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Liberalization of Telecommunications in India in the Mid-1990s

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1.1 Introduction

This chapter analyzes the role of a state that achieved national independence less than 50 years ago in shaping the use of telecommunications since that time. From its origins as a one-time law-and-order maintenance tool of the British empire (Headrick, 1988) telecommunications has become a poorly functioning state monopoly in postcolonial India. Specifically, this chapter will focus on the Indian government's decision to allow a gradual influx of private capital into the telecommunications sector since the mid 1980s.¹

It would appear that increasing the participation of private capital in meeting demands that were previously state responsibility would lead to a withering away of the role of the state (Waterbury, 1993; Ambrose, Hennemeyer, and Chapon, 1990).² State choice of policy instrument—competition with the state monopoly rather than state divestment—makes the simple association of greater private participation and less government more complex. Research on policy, policy instruments, and outcomes is limited. Given a policy decision to open up to private capital, two of the many tools at a state's disposal are liberalization, the opening up of state sectors through new competitive private enterprises, and privatization, the sale of part or all of the assets of a state enterprise to private capital. We have argued elsewhere (Mody, Tsui, and McCormick, 1993) that invitations to the private market to participate in sectors previously reserved for the state may be implemented in ways that could actually strengthen the state. Following statist theorists (Deyo, 1987), we hold that the power of post-Cold War states is increasingly determined by economic competitiveness: The regime of capital is at center stage. The objective of this chapter is to show how and why the state in India has chosen to expand and improve its former state-monopolized telecommunications sector through the licensing of new private competitors without diminishing the role of its large Department of Telecommunications (DOT) bureaucracy or threatening the interests of DOT's unionized labor through divestment of the government's current monopoly. We will outline how the state's choice of liberalization rather than the corporatization and sale of DOT as a policy instrument has

achieved politically acceptable accommodation of private capital. DOT has done the following:

- accommodated some of the advice of the World Bank and International Monetary Fund by expanding telecommunications infrastructure and using private capital;
- assured dissatisfied business, governmental, and residential users of present telecommunications services and their lobbies that there will be new and better services offered by private vendors in the near future;
- provided some investment opportunities (basic, value added, and mobile) for foreign capital in joint ventures with domestic capital, with the promise that the best (long distance and international service) is yet to come for those competent service providers who do not offend the political power structure or cultural sensibilities;
- provided technological learning opportunities and investment opportunities in a new sector for domestic capital by requiring all foreign capital to operate in joint ventures with domestic capital, which will hold 41% of the equity;
- reassured bureaucrats and labor in the massive former monopoly that their jobs and power bases in the Department of Telecommunications will remain unchanged; and
- expanded the regulatory role of the state (through the creation of new jobs in its *license raj* system—rule by allocation of licenses) which will oversee the new private sector service providers of basic, value-added, and mobile services.

The foregoing scenario is a distinctly different outcome from what proponents of less government expected after opening up to private capital. In its implementation of private sector participation, the government dismantled the political philosophy of less government usually enmeshed with private capital advocacy; the state wants the capital but not the political philosophy of a reduced role for the state. This case study shows the accommodations with numerous forces external to and within the state and society that took place in one nation in its efforts to meet its need for capital and its need for new telecommunications technology. India's experience illustrates how the configuration of private sector participation could be distinct and diverse in different nation-states, based on the nature of political accommodation that takes place. This emphasizes the problems of international generalization in policy studies.

Most justifications for single-country analyses of India begin with size. India is a subcontinental market with over three times the population of the United States (approximately 900 million people), a middle class as large as the total U.S. population, and an equally large number of people (350 million) living at poverty levels. Private investment worth \$30 billion is required to meet the demand of 31 million new lines by 2001 according to the Rakesh Mohun Committee on Infrastructure estimates in 1997. But more importantly for *telecom* policy researchers, the selection of segments of the telecommunications sector that will be opened up to private capital contravenes the conventional wisdom on liberalization procedures advocated by the World Bank and best epitomized in the European Commu-

nity Green Paper (Commission of the European Communities, 1987). Atypically, India has opened up the least profitable market segment of basic service to private capital before opening up long-distance service. It has challenged private capital to prove its long-term commitment to national needs by first investing heavily in a fiber-optic local loop in a duopolistic structure *before* it will be allowed to reap the benefits of investment in the more profitable long-distance and international service market.

This chapter is organized into three basic sections: first, a review of India's colonial background; second, a discussion of policy and practice in the postcolonial period; and finally, an analysis of the nature of political accommodations chosen by India in its path to private sector participation.

1.2 Colonial Background

The British Indian telegraph system was a political, not a commercial undertaking. Experiments with telegraphy were taking place in India in 1839, the year in which Samuel Morse laid the first telegraph lines. The first operational land lines were laid by the government in 1851 near Calcutta, then the seat of British power. The mutiny by Indian soldiers in the British army in 1857–1858 provided the impetus for the expansion of telegraphy as a command and control system. In contrast to the system set up in the mother country where the telegraph was operated by private firms, the telegraph system organized in its Indian colony was set up as a government monopoly, which reported directly to the British Governor General. There were telegraph offices in every major town within 20 years of its introduction. The merger with the postal system in 1883 increased its outreach; runners forwarded telegrams to far-flung post offices that did not have a telegraph facility. The low wages paid to telegraph clerks made it possible to charge the lowest rates in the world (1 rupee for every 10 words), resulting in a service that unintentionally became accessible to native business in addition to the middle class.

Political considerations (the 1857 mutiny) also hastened the development of submarine telegraph technology. Early efforts included several false starts and wasted expenditure. But by 1865 the British Empire could control and communicate with the rebellious Jewel in its Crown through a combination of cables and landlines.

Only five years after its invention, in 1881, telephone service was introduced by British private capital into this Crown colony. The British political and commercial seat, Calcutta, was the obvious starting point for service. Licensed to operate until 1944, these private firms operated the systems in five cities while the Director General handled all other national services. Colonial India had 321 city-centered telephone exchanges (half of which could handle long-distance switching), 86,000 working lines, and 338 long-distance public call offices. Telephone density was .025 per 100 people; this limited urban service is reputed to have been efficient, disciplined, and dedicated.

1.3 After National Independence

The relationship between the state and private capital was suspicious rather than collaborative from the start. Domestic capital (e.g., the Tatas and Birlas) had put their weight behind the struggle to monopolize domestic markets. After independence, not surprisingly, domestic capital encouraged the state to protect the home market for their own financial gain. Recognizing that private profit-maximizing activity would not necessarily be in the public interest, the well-intentioned state set up an incredibly complex system of licensing to restrain the anticompetitive tendencies of private industry. Where there was no expertise in the private sector, the state set up public enterprises. Their most conspicuous failure was in not generating profits for reinvestment. Thus, the first 40 years of India's 50 years of statehood led to expansion of the public sector and its hegemony over the economy. The perception that the state could be trusted and that the market could not be consistent with the post-World War II experience and the advice of international donor agencies at that time. Thus, independent India decided that its telephone and telegraph systems would be strictly a government monopoly administered by its own civil service. The law-and-order maintenance structure of the colonial civil service set up by the British to control the natives was not modified for public accountability, decentralization, or state-guided capitalism as it was in the newly industrialized countries of East Asia. The authoritarian system of the colonial administrator was adopted by the brown *sahibs* waiting in the wings to take the jobs of the departing white *sahibs*.

Some octogenarians claim that a few of the most noticeable changes in the telegraph and telephone systems in India after national independence were the major increase in staff size (to approximately 470,000 in the early 1990s) and a decline in staff efficiency. The staffing level is approximately 104 employees for every 1,000 lines, in comparison to 7–12 per 1,000 in industrialized countries, 20–40 in middle income countries, and 60–90 in comparable developing countries (Bernt and Weiss, 1993). Politically, it was necessary for the independent state to create jobs for its citizens, and the Posts, Telegraph, and Telecommunication (PTT) was used to provide those opportunities, particularly for those who had not had the opportunity to receive formal schooling. As a result, half of the PTT staff is illiterate.

Diffusion of telephony beyond metropolitan centers did not receive the attention it deserved, partly owing to the perception that telephones were a luxury rather than a component of the necessary infrastructure for efficient administration of government and industry. In spite of populist rhetoric by politicians and bureaucrats in support of rural service for the majority of India, barely 8% of India's 576,490 villages have telegraph or telephone services. In 1997 there were 12.2 million access lines for a population of close to 920 million. Revenue realization by the state monopoly service provider in 1994 was \$250 per line in comparison with \$1,100 per line achieved by the Singapore state monopoly (Malik, 1994). Approximately 35% of the installed base of telephone lines are in the four major metropolitan areas of Bombay, Calcutta, Delhi, and Madras. Urban concentration of telephones continues in postcolonial India, and regretfully, the quality of urban service is poor. The average number of complaints per month is 43 for every 100

telephones (Bernt and Weiss, 1993). Fewer than 40% of all calls dialed are routed to the right number (Burns, 1994).

In keeping with the postindependence import substitution do-it-yourself industrial policy, most of DOT's time was spent designing equipment for local manufacture, albeit with little to show for its efforts (Urey, 1995; Ram Mohan and Mody, 1987). A unique characteristic of postindependence Indian technological history that was absent in this department of government is successful technological self-reliance. Physicists like Homi Bhabha, in the government department of Atomic Energy, and Vikram Sarabhai, in the Department of Space, set the tone in their respective agencies for world class research and development. The lack of pioneering scientists and visionaries in the telecommunications sector resulted in engineer-bureaucrats who had not experienced the success of indigenous development themselves and therefore did not know how to expeditiously nurture research and development leading to new technologies in their own labs. Thus, India's telecommunications engineers roamed the world looking to acquire low-cost hardware that frequently turned out to be obsolete. They then attempted to adapt to local production and utilization conditions after years under protected market conditions. The PTT's inefficient outdated manufacturing subsidiaries (e.g., Indian Telephone Industries) then sold locally produced outdated equipment to their parent department at incredibly high prices in a market they monopolized. Expansionist procedure-bound administrative hierarchies in the DOT and its predecessor excluded the domestic private sector and other public sector firms. Thus, the same national policy that enabled other scientific departments of Space, Electronics, Science and Technology and Atomic Energy to pioneer in original research and develop world class state-of-the-art technology did not succeed in telecommunications owing to lack of leadership.

Self-sufficiency through import substitution, the theme underlying India's economic and industrial policy since national independence, began to change in the 1980s. Pressure on India to open its markets and divest its public sector enterprises came from domestic and foreign capital, international lending agencies, and foreign governments. Large capitalists had expanded locally because of state protection and were now eager to participate in sectors the state had reserved for itself. Both state enterprises and private firms were underachieving, partly owing to a comprehensive state licensing system that required permission from state bureaucrats to set up or close a factory, increase or decrease its capacity, or downsize its labor force. The well-intentioned but byzantine restrictions on manufacturing (derisively called the *license raj*), which were meant to discourage anticompetitive behavior, now have no supporters other than the regulatory bureaucracy itself. The welfare-maximizing benevolent state did not materialize. What did develop was a massive corruption of the public domain characterized by deals between politicians and bureaucrats on the take and firms on the make. Licensing became an instrument of patronage. Bardhan (1992) holds that in spite of its direct command over vast economic resources, the Indian state was weak in shaping the economy. Unlike state-guided capitalism in East Asia, the Indian state did not integrate domestic capital and dominated classes into a public-private contract and shared vision for national economic transformation. It did not interpret world mar-

ket trends and keep domestic firms on their toes. Instead, the state saw itself as an aristocratic bureaucrat above the fray who designed policies and regulated industry; it had no ability to ensure that the diverse and self-interested array of private capitalists, public sector enterprises, and unionized labor forces implement its righteous autarkic import-substitution and technological self-reliance goals except through unproductive buyouts in patronage-dispensation mode.

Restrictions on imports and exports were removed by the Rajiv Gandhi administration in the mid-1980s, leading to an enormous increase in imports to meet the pent-up demand of the Indian middle class for unproductive items like cars and VCRs. The lack of a comparable increase in exports led to a trade deficit. The problem reached crisis proportions with the rise in the oil import bill during the Gulf War. In 1991 the choice before the state was to default on its external debt payments or to go to the International Monetary Fund (IMF) for loans. Although the Indian state had been opposed to the IMF approach to structural adjustment and the neocolonial demeanor of international lending institutions, it felt it had no alternative but to choose the latter. The government took medium-term loans from the World Bank and IMF to repay its short-term debt on IMF terms; in return, the state agreed to remove barriers to private domestic and foreign capital and to integrate its economy into the global capital market.

Accommodation and negotiation with local and foreign forces has given national economic structural adjustment in India a distinctive form, pace, and sequencing of events that Prime Minister Narsimha Rao has called *the middle path*. In keeping with changes initiated by the Rajiv Gandhi administration and the interests of the expanding middle class, the Narsimha Rao government announced a new industrial policy in 1991. Foreign capital would be welcome up to 49% equity in most industrial sectors. Those public sector firms that were experiencing losses would be phased out, but only gradually, after provision for retraining of unemployed workers. Unlike Russia, all public sector enterprise would not be sold; the ruling party could not risk losing the votes of millions of laid-off employees in the state elections in 1995 and the national elections in 1996. Most public sector firms would divest state equity up to 51% and turn to the market rather than the state to meet their capital expenses. Like those in China, India's public-private firms would have to be efficient to survive competition with new firms. To promote the efficiency and competitiveness of all businesses, telecommunications infrastructure and services would be expanded and updated. Thus, along with national economic structural adjustment came awareness of the role of telecommunications—an awareness that was actively promoted through a special study conducted by the World Bank (Robinson, 1992). According to the Government of India's Economic Survey of 1993–1994:

Telecommunication is important not only because of its role in bringing the benefits of communication to every corner of India but also in serving the new policy objectives of improving the global competitiveness of the Indian economy and stimulating and attracting foreign direct investment. (*Economic Times*, 1994)

A combination of factors forced the telecommunications sector to open to private investment: There was a massive unmet demand for telecommunications

across the country; technology was vastly outdated; investment lagged owing to the central government's siphoning away of telecommunications revenues to run less profitable sectors of the economy; suppliers of foreign capital, equipment, and expertise were eager and in search of markets; and the World Bank and IMF were exerting pressure to use private capital. Sector reforms started in 1984 after Rajiv Gandhi became prime minister: the first step was deregulation of the customer premise equipment market and the creation of an autonomous Center for the Development of Telematics to develop an indigenous family of electronic switches in response to a proposal from a successful overseas Indian engineer called Satyen Pitroda.

1.4 Initial Monopoly

Ownership, policy, regulation, and service provision of telecommunications was initially organized under the conventional PTT system in which posts, telegraph, and telecommunication were the natural monopoly of the central government's Ministry of Communications. The first organizational change was the creation in 1985 of a Department of Telecommunications separate from the postal system. Headed by an engineer-civil servant, the government DOT was intended to be the exclusive provider of domestic local and long-distance service; the DOT also would be its own regulator. The field organization of the DOT consists of circles, areas, districts, and subdivisions. The system is managed from the capital in New Delhi through circulars, directives, orders, and 14 volumes of rules. The work culture emphasizes hierarchy, procedures, precedents, and audit requirements.

After the bifurcation, profits that went to offset the losses in the postal system now stayed in-house. A year later, protests about the poor quality of government telecommunications service from business users, government, and urban residential users led to the creation of two separate corporations with a little more autonomy from government: The Mahanagar Telephone Nigam Limited (MTNL) was created to run services in the metropolitan areas of Delhi (the political capital) and Bombay (the commercial capital), and Videsh Sanchar Nigam Limited (VSNL) was created to run international telecommunications. In spite of serious constraints on their business freedom imposed by DOT, both these public sector corporations have been very successful in introducing new technology, tapping capital markets, increasing profitability, and creating a new customer-responsive management culture. Opposition by DOT labor unions to profit-based higher wages for their former colleagues in the new operating units was met with the appointment of a committee in 1990. But this committee also was entrusted with restructuring the whole organization. The Athreya Committee recommended further reductions in the power of the state bureaucracy through the creation of five public sector corporations (one for each region and one for international service), with MTNL as the apex holding company and DOT as an independent regulatory agency. Corporatization was opposed by labor unions (and civil service bureaucrats), who perceived it as a step toward privatization; it was not pursued by minister-politicians who have to be concerned with election results. For the same rea-

sons, DOT ignored the alarms sounded by the IMF and the World Bank and dismissed the recommendations of the Rangarajan Committee of the domestic Reserve Bank calling for disinvestment of up to 49% of the equity in all public sector enterprises to reduce the high (and still rising) fiscal deficit.

1.5 New Policy

Until the mid-1980s, policy was what the engineers and civil servants in the state telecommunications monopoly practiced. The politics of telecommunications was limited to getting scarce telecom lines through personal connections or bribes. A formal policy-making body called the Telecommunications Commission was created in the DOT by Sam Pitroda in the 1980s, the first nonresident Indian non-DOT engineer to head the organization (appointed by pragmatic airline pilot Prime Minister Rajiv Gandhi). Until the announcements of the new economic policy by Gandhi in 1984 and the new industrial policy by Rao in 1991, which opened the state to private sector participation, this policy-making body stayed busy with interministerial turf battles between the various participating members; for example, should the Department of Electronics control the development of electronic switching systems for telecommunications, or should the DOT, whose predecessor developed and manufactured analog switches in its own factories, continue the job? Politicians took very little interest in telecommunications, other than procuring connections for family and friends. The rhetoric about rural service was adequate for the Congress party and its rural constituency.

Demonopolization in the telecommunications sector, initiated by Rajiv Gandhi, started with the opening up of customer premise equipment manufacture. The Department of Telecommunications selected the firms and the technology from among several bidders and negotiated the terms of technology transfer. In 1995 private branch exchanges (PBXs) designed by OKI, GTE, and Jeumont Schneider, in addition to PBXs designed by the state-funded Center for the Development of Telematics, were being manufactured in the country. Several domestic private firms have started manufacturing push button telephones, including those designed by Siemens and Ericsson. After the initial shakeout, leaders in the field appear to be Tata Telecom and Bharat Telecom.

In 1991 private firms first began to manufacture central office switching equipment and transmission technology. In addition to the ITI-Alcatel collaboration to produce the E-10B switch approved by the DOT (C-DOT designed small and medium exchanges produced by over 20 domestic firms), several multinational firms (AT&T, Alcatel, Ericsson, Fujitsu, GPT, and Siemens) started producing switches through joint ventures with domestic firms (Tata, Birla, Thapar, B. K. Modi, Jiwrajka, and even a Punjab state government enterprise). Low domestic production of jelly-filled cable has been supplemented by production of transmission equipment by joint ventures with AT&T, Fujitsu, and Siemens and of fiber-optic cable by Fujitsu and Ericsson.

The decision by DOT to open the services market to private participation was

announced in late 1991. Logically, the initial focus was on the provision of new capital-intensive metropolitan city services that the state monopoly did not provide, namely, mobile and value-added services. Licenses for paging services, VSAT networks, and electronic mail systems have also been recently awarded by DOT. A duopoly was proposed for cellular mobile services for each metropolitan city, based on GSM technology and 49% foreign equity. Allocation of cellular licenses was delayed for two years owing to legal contests. The lack of an established separate regulatory agency with transparent procedures credible to all players and the history of licenses as instruments of political patronage was addressed by the long-overdue creation of the Telecom Regulatory Authority of India in 1997. Two licenses were awarded in 1994–1995 in each of the four metropolitan cities to joint ventures with Hutchison (Hong Kong), France Telecom, SFR (France), Cellular Communications International (U.S.), Malaysia Telecom, AOTC (Australia), Vodafone (U.K.), and BellSouth (U.S.). Service is expected to commence in late 1997. Tenders will be requested for all other cities in the near future.

After 1991, private capital and its foreign and domestic advocates focused on breaking down the walls of the state monopoly on long-distance and international service. External pressures consisted of promised increases in foreign aid and direct investment in India by the United States, France, Japan, international lending agencies (World Bank, IMF), and groups of private investors in exchange for a general commitment that the government would expeditiously open its protected markets and reduce its fiscal deficit. United States Commerce Secretary Ron Brown, Environmental Secretary Hazel O'Leary, and Governor Weld of Massachusetts personally brought planeloads of U.S. investors to India in 1995 to introduce them to the prime minister, members of parliament, business leaders, and potential collaborators. Representatives of the World Bank and IMF have provided positive reinforcement through press releases for every state attempt at private sector participation to help the ruling party win support from those parts of the electorate that value World Bank and IMF approbation. Over 70 private firms submitted initial proposals for investment in telecommunications services in India even before the announcement was made, including large Indian firms (Tata Group, RPG Group, and Bharti Telecom) and large foreign firms (AT&T, US West). This pressure was hard to accommodate and balance. One-time adversaries, DOT career bureaucrats and DOT labor unions, threatened by job loss became united in their resistance to any changes in the state monopoly. Domestic forces have led the federal cabinet minister in charge of telecommunications to negotiate with the labor unions regarding the establishment of an acceptable private sector rather than risk strikes and the lost votes of over 400,000 employees and 18 million sympathetic employees in other public sector enterprises and their friends and families. This has forced the minister to take a public stand in opposition to proliberalization economists in the Finance Ministry (Finance Minister Manmohan Singh, Finance Secretary Montek Singh Ahluwalia) and the chief civil servant from the elite national administrative service who headed his own Ministry of Communications (Vittal, who led the restructuring drive in DOT), all of whom are less hazardous to the minister's election prospects. There was a political

impasse between the proliberalization chief civil servant Vittal, private capital, and foreign governments and lenders on the one hand and the DOT staff, labor, and the minister on the other. Since final responsibility for meeting the World Bank's conditions for structural adjustment loans rests with the prime minister's office, it was intervention from Narasimha Rao that resolved the standoff. Announcement of the "New Telecommunications Policy" in May 1994 was timed to occur just before the prime minister's visit to the United States to woo private capital to invest in India. The nature of back-and-forth conflict resolution resulted in a sectoral "middle path" (in keeping with the national middle path) between keeping the status quo, as DOT wanted, and opening up all remaining sectors to private capital. Rather than give away the goose that laid the golden eggs (long-distance and international service sector) right at the start, the state decided to retain control of long-distance services until 2000 and first open up the local loop, where it most needed capital, technology, and management improvement. In many countries, long-distance services have been used to cross-subsidize local services. In the case of India's state monopoly, long-distance service subsidized other sectors of the economy in addition to local services. This is not expected to impact the profitability of private basic service negatively because past and current prices had no relationship to costs. Tariffs have been based on the perception that telephony is a luxury service meant for businesses and the elite, and the precise tariff rates they are charged depend on how much revenue the state needs to generate. Thus, the profitability of private basic service at present tariff rates is not in doubt, even without cross subsidies from long-distance service.

Afraid of a populist backlash orchestrated by unions and political parties opposed to opening up basic service to private capital, ministerial speeches have continually repeated that there is no way the state would have been able to raise the billions needed (estimates vary from \$8 billion to \$13.3 billion to \$23 billion) to meet past and future demand for telephones in urban areas and access to public call offices in villages by 1997. Under the present plan, one private firm with up to 49% foreign equity will be licensed by the DOT in each of 18 specially defined local "circles" to help meet urban demand and provide rural service through new technologies (wireless, fiber to the curb only) in competition with the former DOT monopoly provider. Ministerial speeches make frequent mention of the fact that all major foreign firms have applied for licenses, in spite of the minority holding offered. This is to boost national pride and to prove to those who supported 100% foreign equity that a more nationalist position did not hurt the economy. The speeches do not include the more important point that no limitations have been placed on management control through representation on the board of the new joint venture. The terms of interconnection and revenue sharing with DOT that will determine how much the new entrant will actually make will be specified by the Telecommunications Regulatory Authority of India. It is true that there have been no dearth of applicants willingly competing to pay the highest price for a license to operate basic services in the bigger markets; the incentive for private firms is based on high volume/low unit cost calls, economies of size and scope that go with the new technologies, lower employee-line ratios than those currently in existence at DOT, the economic advantages of broadband communication net-

works (electronic shopping, commerce, education, and soon entertainment), and the promise of the long-distance market for those who have been good citizens for five years. Licenses could be valid for up to 25 years but would initially be issued for 10 years with a review of performance after five years. The award of licenses was mired in controversy in 1996 in spite of the carefully structured process planned by the DOT. Minister Sukh Ram intervened to disrupt a corruption-free round of first bids and was subsequently arrested for possession of \$1 million in unaccounted cash. Some of the private consortia who were selected by DOT after two more rounds of bidding appealed to the Delhi High Court. Many areas have *no* acceptable bids, so new bids will be invited. Rates charged by the state firm and the new private entrant can be no higher than those set by the new regulatory agency.

In sum, we have described the evolution of the new policy of private sector participation in telecommunications through the struggles between groups of vested interests over a 10-year period beginning in 1984. The first and major force has been formerly excluded private capital (foreign and domestic) and its promoters in international lending agencies and foreign governments such as the United States, Japan, and France. The entry of private capital has transformed policy making from a struggle for dominance among government ministries to a struggle between competitive firms, both private and public. The interests of business users of telecommunications, service providers, and private equipment manufacturers are increasingly heard in politicians' speeches. An active trade press in telecommunications, computers, and all aspects of business developed in the late 1980s with an overt agenda to promote further private sector participation in the industry. Trade associations and national chambers of commerce and industry (FICCI, ASSOCHAM, and CII) have set up private sector monitoring and action groups to study DOT decisions, present alternatives to the minister, hold conferences to educate industry on the advantages of a better, cheaper telecommunications infrastructure for business, and highlight opportunities for private sector participation.

A second force was the promarket new technology-oriented career civil servant and chief administrator of the DOT, Secretary Vittal. Transferred from the Department of Electronics to restructure DOT, Vittal has been an admirer of how the Korean state harmonized the interests of the state with private capital. An essential part of this Korean (developmental state) model absent in India is the ability of the state to repress opposition voices in society (such as labor, ethnic political parties, large agricultural landholders, and the press). Congress party politics is the third force. The fourth major force that affected private sector participation was pressure from the prime minister and the quality of refereeing that took place between contending forces in the state's highest elected office.

1.6 Accommodation of Pressures to Open Markets to Private Capital

The previous discussion showed how the development of policy has been a political process involving accommodations between contending forces in India. What should be done in the national interest has been constrained by what is politically

possible. Despite external pressure from the World Bank and conventional wisdom on the ideal method of opening up markets to private capital, states carve pathways for themselves that are politically viable in domestic terms. A military bureaucratic state like South Korea succeeded in initiating internal reforms in its state-owned enterprises in 1983. This was followed by corporatization and domestic competition in basic services that allowed it to be ranked in the top 10 in telecommunications penetration in the world less than 40 years after its economy was destroyed by war. While the United States introduced competition into long-distance service first and allowed competition in local services only later, Indian conditions have dictated the reverse sequence. Duopoly in basic services in India seems similar to the situation in the United Kingdom, although for different reasons. British Telecom was allowed time to adjust to a competitive situation without too much disruption. Broad competition was allowed when the duopoly did not provide enough impetus to improve efficiency and innovation. In the case of India, the protective minister of telecommunication, Sukh Ram, who stood with the unions against corporatization and decentralization of the DOT, expects union support in making DOT competitive against new rivals. How he or the unions can prevent the new regulatory agency in the ministry from being a vehicle for new corporate patronage remains to be seen. While there is speculation of making the DOT operator a separate business unit under the Ministry of Communications, unions are pressuring the ruling Congress party to take responsibility today for their politically expedient job expansion in DOT of previous decades. Unlike Mexico and Argentina, which both negotiated deals with their protesting unions, the state in India is not desperately broke. An infusion of private capital from the sale of the monopoly provider is not urgently needed to pay off impending national debts, as was the case in Jamaica, Mexico, Chile, Venezuela, and Argentina.

The Indian path has involved the introduction of competition in basic services rather than privatization of the state monopoly. The apparent economic rationality of private sector participation is constrained by distinct national contexts (Mody, Tsui, and McCormick, 1993) and political logics in each case. Unlike corporatization of the state provider in Malaysia, any change in the status of the DOT has been politically unacceptable to the three unions affiliated with three different political parties in India's electoral democracy. Given the size of the public sector, the more urgent requirement for long-term benefit is that reform be based on democratic decision making with workers. Like the failed sale of the Puerto Rican phone company, which required preservation of all jobs, it is also conceivable that no buyer would want to make such a commitment to DOT with a staffing level of 104 employees per 1,000 access lines. Consistent with research elsewhere (Cook and Kirkpatrick, 1988), it is conceivable that here, too, competition will be a more important factor in promotion of efficiency than sale of equity to private investors might have been. It is unlikely that an infusion of private capital into DOT without changes in its management (not ownership) would make a noticeable difference in its performance. But will real competition in basic services emerge between monolithic DOT and 18 individual firms? If present management practices and political protection continue, it is possible that the size of the former

monopoly will be little advantage. The popular prediction is that the technologically less advanced low-efficiency DOT will become the provider for the poor by reducing its rates to capture the numerically large lower-middle-class residential market and rural market. The private operator will offer more technological innovation and a more reliable and efficient service at a higher price for businesses and residences of the middle and upper classes.

We now turn to a discussion of the nature of the accommodations listed in the beginning of the chapter. When the government of India turned to the World Bank for structural adjustment loans, it was with a great sense of humiliation. Popular periodicals and scholarly economic journals referred to the crisis as a TINA situation: There Is No Alternative. The World Bank's insistence on opening up the economy to global integration was medicine that all structural adjustment borrowers had to take in all sectors of the economy. The Planning Commission was allocating little more than 1–3% of the national budget to telecommunications, so the DOT started raising tariffs to cover its own capital and operating costs. The major influence the World Bank had on the telecommunications sector was to convince the national Planning Commission of the strategic role of telecommunications infrastructure for the development of *every* other sector. Impressive research on the role of telecommunications in development was commissioned by the World Bank to convince member countries. One particular area that could earn the country export dollars (to address its balance of payments problem) was computer software. If India had good data communication links at reasonable prices with foreign firms, they could subcontract production offshore. The Department of Electronics decided to create computer software development parks that would enter into collaborative software projects. Through telecommunications links, India's lower-priced but highly skilled intellectual labor would connect with Texas Instruments and Hewlett Packard offices overseas. As secretary of the Department of Electronics, before his move to DOT, Vittal had found DOT very slow in responding to his needs in this sector.

Since DOT had taken loans from the World Bank and the Asian Development Bank in the past but was not presently dependent on the World Bank for loans, the World Bank had no financial leverage to promote particular changes in this sector. The World Bank advised DOT and performed studies on them. In 1990 one of its structural adjustment economists sent the government a position paper on how the World Bank could assist with telecommunications development for economic growth in India (Robinson, 1992). The opening up of the telecommunications sector to private capital appears to have been part of the state's response to general World Bank structural adjustment requirements to let private capital enter sectors that had been previously reserved for the state rather than a response to specific advice on telecommunications.

Corporate and government users of telecommunications in India constantly have been frustrated by the cost and unreliability of DOT. In desperation other departments of government started bypassing their sister department by leasing satellite transponders to set up their own intraorganizational telecommunications networks, for example, the Oil and Natural Gas Commission, the Steel Authority of India Limited, and

the banking and coal mining sectors. Restructuring was pushed by large business users, but complaints on telecommunications cut across all class groups.

Both foreign capital and domestic capital have been accommodated in the new policy. The decision to allow multinational corporations to invest up to 49% in as many of the local 18 circles as they want but to force them into joint ventures with domestic capital serves several purposes. It blunts criticism from sources like the opposition Bharatiya Janata Party, which won state elections in two states in western India in 1995 and has long advocated a greater role for the private sector but distrusts foreign capital. The public memories of the Union Carbide accident are still fresh, leading many communities to resist foreign capital. A 49%–51% split between foreign and domestic capital accommodates the investment interests of foreign capital and placates domestic capital through the opportunity for majority ownership, capital, and technology acquisition. Few foreign investors have complained about the split with any seriousness; the domestic partner is very useful in an alien culture. The downside for the state is that domestic capital is frequently no more nationalistic than foreign capital, and the interpenetration of the two could lead to the development of strong opposing interests to the power of the state. Joint ventures that have applied for licenses include AT&T and the Birla Group and Hughes Network Systems and Nippon Denro Ispat.

Accommodating workers and managers in the DOT is a major factor in the choice of liberalization over state divestment of DOT. Officers and labor in the monopoly are untouched. In an economy in which per capita income is \$300 (UNDP, 1996) and 30% of the population live in poverty (350 million people), a lifetime guarantee of a job is precious. It would appear that the historical price the state must pay for political expansion of job opportunities in exchange for votes in previous decades is an overstaffed state telecommunications bureaucracy for the foreseeable future. Retraining is limited by the ages and skills of many in the labor force. Any kind of organizational restructuring that could negatively affect job security or new opportunities in the future is resisted by work stoppages, go-slows, and indefinite strikes. Networking between unions has alerted DOT unions about the elimination of jobs in the telecommunications sectors in other countries. A strike by the monopoly provider could bring the country to a halt.

Employment growth in the new Telecom Regulatory Authority of India could become an attractive area for slick operators in the present Ministry of Communications who have no training in price/earnings control, industrial organization studies of anticompetitive behavior, workable competition, and the interactive contribution of regulation and market forces (Trebing, 1995).

1.7 Conclusion

Who will benefit from implementation of the new telecommunications policy in India? Businesses and middle-class residential users can now buy efficient technologically advanced services that previously were unaffordable. Private capital in the United States and Europe will find a major new region for investment. Domestic private capital will have the opportunity to expand into a new technical area in

collaboration with foreign firms with expertise. For the majority of Indians who live in villages, if all goes well, there will soon be at least a pay phone in the immediate area and more in regions with special natural and human resources to be exploited. Fundamental value choices in resource allocation have not been not debated nationally (choices spelled out by Samarajiwa and Shields, 1988), such as telecommunications versus no telecommunications, telecommunications versus other expenditures, state planning versus the market as the mechanism for resource allocation, telecommunications for social and familial needs versus telecommunications for economic and administrative needs, and local service versus long-distance service. The social, economic, and political inequalities between classes and regions are not caused by the lack of telecommunications and will not be eradicated by it. But telecommunications is being used to support a tendency toward the development of two separate Indias: a middle and upper middle class of 300 million, and a poor India of 350 million. The unequal distribution of capital-intensive telecommunications infrastructure based on the ability to pay does not use telecommunications to redistribute benefits. To those who have, telecommunications technology and services will be given, and thus those who have will profit.

For former Ministry of Communications Secretary Vittal, who directed the liberalization of telecommunications in India, there are two tests of the success of this restructuring: first, did it raise the investment required, and second, did it generate competition and choice for customers? Whether these policy goals were too limited in light of India's larger crisis of governability (Kohli, 1990) and whether the outcomes have been achieved or not is a topic for future research. Additional questions related to process include the nature of the collaboration between the state, foreign capital, and domestic capital. Unlike the state, capital is mobile. If investments in the telecommunications sector are not profitable, foreign and domestic capital will move on, leaving the state to mop up. Adjusting this balance of state and private capital is an ongoing process (Mody, Tsui, and McCormick, 1993).

Notes

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1. The limitations of this study are those of any snapshot taken at a preliminary stage in a period of ongoing flux.
2. Economists have pointed out that the focus on private capital as a panacea is unwise: The financial performance of private sector companies in India shows that these companies are only a shade better than public sector companies. The private nonprofit Centre for Monitoring the Indian Economy found that for the three years after 1990 the public sector outperformed the private sector. Clearly, the problematic issues are those other than the ownership-performance relationship, for example, the nature of the regulatory "licence-raj" (license-empire) state in India; problems of competitiveness such as pricing, productive efficiency, and allocative efficiency; and the challenge of conceptualizing universal service for remote rural areas. We have argued elsewhere that *adjusting* the private-public balance is the challenge for telecommunications in the periphery (Mody, Tsui, and McCormick, 1993). This historical pattern is further complicated by recent electoral victories of reli-

gious fundamentalist parties and the disintegration of the freedom fighters' Congress party into a personality-based political machine incapable of providing stable direction in the national interest. This larger national crisis of governability (Kohli, 1990) in India is compounded for the telecommunications sector by galloping changes in technology.

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