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Institutional Reform of Sri Lankan Telecommunications: The Introduction of Competition and Regulation

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3.1 Introduction

Institutional reform of telecommunications in developed market economies with high rates of telephone penetration has been studied in some depth (Brock, 1981; Bolter et al., 1990; Cole, 1991; Duch, 1991; Faulhaber, 1987; Hills, 1986, 1991; Horwitz, 1989; Palmer and Tunstall, 1990; Snow, 1986), but less is known, either of the process or of the underlying causes of the process in developing countries. Writings such as those of Akwule (1991); Bruce, Cunard, and Director (1988); Hobday (1990); Horwitz (1992); Samarajiva and Shields (1989); and Sussman and Lent (1991) represent a good beginning but do not deal with the underlying causes adequately. General theoretical frameworks for explaining how policy changes diffuse or become synchronized across polities, such as those in Cox (1987) and Haas (1992), have only in few instances been applied to telecommunications reforms (e.g., Cho, 1995; Ikenberry, 1990). After a brief summary of the country's history and telecommunications beginnings, this chapter provides an analytical description of institutional reform in the telecommunications system in Sri Lanka in the 1980–1992 period and a policy analysis that addresses the internal and external reasons for the reform, its differential impact on groups in society, and the stability of the reform process.

3.2 General Background

Sri Lanka, formerly Ceylon, is an island nation with a population of 18.1 million concentrated into 65,607 sq km. It is relatively poor, with a per capita gross national product (GNP) of \$713 in 1996. A former British colony, Sri Lanka has been independent since 1948. Its economic policies may be periodized as traditional plantation export-based policies (1948–1956), import-substituting industrialization policies (1956–1977), and export-oriented open economy policies (1977 to the present). The primary exports are garments and tea. Sri Lanka generally

scores high on physical quality of life (PQLI) type indexes because of relatively well-developed educational and health systems. The adult literacy rate is nearly 90%, the secondary school enrollment rate is nearly 75%, the infant mortality rate is around 17.2 per thousand, and the population growth rate is just over 1%. Sri Lanka has a tradition of civilian-led, quasi-democratic governance, with multiple political parties and more or less regular elections. Since 1983, government forces and a political and military organization claiming to represent the Tamil minority in the north and the east of the island have been engaged in a protracted civil war with regional ramifications. The capital and the main centers of commercial activity have been shielded from the war on a day-to-day basis, although there have been several spectacular terrorist attacks in the capital.

The British model of parliamentary governance, known as the Westminster model, forms the basis of the Sri Lankan political system. In this system parliament is sovereign, and there are minimal checks and balances between the legislative, executive, and judicial branches of government. The prime minister and cabinet members are members of the legislature and accountable to it. The basic Westminster Constitution adopted at independence in 1948 was substantially modified, first in 1972 and then in 1978.

The 1978 Constitution overlaid a powerful executive presidency and a potentially powerful judiciary on the basic Westminster model. The president is elected in a nationwide election, and the members of the legislature are elected in a separate election based on proportional representation. The president is not a member of the legislature but must appoint a cabinet of ministers who are members of the legislature. The president appoints the justices of the supreme court who have limited authority over legislation and can enforce fundamental rights. Partly as a result of the design of the proportional representation system, which enhanced the power of political parties at the expense of individual members, and partly due to other provisions of the Constitution, the Sri Lankan legislature is rather weak. Except for a short period in 1994, the president and the majority in the legislature have belonged to the same political party.

The 1994 elections saw the peaceful transfer of power from the United National Party (UNP) and its allies to an opposition coalition. The UNP was in power for 17 years, during which time it completely transformed the political and economic environment of the country. Through constitutional reform and clever political strategy bordering on abuse of power, the UNP consolidated political power in an unprecedented manner. It used this power to dismantle an extensive welfare state and create the conditions for market-driven economic growth policies. The People's Alliance (PA), which took office in 1994, promised to retain the economic policies of the UNP, promising only to root out corruption and put a human face on the market economy (Keerawella and Samarajiva, 1994, 1995).

3.3 Telecommunications Background

The first telephone link in Sri Lanka was established in 1880 by a British-owned company. Telegraphy, including international telegraphy, has been available since 1857. In 1896 the colonial government purchased the telephone operations of the

Oriental Telephone Company, beginning the era of government monopoly. In 1941 Cable & Wireless, the United Kingdom-based telecommunications company, took over the provision of international telephony. In 1951, three years after independence, the government repurchased the international service unit from Cable & Wireless for Rs 2.6 million. From 1951 until the beginning of the institutional reforms in the 1980s, telecommunications service was a complete government monopoly (Gnanaindran, 1992).

Until recently, telecommunications services attracted little attention and investment. In the colonial period emphasis was placed on connecting government offices. Most of the rural lines were installed to serve the plantation sector. Telephony and telegraphy were provided by the Department of Posts and Telecommunications. The extensive network of post offices primarily provided postal service, telegraphy services, and money transfer and savings account services. Telephone service was provided through separate offices but as part of the same department.

The Colombo Area Development Scheme I (CADS I), completed in 1966, which saw the installation of 23 Strowger exchanges in the metropolitan Colombo area and the introduction of subscriber trunk dialing, marks the beginning of the modern era of telecommunications in Sri Lanka. This project connected 30,000 subscribers, mostly those previously served by manual exchanges. The Department of Posts and Telecommunications completed the Outer Colombo Area Development Project I (OCADS I)¹ in 1973, equipping major cities outside the capital area with crossbar switches and establishing microwave and cable interexchange links. In 1976 the Overseas Telecommunications Service of the Department of Posts and Telecommunications established a link to the Intelsat Indian Ocean Region satellite, and the first international gateway was commissioned, providing a limited capability for international direct dialing.²

3.4 The Reform Process

Institutional reform of the Sri Lankan telecommunications industry began in 1980 with the separation of the Department of Telecommunications from the Post Office. Both institutions continued to report to the minister of Posts and Telecommunications. The Department of Telecommunications functioned as a normal government department, subject to limitations on the ability to hire, fire, and discipline employees; to raise funds independently; and to retain earnings for internal use.

Despite the investments outlined in the previous section, the department had difficulty in meeting demand and providing reliable service. In 1980 61,500 direct exchange lines were in operation, the total number of telephones was 82,000, and exchange capacity was 93,000, none of it digital. There were 900 telex lines (Wickramarachchi, 1992, iv). According to department sources, only 65% of the registered demand for telephone service was being satisfied at this time. The normal growth of demand had been accelerated by the open economy policies of the post-1977 period, which emphasized international and domestic commercial activity. High usage of available telephone lines contributed to difficulties in com-

pleting calls (Kojina et al., 1984, 335–338; Saunders Warford, and Wellnius, 1983, 7–8). The obsolete cable network appeared to be the primary cause of the horrendous reliability problems. The Natural Resources, Energy, and Science Authority of Sri Lanka conducted a study in the early 1980s that found that 38% of telephone lines in the Greater Colombo area were out of order at any given time (Abeynayake, 1986, 16).³ Though referring to a later period, the managing director of Sri Lanka Telecom (SLT) corroborates the claims of unreliability by his statement that the daily average number of customer complaints regarding malfunctions was 5,000 prior to the completion of the cable modernization project in 1990 and less than 400 subsequently (Wickramarachchi, 1992, v).

Exchange fill (percentage of exchange capacity utilized) and the ratio of employees to 1,000 direct exchange lines (DEL) are common indicators of the efficiency of telecommunications administrations. In 1980 the exchange fill was 66%, a relatively unsatisfactory figure. By 1985 the fill was 64%, indicating that the new Department of Telecommunications was not improving efficiency. The number of employees was 10,238 in 1980, giving a very high employee/1,000 DEL ratio of 166. By 1985 the ratio had been reduced to 114.⁴ A selected comparison of employee/1,000 DEL ratios given in a World Bank discussion paper listed India as the highest, with a ratio of 90. The lowest ratio was 0.14 for Telefonica (Spain). These ratios were for an unspecified year, apparently near the end of the 1980s (Ambrose, Hennemeyer, and Chapon, 1990, table 1).⁵

Heavy demands were made on international telecommunications services by the movement of temporary workers to the Middle East, which began in the 1970s as construction and consumption exploded in the petroleum-exporting nations. The back-and-forth movement of thousands upon thousands of workers, most of whom had never been out of the country before, created both a familiarity with the capabilities of telecommunications services and strong demand. Because of the lack of English and Arabic literacy on the part of most workers, the postal system, telex, and other modes of text-based international communication were of limited utility. The telephone and the mailed audiocassette provided solutions to their urgent and nonurgent communication needs, respectively.

Given the extremely limited facilities for international telephony then available from the Department of Telecommunications, some entrepreneurs established telecommunications bureaus, or resale centers. These centers obtained international direct-dial and telex lines from the Department of Telecommunications and provided international calls, outgoing and incoming telex services, and, by the mid-1980s, fax services to customers who came to the centers. The department did not initiate the centers but provided them with additional lines, recognizing their utility. The centers were not limited to international services; they provided local and domestic long-distance services as well, sometimes in conjunction with photocopying and postal services. The bureau business was quite lucrative, and their operators had both the wherewithal and the incentive to subvert the first-come-first-served system that governed the allocation of scarce telephone and telex connections and maintenance services. Instances of tampering with the billing system by corrupt employees of the Department of Telecommunications, whereby calls made from the centers would be fraudulently billed to other cus-

tomers, were also detected. Public disclosure of these illegal activities brought the centers into disfavor among policy makers.

Some centers had their telecommunications facilities withdrawn (Samarasinghe, 1991). In addition, the Ministry of Posts and Telecommunications began to contemplate offering telecommunications services such as fax and telex services at post offices. However, it must be emphasized that the telecommunications centers provided a flexible, customer-responsive solution to serious shortcomings in the national telecommunications system. While the accompanying corruption was a negative aspect, it was an understandable response to the chronic undersupply of connections and maintenance services.

The Department of Telecommunications continued to provide telegraphic services after separation from the Post Office. Telegraphic services are used by a more representative, and much larger, group within the population than are telephone services. Telegrams are accepted at the many post offices dotted around the country, including extremely remote areas, and deliveries are made to postal addresses by messengers on bicycles. According to data provided in UNESCO (1989, table 9.29), access to post offices in Sri Lanka is roughly equivalent to that of Italy, with one post office serving an average area of 17 square kilometers and an average of 4,294 citizens. Sri Lanka ranks fourth in Asia on area served (behind Turkey, Israel, and Japan, if micro states such as Macau are discounted), and sixth for inhabitants served (behind Turkey, Cyprus, Malaysia, Israel, and Jordan). Only 1% of the population lacks access to postal services.

The separation of the Post Office and the Department of Telecommunications affected the telegraphic service in two ways. First, its provision required inputs from the postal and telecommunications services. The receipt of messages and their delivery occurred through post offices, and postal delivery was used when delivery of messages via telegraphic/telephonic circuits proved impractical. Second, there was a general perception that telegraphic services were cross-subsidized by the more lucrative telephone services. While telephone rates were frequently increased, telegraph rates were not. In light of high inflation, this actually reduced the rates for telegraphic services. A union has claimed that the actual cost of a telegraphic message is 20 times what is actually charged (Union of Post and Telecommunication Officers, 1984, ¶6.2.1).⁶

3.5 Aborted Privatization

In 1984 a presidential committee was appointed to make recommendations on the liberalization of telecommunications. It was chaired by K. K. Gunawardene, a senior engineer who served as director of Telecommunications at the time. The other members were J. A. Gunawardene (professor of electrical engineering at the University of Peradeniya and a computing pioneer; no relation to the chair), Mohan Munasinghe (an expatriate Sri Lankan energy economist on leave from the World Bank), and K. K. Y. W. Perera (founding professor of the Department of Electronics and Telecommunications at the University of Moratuwa and former chairman

of the Ceylon Electricity Board). Their recommendations were issued as a parliamentary sessional paper.⁷ The Gunawardene Report is generally recognized as the beginning of the effort to privatize the Department of Telecommunications and to introduce competition and regulation. It recommended the creation of a regulatory authority and the granting of multiple licenses to operators wishing to provide value-added services, key elements of the 1991 reform legislation discussed in the following section.⁸ Several members of the Gunawardene committee continued to play key roles in subsequent policy making, maintaining a connection between the committee report and its implementation. Chairman Gunawardene oversaw the 1991 corporatization process and served as the acting director-general of Telecommunications at the inception of the regulatory authority. Professor Perera was appointed to the first board of directors of Sri Lanka Telecom in 1991.

Around the time of the Gunawardene Report, news reports and rumors of an impending sale of the Department of Telecommunications to a foreign carrier began to circulate widely. The appointment in 1986 of one of Sri Lanka's most accomplished career diplomats, Vernon Mendis, to head what was described as a "shadow board" strengthened the general perception that a foreign company was likely to take over the operations of the department upon privatization. The mandate of the "shadow board" included (1) making recommendations on restructuring the department on a commercial basis, (2) formulating proposals on the establishment of a regulatory body, (3) assessing the need for foreign investment, and (4) selecting an appropriate foreign partner (Gunasekera, 1991a). The interest in a foreign partner was driven partly by the desire to obtain access to technology, but the primary motivation was the perception that domestic capital markets were incapable of handling the privatization of an enterprise as enormous as the telecommunications monopoly.⁹

By 1987 it was widely believed that privatization would occur, with a minority ownership stake and management going to a foreign company. Cable & Wireless, a British transnational active in developing countries, was said to be the leading contender (de Silva, 1987, 75; Perera, 1986, 8; Adam, Cavendish, and Mistry, 1992, 322). Cable & Wireless holds interests in several countries, including Hong Kong, Fiji, Vanuatu, Solomons Islands, Jamaica, Barbados, St. Kitts and Nevis, Sierra Leone, and Bahrain (Ambrose, Hennemeyer, and Chapon, 1990, appendix 3). The foreign ownership issue appeared to be alive as late as June 1988, as evidenced by a speech given by the then National Security, Trade, and Shipping Minister, Lalith Athulathmudali ("Privatisation Not the Be-All and End-All—Lalith," 1988). The foreign ownership issue helped opponents of privatization in two ways. On one hand, they were able to tap into the nationalistic feelings (even if latent) of the public and media personnel. On the other hand, the issue triggered concerns regarding national security within the ruling party.

The opposition to privatization was led by trade unions representing the employees of the Telecommunications Department—the Union of Post and Telecommunication Officers (UPTO), the Telecommunications Engineers' Association, the Telecommunications Officers' Union, the All Ceylon Telecommunications Engineering Workers' Union, the National Posts and Telecommunication

Workers' Union, and the Telecommunications Clerical Services Union. They were primarily concerned by the loss of employment.¹⁰

The lead trade union, UPTO, made submissions to government committees, issued press releases, organized seminars, issued educational material, including a booklet, and coordinated a picketing campaign. A threat of noncooperation with the privatized entity was also issued. On 23 September 1988, President Jayawardene summoned the union leaders to a meeting. According to a union source, he gave them an assurance that there would be no privatization. According to other sources, the president only postponed the decision until after the elections, even though the bill was on the order paper (agenda) of parliament.¹¹

The retreat by the Jayawardene administration, not known to be easily swayed by public opinion or by unions, requires explanation. Since the Indo-Sri Lanka agreement of July 1987, signed by Prime Minister Rajiv Gandhi and President Jayawardene, brought Indian troops onto Sri Lankan soil, the government faced a growing insurgency in the areas inhabited by the majority Sinhala ethnic group. The underground organization that led the insurgency was effectively utilizing work stoppages in conjunction with terror tactics in what was the most serious threat to state power in independent Sri Lanka. As a result, the government uncharacteristically reached accommodations with unions during this period. The postponement of the telecommunications privatization decision should be seen as part of the general defensiveness of an administration with its back to the wall (see generally, Chandraprema, 1991; Gunaratne, 1990).

Ranasinghe Premadasa, the nominee of the ruling party, but a politician with a different power base, was elected president in December 1988, and a new legislature was elected in February 1989. These elections, conducted in the midst of a massive insurgency and a civil war, were the most chaotic and violent in the country's history. Despite a political environment un conducive to debate on issues as arcane as telecommunications, UPTO obtained the views of every political party participating in the elections on privatization. All, except the tiny Liberal Party, stated they were not committed to telecommunications privatization.¹² The Premadasa administration continued with the open economy policies but was clearly more populist and perhaps more nationalistic than its predecessor. President Premadasa decided against the privatization of telecommunications in 1989 and instructed his officials to prepare legislation to corporatize the Telecommunications Department.¹³ This time, the unions acquiesced, mollified by a government commitment that no employees would lose their jobs. Union demands for increased salaries and benefits were met with increases of up to 40%.¹⁴

3.6 The 1991 Reform

The second stage of the institutional reform of the Sri Lankan telecommunications system consists of three distinct but related processes—regulation, corporatization, and competition. The Sri Lanka Telecommunications Act, No. 25 of 1991, enacted in July 1991, is of central importance to all three processes. Parts I and II of this legislation create a regulatory authority, the Office of the Director-General

of Telecommunications (hereafter Telecom Authority), and specify the powers of that authority. Part III transfers all assets and liabilities of the Department of Telecommunications to the newly created, fully government-owned statutory corporation known as Sri Lanka Telecom (SLT) unless specifically excluded by agreement between the minister and the corporation. Part IV provides for the transfer of employees from the department to SLT. Provisions defining rights of eminent domain for telecommunications operators are set out in part V of the act. Various offenses pertaining to telecommunications and corresponding penalties are described in part VI. In the final part the powers of the minister to give directions to the regulatory authority, the powers of the government to prohibit or restrict the use of telecommunications and so on are specified. This part of the act also includes language repealing the law previously governing telecommunications in Sri Lanka, the Telecommunications Ordinance.

3.6.1 Regulation

Prior to 1991 Sri Lanka had no telecommunications regulation. The notion that a government agency entrusted with the provision of a public service would require another agency to exercise continuing oversight to prevent abuses is foreign to the Westminster model of governance. A government agency is expected to “do the right thing.” If not, it is expected that Parliament will hold the responsible minister and the cabinet accountable.

Regulation is not necessitated by the mere conversion of a government department into a statutory corporation. A statutory corporation remains part of the government. Every such corporation reports to a member of the cabinet, and is thereby accountable to Parliament. Previous conversions, such as that from the Department of Government Electrical Undertakings to the Ceylon Electricity Board, were not accompanied by legislation creating a regulatory regime. Corporatization per se cannot explain the establishment of regulation.

The regulatory authority created by the act consists of one person and not multiple commissioners, as is the case in most jurisdictions. There are no provisions for ensuring the independence of its head, the director-general of Telecommunications, from the executive branch of government, despite the quasi-judicial nature of the position.¹⁵ The director-general may be appointed and removed at will, subject only to the general safeguards applying to the public service.¹⁶ This may not be very important since the minister of Telecommunications has extremely broad powers and can overrule a recalcitrant regulator by means short of removal from the position. For example, the minister has the power to:

- Grant or modify licenses to telecommunications operators on the recommendation of the director-general. The minister may reject such recommendation and grant a license at his or her own discretion (§17(2), §18).
- Take action regarding tariffs and subsidies. The director-general can only advise (§5(c)).
- Direct the director-general to hold public hearings on any matter (§12).
- Issue general policy directions to the director-general (§66).

- Direct the authority to furnish information (§67).
- Approve rules made by the director-general. Rules made by the director-general have no authority until approved by the minister (§68).
- Prohibit, restrict, or control telecommunications during a “public emergency or in the interests of public safety and tranquillity” (§69).

Clearly, the Telecom Authority has little independence vis-à-vis the minister. In other areas of the Telecom Authority’s duties, such as type approval of telecommunications equipment and the granting of licenses for frequency spectrum usage, the regulator’s decisions can be appealed to the secretary of the minister (§21, §22). It is evident that the Sri Lankan telecommunications regulatory authority is quite different from a conventional U.S. regulatory agency, which is given a degree of independence from the executive and legislative branches, since it performs judicial functions. The fairness of the Sri Lankan authority’s decisions appears to be safeguarded only by the conventional Westminster principle of ministerial accountability to Parliament.

The rationale for regulatory authority is not corporatization or the need to ensure the independence of a quasi-judicial agency. The remaining rationale is that of expertise; that is, the regulatory authority is created because the executive branch seeks expert assessment of policy issues in a highly complex and rapidly changing technical field such as telecommunications. This appears to fit the Sri Lankan case. The only exceptions are the provisions regarding public hearings (§12–§16). The Telecom Authority’s discretion to hold public hearings is quite broad, although it can be ordered to do so by the minister. The hearings are to be conducted by a panel of three officers from the Telecom Authority, one of whom may be the director-general. Hearings must be conducted in a manner consistent with natural justice, although the formal rules of the Evidence Ordinance do not apply. The committee’s order, award, or direction shall be published in the *Gazette* and is final, subject to an appeal on a question of law to the Court of Appeal. Unlike all other decisions of the regulatory authority under the act, the decision of a committee conducting a public hearing is not subject either to the minister’s approval or to an appeal to the secretary. Except for the lack of independence of the committee members and the absence of specific criteria for holding public hearings, the procedures appear quite similar to those of conventional regulatory hearings. Despite this single anomaly, it may be concluded that the Sri Lankan regulatory authority is a part of the executive branch, primarily acting as an expert advisory body.

3.6.2. Corporatization

In February 1990 Sri Lanka Telecom, the successor to the Department of Telecommunications, was established by an incorporation order under the provisions of the State Industrial Corporations Act (No. 49 of 1957). What the Telecommunications Act did was fill this empty shell with the assets, liabilities, and employees from the Department of Telecommunications. Five weeks after the act came into effect, the minister, on recommendation of the Telecom Authority

engendered by the act, issued a 20-year license to SLT (*The Gazette*, 1991). With these three actions, the corporatization of the government department that had provided telecommunications services in Sri Lanka since 1896 was completed.

Sri Lanka Telecom inherited a going concern, not bits and pieces of one. It was given a good start with employee morale. Those who joined the new company did so willingly, having been offered multiple employment options. Increases in salaries and benefits would have also contributed to morale. One significant burden that the SLT inherited was debt. It is responsible for repaying the major bilateral and multilateral loans to improve the network taken from the Asian Development Bank (\$41 million), the World Bank (\$57 million), and the Overseas Economic Cooperation Fund of Japan (\$80 million), among others. The SLT is responsible for repaying the debt to the Sri Lankan government, which, in turn, is responsible for repaying the foreign lenders.¹⁷ This arrangement may protect SLT from having to repay in foreign currency, a somewhat onerous obligation for a developing country telecommunications enterprise (Hudson and York, 1988).

Schedule 2 of the license issued to SLT specifies the range of authorized services, namely, telephone service, public telegraph service, telex service, data transmission, maritime mobile service, facsimile service, international television transmission, international photo telegram service, voice-cast transmission, IDS (satnet) service (low-volume data transmission using very small aperture satellite terminals), and INMARSAT service (*The Gazette*, 1991, schedule 2). Some of these—telephone service, public telegraph service, telex service, and INMARSAT service—were provided by the Department of Telecommunications prior to corporatization. But pay telephone service, which was provided by the department and which is explicitly referred to in the license (schedule 3, condition 10), is not included. Some of the listed services, such as data transmission and facsimile, were not offered in mid-1992.¹⁸ Cellular telephone and paging have been left out of the license. The rationale for including data transmission service, a competitive service offered by two other operators, and not cellular telephone service and paging service, is not clear. In 1993 the ministry issued a separate cellular license to Mobilfel, a joint venture between SLT and an Australian company.

The principal license issued to SLT requires the operator to provide a public emergency call service (schedule 3, condition 6). In July 1992 almost a year after the grant of the license, such a service did not exist. These discrepancies lead to the conclusion that the license, like the entire regulatory regime, is interpreted somewhat loosely. This is quite understandable. The entire concept of telecommunications regulation is very new to the country and the SLT license was issued 36 days after the law creating the Telecom Authority was enacted.

The license, a detailed and lengthy document comprising the license proper and three schedules, includes provisions on subjects as varied as a development plan (schedule 3, condition 1), numbering plans (condition 24), and confidentiality of customer information (condition 26). It is noteworthy that no specific public service obligations such as allocating a set percentage of investment for rural areas have been imposed. This is contrary to common practice in other countries. The government of Mexico imposed specific and measurable public service obligations

and timetables for their achievements on Telmex prior to privatization (Bruce, Cunard, and Director, 1986, 433; Pérez Chavolla and Samarajiva, forthcoming).

A number of conditions directly or indirectly address competitive issues. Condition 16 prohibits anticompetitive practices, including cross-subsidy (condition 16.2) and linked sales and exclusive dealing arrangements (condition 16.4). The operator is prohibited from entering into the manufacture of telecommunications equipment by condition 18 and from entering into agreements with foreign telecommunications systems that preclude or restrict provision of international services by another operator by condition 31.

The effectiveness of these provisions can be assessed only after some specific anticompetitive practices have been adjudicated by the Telecom Authority. The delineation of jurisdiction between the Telecom Authority and the Fair Trading Commission, the agency with general authority over anticompetitive issues, is also unclear.

Condition 20 sets out the rules for changes in prices. It basically leaves changes in the prices of international calls, connections, leased lines, and miscellaneous services to the business judgment of the operator. Business and residential rentals and domestic call charges are subject to a price cap (less than or equal to rate of inflation minus two percentage points). Price cap regulation was first proposed and implemented in the United Kingdom. Its incorporation into the Sri Lankan system is another indication that the basic regulatory scheme was adapted from that put in place in the United Kingdom in the early 1980s. It appears that the basic format and language of the license has also been borrowed from Britain.

3.6.3. Competition

Though the Telecommunications Act provides the basic framework for competition, actual competition was introduced prior to its enactment. The activities of the telecommunication centers previously described were a form of rudimentary competition. More significantly, the first license for cellular service was given to Celltel Lanka Ltd. (owned 25% by Millicom of the United States, 25% by Comvik of Sweden, and 50% by local and foreign investors) under the Telecommunications Ordinance, before the new legislation of 1991. The new act states that every license issued under the repealed ordinance shall be deemed to be a license granted under the new act (§72). Whether or not Celltel is bound to obey the Telecom Authority on matters not specifically mentioned in its license appears to be a matter of dispute. However, the Telecom Authority is likely to have difficulty in enforcing more rigorous conditions on the other cellular providers as long as Celltel remains lightly regulated.

The Celltel license and the second cellular license, given to Lanka Cellular Services (a joint venture between Singapore Telecom and the Capital Development and Investment Company) are examples of an incremental policy of privatization whereby new, specialized networks are opened up for competition and foreign investment, avoiding the controversies associated with privatization and foreign ownership of the Public Switched Telecommunication Network (PSTN). Ambrose, Hennemeyer, and Chapon (1990, 18–19) state:

Political opposition is much less likely as these networks are largely growth markets and do not represent much of a threat to civil service and union employees of the PTT [Posts, Telegraphs, and Telephones]; the construction of such networks, moreover, does not present a threat to national security. The scale of investment is generally smaller than that required for a PTT privatization. New technologies such as cellular and satellite can sharply reduce the economic scale of projects. Required regulatory changes are minor when compared to the regulatory structure required for the government to sell off PTT assets, and to maintain national security.

The government, which awarded what was then said to be the last cellular license to SLT's joint-venture affiliate Mobiltel, awarded a fourth license to MTN Networks (Pte.), a joint venture in which Telekom Malaysia International holds 80% equity interest, in February 1994. Fierce competition between the four firms has led to explosive growth. One estimate indicated that the number of cellular phones had increased from around 3,000 at the beginning of 1994 to 23,000 by November 1994 (Gunasekera, 1994a). Five paging licenses have been issued to private companies. Four are in operation in the Colombo metropolitan area, and the fifth will serve two other cities. Two licenses have been issued for data communication and associated services to Lanka Communication Services (a joint venture of Singapore Telecom and CDIC, similar to Lanka Cellular Services) and to Electroteks (a fully local-owned company). Both these licenses exclude basic voice services. The SLT license authorizes the corporation to offer data communications services as well, but it did not offer such services under tariff at the time of writing.

Electroteks, an innovative company started up by a former Telecommunications Department engineer, has been building and maintaining data communications systems for banks since 1987, well before the Telecommunications Act. These proprietary networks comprise radio links that connect a limited number of branches and automatic teller machines of banks. The applicability of the license granted to Electroteks to provide "switched and non-switched data communication services" to the actual networks that are owned by the banks is not clear. It may well be that the bank networks require no licenses under ¶20 of the Telecommunications Act, since they are proprietary and presumably do not connect to other networks, including the PSTN. The other data communications operator appears to dominate the international data communications segment of the market, although it has been trying very hard to break into the business of providing domestic data communications services to banks. Lanka Communication Services enjoys certain tax advantages over its Sri Lankan competitor owing to its status as a foreign investor approved by the Greater Colombo Economic Commission. In addition, the local partner (holding 30%) in this joint venture is CDIC, a venture capital group formed under an IMF and Asian Development Bank initiative. The government holds 51% of its capital, with various local banks holding the balance.

Both companies deal with SLT on a day-to-day basis but appear to have encountered minimal difficulties. Lanka Communication Services assists customers in obtaining leased lines from SLT as part of their "one-stop shopping" marketing philosophy. Dial-up customers use SLT lines to get to Lanka Communication Services' three nodes. They receive two bills, one from SLT for telephone service and one from Lanka Communication Services for data communications

services. Lanka Communication Services relies on radio links as much as possible and in 1995 did not intend to lay any fiber or cable.¹⁹ Electroteks has some colocated equipment in SLT premises, which had originally drawn some protests from the unions, but the equipment has been successfully installed and is operational.²⁰

As is to be expected in a small country, Sri Lanka has no telecommunications manufacturing capability to speak of. Almost the entirety of hardware and software is from foreign suppliers, including CIT Alcatel and AT&T. Electroteks is the sole domestic manufacturer of telecommunications peripheral equipment. It began in 1980 by supplying signaling interface equipment to the Department of Telecommunications under the Colombo Area Development Scheme II. In 1983 it made a strong bid to supply Spey units (wireless components of some local loops) but settled for a joint venture arrangement with CIT Alcatel, which proved abortive in the end. Electroteks also supplied equipment for the expansion of the Sri Lankan telex network. By 1992 Electroteks had won a tender for the supply of telex network equipment to Bangladesh under a World Bank project.²¹ Central Industries Ltd., a Sri Lankan firm specializing in polyvinyl chloride (PVC) conduits, has seen its profits increase dramatically because of contracts to supply conduits for buried telecommunications cables. The company doubled its output to 4,000 tonnes in 1993 and is doubling it once again in preparation for further expansion of the telecommunications network (Kodagoda, 1995).

Ambrose, Hennemeyer, and Chapon (1990, 16–28) identify three forms of privatization, other than the outright privatization of the PSTN and the carving out of specialized networks already discussed. They are (1) digital overlay networks, (2) build, operate and transfer (BOT) and revenue sharing, and (3) subcontracting of installation and operations.

Sri Lanka appears to be focusing on BOT-type strategies.²² Subcontracting is not mentioned as a specific strategy by the government, but it has taken place. For example, cable laying in metropolitan Colombo was done by Diamei, a Japanese firm, as a subcontractor of the Telecommunications Department (Wijesekera, 1991). The publishing of telephone directories has been subcontracted to GTE directories since the early 1980s.

3.7 Privatization

Following the defeat of the United National Party at the 1994 elections, the telecommunications institutional reform process accelerated. As a result of the abortive privatization effort in 1989 and the late President Premadasa's commitment to not privatize SLT, it appeared that the corporation would go through a relatively long commercialization stage, with competition being introduced in various sectors of the industry. However, the stage was set for the easy conversion of SLT from a government corporation to a private company. Under the Conversion of Public Corporations or Government Owned Business Undertakings into Public Companies Act, No. 23 of 1987, all that is required is cabinet approval.

In August 1994 the United National Party was defeated in the parliamentary elections after 17 years in power. A new People's Alliance cabinet headed by

Chandrika Kumaratunga was sworn in by President Wijetunga. Stung by the defeat, President Wijetunga withdrew his candidacy for re-election in the presidential election scheduled for November 1994. Shortly upon assuming office, the new cabinet announced suspension of a Rs 977 million (approximately \$20 million) contract with AT&T and Marubeni Corporation to install 44,200 telephone lines, claiming that the bid was Rs 200 million higher than the lowest offer. At the same time, SLT announced that it would not be able to meet the previously set target of 500,000 telephones by the end of 1995 (Reuter, 1994a).

In November 1994, following the sweeping presidential election victory of the People's Alliance candidate Kumaratunga, the new administration announced "a decision in principle to sell up to 20 percent of [SLT's] equity" to foreign and domestic buyers (Reuter, 1994b). The unions, again led by the Union of Post and Telecommunication Officers, opposed the plan, saying it would prune services and reduce the labor force, and threatened to launch a picketing campaign and then a strike if persuasion failed (Gunasekera, 1994b). By March 1995 it appeared that the privatization plans had been postponed. Rajan Asirwatham, the head of the Public Enterprise Reform Commission overseeing the privatization process, stated that the privatization of five other state-owned enterprises had priority and that SLT would not be taken up in 1995 (Reuter, 1995b). In 1996 an international consortium of telecommunications companies provided advice to the government regarding the "restructuring" and "reform" of the PTT; evidently, "privatization" is too much of a pejorative term.

In 1996, the government took a major step in the reform of the telecommunications system by awarding contracts to two consortia led by Sweden's Telia and Bell Canada Inc. Each consortium is expected to provide up to 100,000 wireless-based connections to homes and businesses by the year 2000. They are each expected to invest about \$100 million and pay the government a fee of Rs 300 million (\$5.7 million). This is the first time private companies have been allowed to install basic telephone lines in competition with SLT. In a separate development, SLT announced the launch of a \$1 million network expansion program outside the Colombo metropolitan area with Japanese assistance (Rao, 1996).

3.8 Discussion

The Sri Lankan telecommunications system has experienced significant growth and major institutional reforms since 1980. There has been a qualitative leap in investment in telecommunications, funded by extensive multilateral and bilateral loans. At the end of 1991 the switching capacity was 159,596, an annual increase of 6.5% since 1980. Direct exchange lines had reached 125,834, showing an annual growth rate of 9.5% over the previous 11 years. The total number of telephones was said to have grown at a rate of 10.3% over the same period, to 175,000. Telex lines had grown by 7.7% since 1980 to reach 1,662. Telephone density for the country as a whole had risen from approximately 0.6 per 100 population in 1980 to 1 per 100 population in 1991. In the Colombo metropolitan area the density was 5.36 per 100 population in 1991. The unsatisfied demand (waiting

list for connections), which amounted to 35% in 1980, stood at 34.5%, a marginal improvement, indicating that demand had kept pace with the increase in telephones, which had more than doubled. In the Colombo metropolitan area, the unsatisfied demand amounted to 30%, compared to 42% in the rest of the country.²³ Exchange fill was at 79%, a distinct improvement over the 1980 figure of 66%. In 1996 cellular service received a boost when two licenses for cellular service were awarded to Lanka Bell (20% Bell Canada and Nortel, 70% TransAsia Telecom, and 10% local investors) and Telia Lanka (75% Telia, 21% Metropolitan Group, and 4% National Development Bank). Both are required to provide 40,000 lines by the year 2000. New services such as cellular telephony, paging, and data communication were available in limited areas. Still other services such as cardphones and store-and-forward fax services were on the near horizon. The country was considered a leader in the adoption of digital central office switching, with 70% digital exchange capacity.²⁴

But the real story is not in these numbers—some impressive, some not. The major changes that have occurred are in policy and industrial organization. The UNP administration, which directed the reform process from 1980 to 1994, and the new PA administration have assigned high priority to telecommunications and have adopted innovative policies to that end. Where an all-encompassing and inefficient government monopoly constituted the entire system, there now exist multiple firms, likely to further increase in numbers. The former monopoly still functions like a monopoly in traditional wireline telephony but is now set on a course that promises dramatic changes to its institutional culture and perhaps its very existence. The basic agreement between the two main political parties on the nature of the changes suggests that the changes are irreversible.

At the present time it is not possible to give a complete answer to the question of why these changes occurred. Clearly, external factors have played a part. It would be foolish to ignore the contemporaneity of the Sri Lankan reforms with a worldwide wave of institutional reform (Cho, 1995). There is evidence of World Bank, Asian Development Bank, and Commonwealth Secretariat influence in the process. A key actor, the secretary of the Ministry of Posts and Telecommunications, has acknowledged that the separation of the postal and telecommunications departments had been “actively encouraged by the World Bank which agreed to provide financial assistance by way of loans for development of telecommunication services” (Gunasekera, 1991a). The former chairman of the “shadow board,” the entity established to oversee the abortive privatization process from 1984 to 1989, writing in his official capacity in a World Bank–sponsored symposium proceedings stated that the problem of poor telecommunications in Sri Lanka was viewed with particular concern by international aid agencies such as the World Bank.

Successive World Bank missions to Sri Lanka had drawn attention to this telecommunications gap and had . . . [made] proposals [that] primarily sought to bring about a total reorganization and restructuring to create a new system that would enable telecommunications to be operated along commercial lines. At the same time, these agencies showed an overt interest in privatization, and the Asia [*sic*] Development Bank held a seminar on the subject in 1985 and published the proceedings. (Mendis, 1989, 99–100)

The World Bank's interest in reform was concretely manifested through the funding of the shadow board.²⁵ The government bore "the modest local expenses," but "all other costs, such as those associated with foreign consultants and the employment of experts on its staff" were covered by a grant from the World Bank (Mendis, 1989, 105). The foreign consultants included the Sussex-based firm of Ewbank Preece, which formulated a telecommunications master plan.

The former colonial master, the United Kingdom, appears to have played a major role as an intellectual and ideological influence. A significant number of Sri Lanka's senior bureaucrats and politicians received their education in Britain. In addition, commonalities between the political and legal systems create the conditions for learning from Britain, and mechanisms such as the Commonwealth make such learning easy. Mendis (1989, 100) states that "the highly publicized and successful privatization of telecommunications" in Britain "fired imaginations." Adam, Cavendish, and Mistry (1992, 322), in a book sponsored by the Commonwealth Secretariat, assert that the legislation that was withdrawn at the last minute in 1989 was directly modeled on the U.K. Telecommunication Act of 1984. Even the 1991 act and the licenses issued by the Sri Lankan Telecom Authority bear strong similarities to their U.K. counterparts.

Haas (1992) describes groups of itinerant experts who share certain world views and serve as agents of policy diffusion as "epistemic communities." The flow of ideas regarding institutional reform may be usefully analyzed within this framework. In addition to the various British experts brought in through the Commonwealth Secretariat, Mohan Munasinghe, an expatriate Sri Lankan employed by the World Bank as an energy economist, played a key role in the reform process. On leave from the World Bank for approximately two years, he was one of the four members of the presidential committee appointed in 1984 to make recommendations on the liberalization of telecommunications. Although the process begun by this committee ran into difficulties in the short term, all the basic themes of the reforms embodied in the 1991 act were articulated.²⁶ Analysis of the role played by engineers such as K. K. Gunawardene, who chaired the presidential committee and supervised the 1991 transition as acting director-general of Telecommunications, is likely to be a fruitful area of inquiry. These senior engineers participate in the epistemic communities centered around the International Telecommunication Union both as "learners" and as "teachers" when they act as consultants to other developing countries. At the time the interviews for this case study were conducted, Gunawardene was advising the government of Nepal on telecommunications issues.

This evidence regarding external factors affecting Sri Lankan institutional reform in telecommunications should not be taken as an argument that internal factors were irrelevant. The failure of the 1984–1989 reform initiative clearly points to the weight of internal factors. Some of these internal factors were endogenous to the telecommunications system. Opposition by the unions and ambivalence regarding Chairman Mendis of the shadow board on the grounds that he was an "outsider" to the department and to the engineering profession belong to this category. Other factors were internal to Sri Lanka but exogenous to the telecommunications system. The political crisis of 1989 that gave an added edge

to union threats to strike and the concerns about national security that circulated within the ruling party belong to this category.

The unexpected acceleration of the reform process by the new People's Alliance administration in 1994 was influenced by both internal and external factors. As a result of the costly civil war in the north and the east and the profligate fiscal policies of the preceding Wijetunga administration, which tried to buy itself another term by increasing various welfare benefits, the new administration was compelled to find ways to reduce the ballooning budget deficit. In addition, the new administration had an image problem. The last time the parties that constituted the People's Alliance were in power, they followed strong import-substitution policies with emphasis on state-owned enterprises. Even though the People's Alliance campaigned on a promise to continue the market-oriented policies of 1977–1994, it appeared in late 1994 that investors continued to doubt this commitment. It appears that the early and unexpected announcement that a large number of state-owned enterprises, including SLT, would be privatized was made in order to establish the new administration's economic policy credentials with foreign and local investors.

Who will be the winners and losers in the Sri Lankan institutional reform process? Clearly, the telecommunications needs of the export/commercial economy centered in the Greater Colombo area are being met much better now than they were a decade ago. The new industrial structure and policy environment are likely to be even more responsive to this sector in the future. There is nothing inherently wrong with this. It is difficult to envisage how a small economy such as Sri Lanka's can survive without a dynamic export/commercial sector. But the long-term stability of society as a whole requires that the export/commercial sector not become disarticulated from the rest of the economy.

The inclusion of rural service objectives, albeit highly conditional, in the Telecommunications Act and the Hambantota project commenced in 1989 with Finnish aid do not, by themselves, amount to a serious effort to provide useful and innovative services to rural areas. The first of the general objectives of the act is "the provision of a reliable and efficient national and international telecommunication services . . . , including emergency services, public call box services, directory information services, maritime services, and rural services." The Hambantota project increased exchange capacity to over 4,000 lines for the Hambantota and Moneragala districts, two of the more impoverished rural districts. However, the mere expansion of service is unlikely to contribute to the well-being of the rural poor. What is needed is a creative effort to reconceptualize telecommunications service in a way that it will be of use to people in those areas (for discussion, see Samarajiva and Shields, 1990a).

The ministry's plans to offer fax and telex services through post offices could constitute such an innovative effort if properly designed. The strength of the post office network and the proven success of the telegram service point to the rich potential of text-based electronic communication systems capable of handling multiple languages and scripts. But simple introduction of fax and telex service (the latter, a dying technology) will not do if the objective is to reach the large population segment presently served by telegram service. At a minimum, the con-

venience and user-friendliness levels of telegram service must be achieved. It is possible to surpass them, using innovative technologies such as computer messaging systems capable of handling non-Roman scripts.²⁷

Will the urban poor benefit from the current telecommunications policies? Under the present pricing policies it is difficult to envisage direct benefits except in terms of improved pay telephone and telecommunications bureau services and emergency services. The policy makers appear to be aware of these needs as evidenced by their inclusion in the Telecommunications Act and the SLT license. Yet, there are no indications of concerted efforts to establish an emergency service. After a slow start, progress has been made on pay telephones. By 1995, an SLT affiliate and two competitors had been licensed to provide pay telephones (Reuter, 1995a). Booths and advertisements for the services are quite visible in the metropolitan areas, although rural availability is very low.

Direct benefits to various groups in society are important, but they are not the sole criteria applicable to policy assessment. Research on the relation between telecommunications and development assigns great importance to indirect benefits. Indeed, there may be merit in giving priority to productive (as opposed to consumptive) uses of telecommunications, since they are the primary sources of indirect benefits such as job creation (for discussion, see Samarajiva and Shields, 1989, 1990b). If the export/commercial sector is considered to be an essential part of the economy and a provider of employment, a carefully designed emphasis on telecommunications investment in that sector could yield benefits for other sectors of the economy including the rural and urban poor. But a blatant bias toward business users will not sit too well with the vocal middle class or with the poor majority who vote, and who on occasion express their displeasure by setting fire to telephone exchanges. As a result, few policy makers take this rational, but politically difficult, course (for discussion see Samarajiva, 1991).

A politically viable policy may have to include investment in the productive sector to generate indirect benefits such as employment, investment that will directly benefit the rural and urban poor to help manage the stresses and strains of uneven development, and provision of services to the politically articulate urban middle class to build support for telecommunications policy and to generate revenues. The problem with these types of pragmatic policies is that the powerful beneficiaries (business and the urban middle class) tend gradually to elbow out the weaker beneficiaries (rural and urban poor) over time. The latter groups end up providing legitimacy to the policy but receive little or nothing in return. One possible solution to this problem is to cede the provision of telecommunications services to business and the urban middle class to private entrepreneurs or at least a structurally separate entity or entities in the public sector and to establish one or more enterprises whose *raison d'être* is the provision of telecommunications services to the urban and rural poor. There is no necessary reason for these entities to be state owned or to provide services below cost, though government incentives at the start would be required.

The Telecom Authority has been established to ensure, among other things, fair treatment of consumers and fair competition among the operators. Given its constitution, expecting fairness of a judicial nature may be unrealistic. However,

political control over the Telecom Authority may, in its own way, deliver a form of fairness. This is more likely in the case of operator-customer relations than in the case of operator-operator relations. Customers of telecommunications services in a low-penetration system like Sri Lanka tend to have privileged access to channels of political power. At least in the near future, this group should be capable of exerting political pressure on the Telecom Authority to balance their interests and those of the operators. In the case of operator-operator relations, the political nature of the regulatory process is likely to lead not to equity but to bribery and corruption. The lack of administrative procedures and due process requirements (other than the general requirement to follow the principles of natural justice) is likely to reinforce this tendency.

This chapter has provided an analytical description of the 1991 institutional reform of the Sri Lankan telecommunications system, including its antecedents in the 1980–1989 period. It has assessed the extant policies and has analyzed the interplay of domestic and external forces in the shaping of the reform process and the impact (or lack thereof) on different groups in society. It concludes that the reform process is basically irreversible in light of the bipartisan endorsement of the reform policies and the introduction of new stakeholders. Having emerged from obscurity in the past 15 years, the telecommunications sector in Sri Lanka is unlikely to revert to the backwaters it occupied in its first 100 years.

Notes

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1. “Outer Colombo” means the entire country, excluding the metropolitan area of the capital. This usage is indicative of the disproportionate importance assigned to Greater Colombo within the telecommunications administration.

2. Wickramarachchi (1992, iv) and Gnanaindran (1992). Wickramarachchi was the managing director of Sri Lanka Telecom, and Gnanaindran, the deputy general manager (Corporate Planning). International telecommunication via cable was available prior to 1976, but channels and quality were limited.

3. The 38% failure rate is also mentioned in a highly critical commentary on the telecommunications service in an authoritative annual government publication (National Planning Division, 1985, ¶6.27).

4. Calculated from data in Department of Telecommunications (c1986), and in Wickramarachchi (1992, v).

5. Saunders, Warford, and Wellenius (1983, p. 68) caution that this ratio should be carefully interpreted: “In the United States, where, until recently, almost 40% of the local plant [was] . . . labor-intensive step-by-step equipment, the ratio . . . is less than six and approaches four. . . . Many developing countries still have substantial open wire line net-

works that require relatively high maintenance and some manual exchanges that require operators, and some countries have relatively large workshop and construction crews because of a lack of local equipment, contractors, and suppliers.”

6. Interestingly, none of the government documents examined in this research made reference to telegraphy, with the sole exception of a 1981–1985 table of revenues by service type. The fact that the telegraphic revenues as a proportion of total revenues of the Department of Telecommunications ranged from a high of 3.9% in 1982 to a low of 0.9% in 1984 may explain the neglect (Department of Telecommunications, c1986, 123).

7. Sessional Paper III of 1985. Unfortunately, this document is unavailable at the Government Publications Bureau and, inexplicably, at the Government Archives as well.

8. Interview with Professor K. K. Y. W. Perera, member of the board, Sri Lanka Telecom, 7 July 1992.

9. Adam, Cavendish, and Mistry (1992, 313) and discussions between the author and Dr. Vernon Mendis in 1987 (see also, Gunasekera, 1991b).

10. For a general discussion of union views of telecommunications reforms, see Mosco and Zureik, 1988.

11. Interview with G. M. A. de Silva, general secretary, Union of Post and Telecommunication Officers, 9 July 1992 (no privatization); interview with S. L. D. Bandaranayake, legal consultant to the Ministry of Posts and Telecommunications, and Radley Disanayake, associate expert, licensing and customer services, Office of the Director-General of Telecommunications, 8 July 1992 (postponement only).

12. Interview with G. M. A. de Silva, general secretary, Union of Post and Telecommunication Officers, 9 July 1992.

13. Letter from A. de Z. Gunasekera, secretary, Ministry of Posts and Telecommunications, dated 15 August 1992.

14. Interview with G. M. A. de Silva, general secretary, Union of Post and Telecommunication Officers, 9 July 1992.

15. In a speech entitled “New Era in Sri Lanka Telecommunications,” delivered on 23 March 1992, A. de Z. Gunasekera, secretary, Ministry of Posts and Telecommunications, described the Telecom Authority as having quasi-judicial powers.

16. Chapter 9 of the Constitution specifies the terms and conditions of public service employment. Appointment, transfer, dismissal, or disciplinary control of public officers is shielded to a great extent from judicial review. Precedent and custom makes dismissal from the public service rather difficult, but transfer is a different matter. A public officer who falls into disfavor with his or her minister is likely to be exiled into the “Siberia” of the public service, retaining title and salary but stripped of power, perks, and promotional prospects.

17. Letter from A. de Z. Gunasekera, secretary, Ministry of Posts and Telecommunications, dated 15 August 1992.

18. Complete set of tariffs listed in Department of Telecommunications (c1986, 136–151). It is possible, but unlikely, that tariffs for these services were added in 1985–1991. The only new service added during that period appears to have been the IDS (satnet) service (“Sri Lanka to Introduce New International Data Service,” 1988).

19. Interview with Numinda Jayasuriya, marketing director, Lanka Communication Services (Pvt) Ltd., 9 July 1992.

20. Interview with B. A. C. Abeywardene, managing director, Electroteks, 11 July 1992.

21. *Ibid.*

22. Interviews with A. de Z. Gunasekera, secretary, Ministry of Posts and Telecommunications, and S. Ediriweera, director of telecommunications and director of policy planning, Ministry of Posts and Telecommunications, 10 July 1992. BOT has been used in

highway construction in Malaysia. For an assessment see Adam, Cavendish, and Mistry (1992, 211–272).

23. Calculated from Wickramarachchi (1992, iv) and notes from interview with C. Gnanaindran, deputy general manager (corporate planning), Sri Lanka Telecom, 10 July 1992.

24. The “leader” designation comes from Antonelli (1991, 49–50). Antonelli used a 1987 digitalization figure of 57.4% for 1987. Wickramarachchi (1992, iv) gives a figure of 70% for 1991.

25. This “independent” board, headed by a former career diplomat, which included representatives of the Ministry of Posts and Telecommunications and the Department of Telecommunications, was to oversee the transition to privatization.

26. Interview with Professor K. K. Y. W. Perera, member of the board, Sri Lanka Telecom, 7 July 1992.

27. For example, Gupta and Ramani (1981). The capabilities of these systems with respect to Sinhala and Tamil scripts are dramatically higher now (e.g., Kumarasena, 1988).

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