan area (Guatemala City and its suburbs), 94,403 calls were received requesting repair service during 1993, against an installed base of about 179,000 lines. By the end of the year all but 0.11 percent had been resolved. Elsewhere in Guatemala, 10,075 calls were received, against an installed base of about 50,000 lines, with about 5 percent still pending at year-end. The capital has ten service bureaus, and another fifty-nine are located elsewhere in Guatemala. No new sales or service agencies have been added since 1991.

Guatel's revenue reached U.S.\$168.3 million in 1993, 11 percent higher than 1992. International services provided over 74 percent of this, domestic long distance about 11 percent, and local service just over 4 percent (but it was up 20 percent). Telex and telegraph continued to decline, representing about 1 percent of revenue. Telex lines in service decreased from 1,131 to 948 between 1991 and 1993, and usage dropped by over half. Most telegraph traffic, about 124,846 words in 1993, is destined for Central America.

Table 4.1. Guatel's Labor Force, 1992

Categories	Number of Employees
Management	206
Planning and Design	123
Execution and Supervision	693
Maintenance	1,431
Marketing	1,341
Human Resources	579
Finance	201
IT and General Systems	96
International	269
Total	4,939

Source: Guatel, *Annual Report*, 1992.

Users are embracing newer technologies such as data transmission over leased lines. Guatel offers a service called Mayapaq that permits users to access e-mail, electronic funds transfer, international databases, and private virtual networks. Lines in service have gone from 247 in 1991 to 343 in 1992 to 628 in 1993, when they generated U.S.\$1 million in revenues.

Intelsat business services is a high-speed data network offered since 1992. It can carry data, voice, fax, and video, and is provided via a terrestrial station at Jezriell linked to an Intelsat satellite. Comsat, based in Bethesda, Maryland, is working to provide high-speed data transfer, videoconferencing, fax, and private voice services using an eleven-meter earth station in Guatemala City. IBS pricing is based in part on contract length, although the breaks are not large: in 1994 the service ranged from U.S.\$4,500 a month on a contract of up to four years to U.S.\$4,000 a month on a ten-year contract. Installation was U.S.\$3,000.

The project to provide cellular service to the capital and its environs, as well as to the Pacific port of San José, was more than 90 percent complete in early 1994.

4.3.2 Guatel's Labor Force

Guatel at first glance appears to be bucking the global trend toward downsizing, having increased its labor force from 4,939 in 1992 (Table 4.1) to 5,333 in 1993. However, the number of employees per thousand lines remained constant at about 23. This was a decided improvement over 1988, when the ratio was 36.

Guatel has been investing heavily in training. Courses were conducted for over 32 percent of its workforce in 1993.

4.4 The Network

Guatemala's network is very limited. In 1993 there were only 231,000 main lines, equivalent to 2.3 per 100 inhabitants (Table 4.2). However, too narrow a focus on

Table 4.2. Guatemala's Telecommunications Network, 1987-1993

	1987	1988	1989	1990	1991	1992	1993
Density	1.56	1.56	1.59	1.77	2.06	2.25	2.30
Lines		138,222	158,840	190,218	202,209	214,409	231,090
Public Telephones	1,096	1,120	2,062	2,079	2,093	2,251	2,371
Telex	1,373	1,373	1,345	1,257	1,131	1,040	948

Source: Sheryl Russell, *Latin America Telecom Operators*. New York: CPG Research.

telecom development, relying only on the criterion of general teledensity, is apt to miss variations or imbalances favoring urban areas. Thus businesses, the elite, and even the middle class in Guatemala City have access to a fairly modern network. About 75 percent of subscribers are residential; the rest are industrial, commercial, and governmental.

Moreover, the system has been expanding: the number of lines increased over two-thirds from 1988 to 1993. Guatel is slowly but steadily increasing digitalization of its network, at the rate of about 2 percentage points annually. The overall percentage of digital lines had reached 46 percent in 1993. However, not all new lines are digital because they are being added to existing analog central office switches that had unused capacity.

The poor and rural areas have not been overlooked. The number of public telephones went from 1,096 in 1987 to 2,062 in 1989, an 88 percent increase. Of these, 73 percent are in Guatemala City. The country's ambitious expansion and modernization plans called for extending service to about 100 *poblaciones* (farms, villages, and country houses) per year from 1988 through 1992. Guatel defines basic service for each community as five telephones: two for the community and three for private or official use. However, such plans have repeatedly been stopped at various stages of completion because of political instability and lack of investment funds. Thus, after a strong start in 1988, with 172 *poblaciones* acquiring service, the next three years saw fewer than 100 get service. In 1992 another 166 were added, bringing the total to 436.

Guatel has a history of exploring relationships with foreign carriers. In 1994 it worked with AT&T to study the possibility of offering international toll-free service to the United States.

Telephone service extends to all twenty-two provinces in the country but not to all towns.

Guatel's domestic network consisted of 126 central office switches in service in 1993, up from 119 in 1992. Suppliers include Siemens, Italtel, NEC, and Ericsson. In the early 1990s Guatel invested U.S.\$19.8 million to expand existing Ericsson AXE exchanges and add two new ones. In 1988 Bell South International provided consulting services for the installation of switches provided by Ericsson and Italtel.

In 1993 Guatel was in the final phase of a U.S.\$17.1 million expansion of Italtel UT exchanges in urban and suburban areas. In another project, 50,000 lines were added in the capital in 1994. A total of U.S.\$36.9 million was financed by U.S. entities. In addition, seven new exchanges were being installed to expand and interconnect metropolitan networks. This project includes a fiber-optic ring

Table 4.3. 1993 Project for Expansion of Exchanges

Location	Lines	Trunks
La Floresta		11,940
Reformita		21,030
Villa de Guadalupe	20,976	
El Pueblito	1,024	
La Pradera	3,000	
Centro I	15,000	
Lourdes		15,780
Lourdes III	6,114	
Parroquia III	6,114	

Source: Sheryl Russell, *Latin America Telecom Operators*. New York: CPG Research.

for the metropolitan area, 33,000 interurban trunk lines, 16,000 transit trunks, and 52,000 subscriber lines added to various exchanges, as illustrated in Table 4.3. The U.S.\$25.7 million investment in this project is allocated among Siemens (U.S.\$13.3 million), Alcatel (U.S.\$3.4 million), and Italtel (U.S.\$1.8 million). In April 1994 the project was about 24 percent complete.

In early 1994 Guatel was about 50 percent done with a project with MCI to install combined local-transit central offices in Monte Verde and Guarda Viejo (parts of metropolitan Guatemala City)—a total of about 40,000 lines. The project with AT&T to install about 13,200 local trunks, 2,800 interurban trunks, 1,000 international trunks, and 40,000 lines was about 58 percent complete. Both these projects were behind schedule, having originally been scheduled for completion in 1992 and August 1993, respectively.

In 1992, Alcatel was awarded a contract to digitalize the Intelsat Standard A earth station in Quetzal, which is jointly owned by Guatel and Comsat.

4.4.1 International Telecommunications

Guatel had 778 international circuits in service in 1993, up from 765 in 1992. Of these, 519 circuits are to the United States. All three major U.S. long-distance operators (AT&T, MCI, and Sprint) have circuits, as does Télécommunications, Radioélectriques et Téléphoniques (TRT). This is consistent with the fact the United States is the most-called country, receiving 17 million minutes out of 23 million (74 percent) of outgoing calling. Mexico, Canada, and South America account for most of the remaining calls; the rest of Central America is responsible for about 4 percent of outgoing call minutes.

In early 1995 Guatel was in the final phase of constructing its portion of the Central American microwave network. Capacity of up to 1,920 channels is being installed in Acatempa, Santa Elena Barillas, Torre de Guatel, Cerro Alux, Calderas, La Selva, and El Paraiso. The contractor for this U.S.\$4.3 million project is Telesistemas (a venture of Telettra and Alcatel).

A digital microwave route to Petén and Mexico was begun in 1993. Intended to provide an alternative routing and to increase capacity (by 1,920 channels), it was about 24 percent complete in early 1994. Guatel is providing its own personnel to

install the system, which has been supplied by Telettra and is being paid for by the government.

International calling from Guatemala is very expensive. In 1993 the cost of a three-minute (the minimum billing period) station-to-station call from Guatemala to Costa Rica was U.S.\$3.60, with each additional minute U.S.\$0.90. Calls to the United States were U.S.\$3.00 a minute; to Europe, U.S.\$7.50.

4.2.2 Rural Telephony

Rural telephony has been extended under a series of projects. In 1990 a grant agreement was signed between the United States Trade Development Program (TDP) and Guatel to finance the preparation of technical specifications and cost estimates.

The most recent rural telephony project, Phase III, cost U.S.\$19.2 million and was financed by external sources. Contractors included Mitsui & Company, Ericsson de Guatemala, Italtel, Siemens, Mansilla, Mayorga, Metrotel, Telectro, Asaf, Sistec, Ruracom, and Conelca. The project was 70 percent complete at the end of 1992 and 90 percent complete at the end of 1993.

A national digital transmission network will be installed to create the backbone for Phase IV, which will install 17,700 lines in 154 municipal districts and 575 rural locations. Sources in the United States are providing a substantial part of the funding for this project. In another project, existing Italtel UT-20 exchanges in the provinces will be expanded.

Separately, a pilot plan to provide rural telephony via satellite led to at least ten stations being installed in isolated areas, including the tourist center of Tikal. Due to the success of the plan, Guatel is installing satellite service in another 100 towns. This project was about 16 percent complete in early 1994.

4.4.3 Equipment

Guatemala imports all of its telephone switching equipment. There is some local assembly of radio receivers, small VHF transceivers, television sets, and satellite television signal receiving antennas. Guatel used to assemble telephone sets to be sold to new subscribers but discontinued this practice in 1986. U.S. suppliers, such as AT&T, overtook Siemens and other German suppliers in 1992 to become the leading source of telephone systems, switching equipment, and accessories. Most foreign suppliers operate through domestically incorporated subsidiaries.

Guatemala's imports are subject to the General Treaty for Central American Economic Integration and the Central American convention of Equalization of Import Duties and Charges. Telephone and switching equipment are subject to an ad-valorem duty of 5 percent, based on Circuit Imprime Français (CIF) value, plus a value-added tax of 7 percent, plus an import tax surcharge of 3 percent. Telephone equipment can be imported without restrictions, provided the applicable duties are paid.

Guatel follows general Consultative Committee on International Telegraph and Telephone (CCITT) technical standards for purchasing equipment, and systems complying with these standards do not have to be altered technically for the local market.

4.5 Cable Television

There are about thirty-four registered cable television systems under the umbrella of one firm, Intercable SA. Another fifty to fifty-five nonregistered cable systems offer services that include programming originating in both Mexico and in the United States. Altogether, there are over 160,000 cable subscribers. Another 4,500 have imported and installed their own equipment. In 1992 Guatemala cracked down on commercial operators by prohibiting the pirated use of satellite television transmissions.

4.6 Conclusion

Guatemala recognizes that telecommunications infrastructure is essential to development, and the country has ambitious plans to modernize and expand services. Guatel has managed to make respectable progress since 1988. This includes an increase in lines of more than 67 percent (1988-93), which helped make the network 46 percent digital; introduction of Mayapaq in 1989; introduction of IBS in 1992; and a 100 percent increase in community telephones in 1993 (albeit from a small base).

Guatemala's low telephone density and continued economic development call out for investment in its telecommunications network. Pent-up demand will continue to drive telecommunications development in basic and enhanced services.

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