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Telecommunications Reform in China

by

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A research paper submitted in fulfillment of the requirements for three credits,
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Faculty Comments

This paper reviews the status of the telecommunications industry and evolving industry policy in China, focusing on the impact on foreign telecoms companies and on Chinese economic development. A thorough search of the available literature, and original interviews in China, were conducted. The paper does a good job of synthesizing the policy literature and highlighting key issues, but its focus is somewhat diffuse given the inclusion of a lot of general, non-industry-specific material on Chinese economic reforms and WTO membership negotiations.

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SYNOPSIS

The telecommunications sector in China is one of the fastest growing markets in the world. Until recently, foreign companies have been prohibited from engaging in equity ownership or network operations of telecommunications services. The industry had existed as a virtual monopoly, with the Ministry of Posts and Telecommunications controlling the sector.

The rise of Chinese President Jiang Zemin marked a shift in the Chinese government. During his tenure, he has expressed the need to reform China's state-owned enterprises, to adopt market-based principles in the economy, and to open China to the outside world. During this period of change, he has demonstrated concern toward unemployment and social unrest.

The Chinese government is actively seeing accession to the World Trade Organization (WTO), and it has demonstrated its willingness to open substantial sectors of the Chinese economy to enter the association. The negotiations leading to and the discussions surrounding Premier Zhu Rongji's visit to the United States underscores the importance of WTO accession to the Chinese leadership.

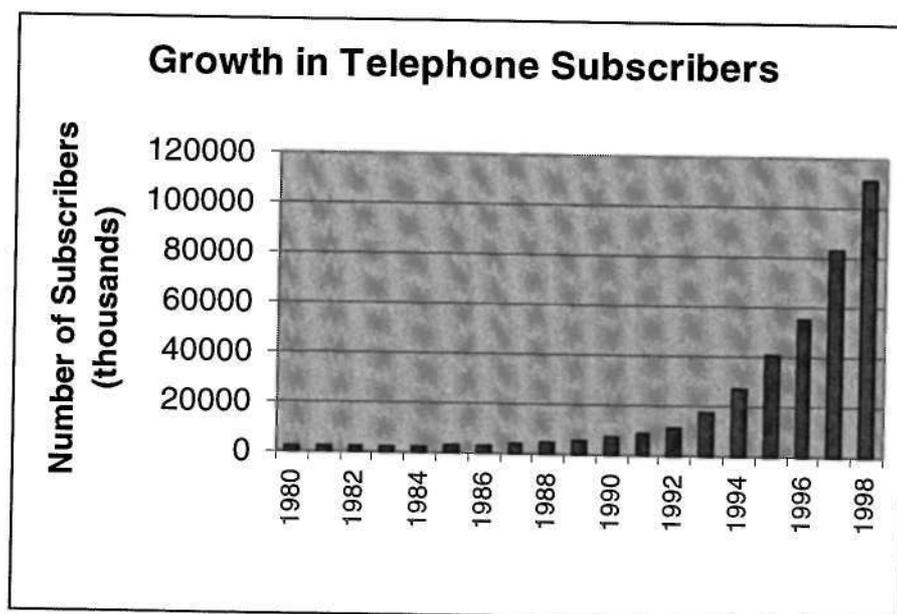
The WTO talks have included foreign participation telecommunications services. In 1997, 69 nations accounting for 94 percent of the world's telecommunications traffic agreed to open their markets to foreign competition. In preparing for its WTO bid, the Chinese government recently allowed limited foreign equity ownership and network operation, marking a first step toward liberalizing the industry. The Chinese still hold

some apprehension in opening the entire sector, but they are beginning to show signs of embracing the benefits of competition and foreign participation.

This thesis addresses the Chinese telecommunications liberalization in four parts. First, it gives an overview of the industry, including a description of recent accomplishments, legal framework, major ministries, and current telecommunications service providers. Second, it discusses the goals of the Chinese government, especially with concerns for domestic reform and opening to the outside world. Third, it analyzes China's bid into WTO, noting the benefits and risks associated with China and the United States. Fourth, it addresses the major issues concerning reform in telecommunications services, and it gives empirical evidence from countries that have recently undergone telecommunications liberalization.

TELECOMMUNICATIONS INDUSTRY OVERVIEW

With its 1.2 billion people and rapid economic growth, China is emerging as one of the most promising telecommunications markets in the world. The number of telephone subscribers per 100 people in China has been growing at a tremendous rate, from 4.7 in 1995 to 10.6 in 1998.¹ In 1998 alone, China enrolled 27.4 million subscribers. Internet usage is growing dramatically, with subscribers increasing by 1.4 million in 1998 to a total of 2.1 million. Data communication is also rapidly expanding, with 1.1 million total subscribers as of the end of 1998, a significant increase from 400,000 in 1997 and 140,000 in 1996.²



Sources: 1997 China Posts and Telecommunications Annual Report and "China's Telecommunications in 1998," CEInet Market Research, April 1, 1999

¹1997 China Posts and Telecommunications Annual Report, p. 50.

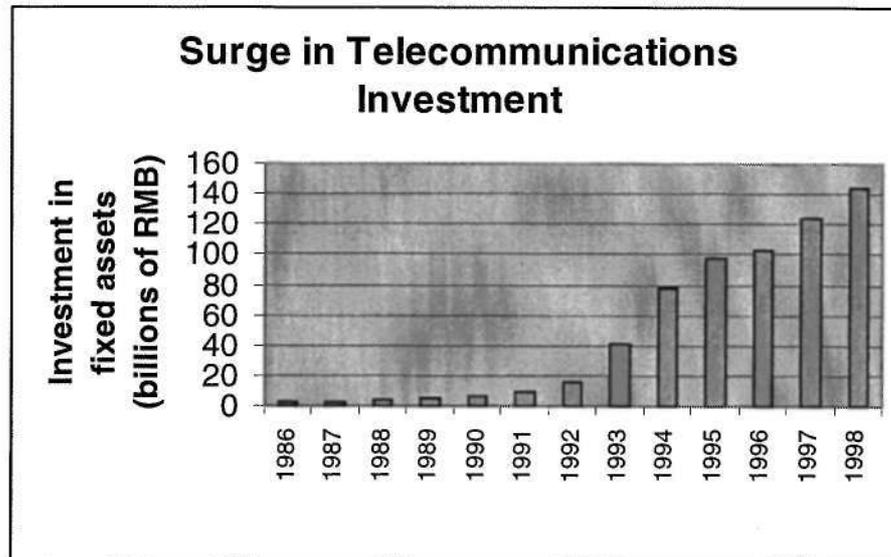
²"China's Telecommunications in 1998," CEInet Market Research, April 1, 1999.

The telecommunications sector developed slowly until the early 1990's, when the central government committed to its growth. Prior to this period, the Chinese government viewed access to telecommunications services as a necessity for only high-level government officials. As the Chinese committed to market-based reforms, they realized the importance of telecommunications services. Currently, the Chinese government views the industry as crucial to domestic economic growth, and its development has become a high national priority. The government has been heavily investing in network construction and equipment upgrades. Total investment in the current Five-Year Plan (1996-2000) is expected to reach US\$76 billion.³ Zheng Ligui, Director of China Telecom, announced that his company intends to invest RMB144.5 billion (US\$17.5 billion) in fixed assets in 1999.⁴

The Chinese telecommunications sector is completing one of its most comprehensive reforms. Since the founding of the People's Republic of China, the government managed China's telecommunications industry through the Ministry of Posts and Telecommunications (MPT). Until 1994, MPT was both regulator and sole operator of the industry. It made regulations that favored the operation of its network and built its political clout as an important source of revenue for the Chinese government. MPT's monopoly restricted the entry of competitors. Complaints surged about MPT's role as both a player and industry referee.

³ 1997 China Posts and Telecommunications Annual Report, p. 35.

⁴ China Telecom Plans 144.5 billion yuan investment in 1999," Xinhua News Agency February 12, 1999.



Sources: 1997 China Posts and Telecommunications Annual Report and "China's Telecommunications in 1998," CEInet Market Research, April 1, 1999

In 1994, the Chinese government authorized the creation of China United Telecommunications (Unicom) to serve as a second service provider to compete against MPT. The new company has struggled over its five-year existence. MPT has utilized its power to restrict Unicom's activity. For example, MPT took a year to allow the interconnection of a Unicom fixed-line network in Tianjin into the main telecommunications backbone.

During the Ninth National People's Congress in March 1998, the Chinese government once again restructured the telecommunications sector, this time creating the Ministry of Information Industry (MI). Theoretically, the new ministry will separate itself from any business activity and act as impartial industry regulator. This structure suggests a more competitive environment. However, much of the senior leadership of MI comes from the former MPT, so many multinational managers remain skeptical with the recent changes in government.

This chapter describes the major players in the Chinese telecommunications industry. It begins with a definition of the Chinese telecommunications markets, then describes the legal environment that limits foreign participation in these markets. Next the regulatory is explored, and the recent changes are explained. The chapter concludes with a description of current domestic service providers.

DEFINITION OF MARKETS

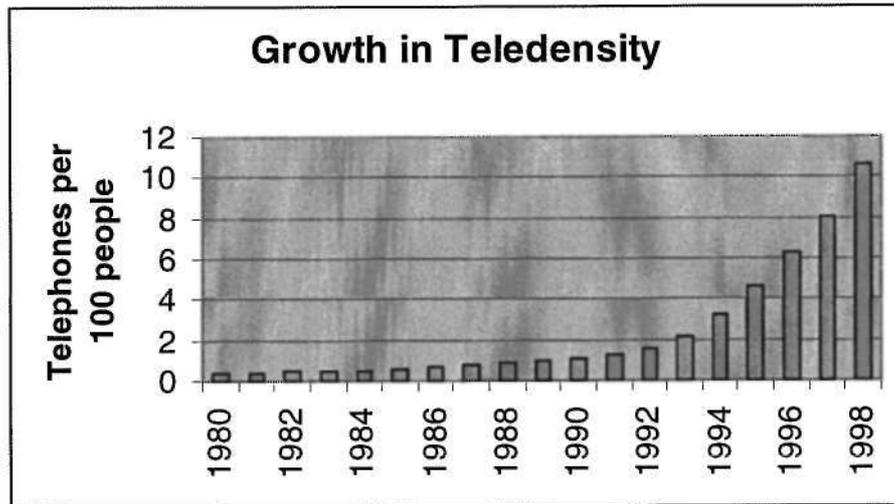
Currently, the telecommunications service sector can be divided into three major markets: fixed line, mobile, and value-added services.

Fixed-Line Networks

Fixed-line voice networks are traditional telephone services with a cable leading to the end terminal. China Telecom has been in charge of constructing most fixed-line networks throughout China. In 1992, national capacity numbered 28.9 million lines. This figure jumped to 128.7 million in 1997, representing a 34.8 percent compounded annual growth rate during that five-year period. This included the construction of a 148,500 kilometer fiber optic network.⁵

Most of the telephone penetration has occurred in the cities, with teledensity (telephones per 100 people) reaching 27.7 percent in 1998. Subscribers in urban areas grew by 38.7 percent, whereas rural subscribers increased by 19.3 percent. China has also stepped up its efforts to serve the interior. Over 67 percent of all Chinese villages now

have access to telephone service⁶. MR Minister Wu Jichuan expects urban coverage to reach 30-40 percent by the year 2000.⁷



Sources: 1997 China Posts and Telecommunications Annual Report and "China's Telecommunications in 1998," CEInet Market Research, April 1, 1999

Mobile Networks

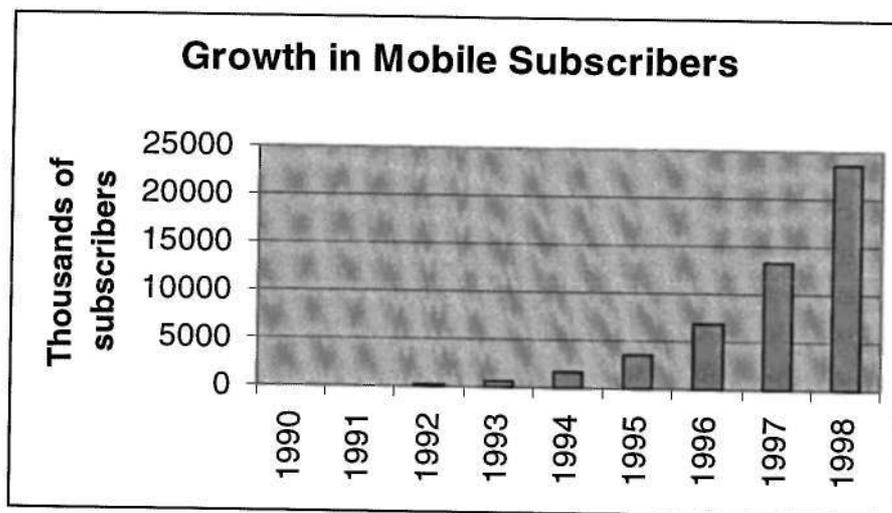
The demand for cellular services has experienced tremendous growth over the past few years. The Chinese mobile telephone network is currently the third largest in the world. The price of mobile handsets has fallen dramatically over the past three years. Per-minute charges rank among the lowest in the world at 0.4 yuan (5 U.S. cents). Official forecasts of mobile subscribers have been continuously revised upwards to the most recent official estimate of 30 million.

Two generations of cellular networks currently exist. The first is the older analog technology, and the second is the newer digital standard. Analog technology is still fairly

⁶ "China's Telecommunications in 1998," CEInet Market Research, April 1, 1999.

⁷ "Telephone boom has a nice ring," China Daily, March 24, 1996.

widespread, but its base is slowly contracting as consumers adopt digital mobile telephony. Digital technology provides more efficient bandwidth usage, allowing greater call capacity for a given frequency band. Digital also allows for clearer reception, long battery life, and greater security.



Sources: 1997 China Posts and Telecommunications Annual Report and "China's Telecommunications in 1998," CEInet Market Research, April 1, 1999

Digital technology is further subdivided between two main standards, Global System for Mobile Communications (GSM) and Code Division Multiple Access (CDMA). GSM is prevalent throughout most of Europe and parts of Asia, and it has become the dominant digital standard in China. Currently operating in the 900 MHz band, both China Telecom and China Unicom have been installing vast GSM networks throughout the country.

CDMA is a newer standard developed in the United States. It allows for even greater compression and higher call capacity for any given frequency band. China

⁸ 1997 China Posts and Telecommunications Annual Report, p. 33.

Telecom Great Wall championed the technology, and the company has deployed CDMA on a trial basis in several major cities, including Beijing, Shanghai, Guangzhou, and Xi'an. Three years after conducting network trials, the Chinese government finally approved the widespread deployment of CDMA technology. In March 1999, Chinese enterprises signed US\$20 million worth of CDMA contracts with U.S. companies Lucent Technologies and Motorola.⁹

Value-Added Services

Value-added services (VAS) consist of all areas excluding basic voice services. In Notice 32 issued in 1995, MPT defined VAS as including telephone information services, computer information services, electronic mailbox, electronic data switching, and videoconferencing. This portion of the market has been growing rapidly, especially with the rise of data transmission. The largest growing VAS is Internet usage. The number of Internet subscribers has been dramatically growing, numbering 100,000 in 1996; 600,000 in 1997; and 2.1 million in 1998. Moreover, the Chinese government announced a 50 percent price reduction of Internet access fees, which will further boost demand for access to the Internet.¹⁰

Paging is another popular VAS, with the number of subscribers doubling to the current total of 50 million from 1996 to 1998. Pager penetration is especially high in urban areas, with 16.2 percent in Shanghai and 35 percent in Shenzhen. Approximately

⁹"China opens its telecoms market to two U.S. firms with major deal signing," Xinhua News Agency April 2, 1999.

¹⁰"Internet hook-up cost reduction to enhance extension of access," China Daily. March 2, 1999.

1,200 of China's 1,700 operators are controlled by China Telecom. Paging demand is expected to decline as demand and capacity for cellular services rise.

Internet Protocol (IP) telephony is a recent development showing great promise. Using packet transmission technology of the Internet, IP telephony will allow one to call other locations at the price of Internet connection. This provides tremendous opportunities, especially in the arena of international toll calls. Telephone services providers may have to rethink their rate structures when consumers become able to call from their Internet login ports. In March 1999, ME announced that it had selected three operators (China Telecom, China Unicom, and Jitong) to provide six months of trial IP telephony services as a first step toward adopting the technology.¹¹

LEGAL ENVIRONMENT IN CHINA

China's legal system is defined by a dual structure of publicly available written laws and internal regulations. Laws are promulgated by national and local legislatures and government agencies, often with the input of several ministries. Those are available to the public. In contrast, Chinese authorities also enact internal regulations or numbered documents that are frequently not accessible to multinational companies, but they carry the weight of law. As a result, foreign companies have voiced the need for greater transparency in the Chinese business environment.¹²

¹¹ "Internet phone services go on trial," China Daily, March 7, 1999.

¹² The American Chamber of Commerce in the People's Republic of China, AmCham-China White Paper on American Business in China 1998-1999. Beijing: The American Chamber of Commerce in the People's Republic of China, 1998, p. 16.

Chinese laws are developed differently than American laws, and they serve a different purpose. Chinese officials tend to avoid responsibility for unwise laws by first looking to the business environment and then legalizing activities that have proven successful. Thus, laws tend to serve as a codification of existing best practices. This approach necessitates allowing activities that are neither legal nor illegal to continue so that their impact may be evaluated. If they prove successful, they are made legal. If viewed as threatening or inappropriate, they are made illegal. Unlike telecommunications legislation in the U.S., Chinese laws fail to clearly define the rules of operating in China.

Publicly Available Regulations

Because there is no comprehensive telecommunications law, there still exists a number of public measures and announcements that impact the industry. Prior to 1993, the Chinese telecommunications sector was an undisputed monopoly. In that year under pressure from the State Council, MPT released the *Opinion of the Ministry of Posts and Telecommunications on Further Strengthening Control of the Telecommunications Services Market*. This opinion allowed domestic entities not controlled by MPT, including China Unicom, to offer selected telecommunications services. The opinion clearly prohibited foreign involvement. This prohibition was reiterated later that year in the *Provisional Measures for Administration of the Examination and Approval of Engagement in Previously Restricted Telecommunications Business*. The "provisional measures" established a licensing system for Chinese enterprises that engage in certain types of telecommunications businesses. The measure also defined several types of

sectors which were expressly prohibited, including foreign participation in all telecommunications services.

In 1994, MPT recognized the need for foreign capital investments and issued the *Notice of the Ministry of Posts and Telecommunications on the Trial Use of Joint Investment to Further Speed Up the Development of Telecommunications*. The notice suggested that MPT telecommunications enterprises should use foreign funds for "joint investments...in conformance with national policies and laws." The foreign partner's returns must be a fixed amount over a limited period of time or a percentage of operating profits distributed proportionally to the percentage of each partner's investment in the project. However, the notice expressly forbids direct foreign investment and involvement in the operation of telecommunications services.

To circumvent this law, China Unicom in 1994 had adopted a model from the power industry to attract foreign funds. Known as Chinese-Chinese-Foreign (CCF), the foreign partner and Unicom form a joint venture (JV). The JV enters into a network installation and service contract with a Chinese company that is licensed to operate a telecommunications network. The JV receives a network fee, usually a percentage of revenues, for funding the network. Thus, the structure resembles equity-like returns on investment. In August 1998, the State Council passed an internal memorandum banning

the CCF model, citing that foreign companies may control China's strategic telecommunications market and repatriate profits out of the country.¹³

The *Law of the People's Republic of China on Sino-Foreign Cooperative Joint Ventures* governs the establishment of JVs. The Ministry of Foreign Trade and Economic Cooperation (MOFTEC) is charged with approving documents that establish Sino-foreign JV's. Although the approval process has been delegated to provincial-level authorities, MOFTEC in Beijing must approve all foreign investments exceeding US\$30 million.

In 1995, the State Council issued the *Interim Provisions on Guidelines for Foreign Investment* and the *Catalogue on Guiding Foreign Investment in Industries*. These two documents divided foreign investment projects into four categories: encouraged, permitted, restricted, and prohibited. Although the *Catalogue* encourages the usage and purchase of telecommunications equipment, the document prohibits foreign companies from the operation and management of telecommunications networks.

In March 1999, there is indication that the Chinese may be slowly reversing its position on foreign involvement in the telecommunications services. AT&T received permission to form a joint venture with two Chinese partners to provide IP services in Shanghai's Pudong development zone. The deal represents the first opportunity for a foreign company to offer any form of telecommunications services in China.¹⁴ In addition, the Chinese announced that foreign companies will be allowed to purchase

¹ Paul Kullman, "Chinese-Chinese-Foreign Investment Ban," Reports on Chinese Information Technology & Telecommunications. Beijing: The United States & Foreign Commercial Service, p. 79.

¹⁴ "AT&T breaks down barriers to Chinese market," CommunicationsNOW. March 31, 1999.

interests of 35 percent in Chinese telecommunications companies for an initial period of five years, signaling an end to the equity ownership ban.¹⁵

Chinese Telecommunications Law

The Chinese government is in the midst of drafting a comprehensive telecommunications law to encompass the regulatory system, administration of corporations, rights and obligations of corporations, and service requirements. The law has undergone several revisions over the last ten years, and the process has stagnated during the review process as it passes through the government ministries.

Foreign companies remain anxious for the passing of the telecommunications law. The new law would finally codify permissible practices within the country. As mentioned earlier, Americans in particular would enjoy a greater degree of transparency. The American government has taken steps to promote the approval process, including then Federal Communications Chairman Reed Hundt making a visit to Beijing to address issues of open policy making and competition.

REGULATORY ENVIRONMENT

Formation of the Ministry of Information Industry

During the Ninth National People's Congress held in March 1998, the Chinese government restructured, reducing the number of ministerial-level organizations from 40

¹⁵ "China to allow 35 percent foreign investment in telecoms," CBnet, April 1, 1999.

¹⁶ Reed E. Hundt, Chairman of the Federal Communications Commission, "The Big River of Competition," speech before the Center for Information Infrastructure and Economic Development, Beijing,

to 29. The change included the combination of MPT, the Ministry of Electronics Industry (MEI), and the Ministry of Radio, Film, and Television (MRFT) to form the Ministry of Information Industry (MII). MPT was the traditional overseer of the telecommunications sector; MEI had strong interests in China Unicom; and MRFT had cable television lines running into numerous Chinese households, representing an alternate medium of communication.

ME took over the regulatory functions from its former ministries. It is in the midst of separating itself from telecommunications service operations. The process of forming the ministry took several months to finalize, with the reorganization plan approved by the State Council in mid-July 1998 (see Appendix A for details on the MII organization and leadership). MII would be staffed by 320 people (185 from the former MPT and 135 from the former MEI), representing a 60 percent reduction in staffing from the combined total of 800 people from the former three ministries.¹⁷

The constituents of the MII senior leadership have given an indication of the political climate throughout the ministry's short existence. The MII Minister is Wu Jichuan, a staunch conservative who has traditionally favored central control over the telecommunications sector. Prior to this position, he served as the Minister of Posts and Telecommunications.

The vice-ministers consist of members from both former MPT and MEI. Initially, the vice-ministers consisted of two officials from the former MPT and three from the

October 7, 1996.

former MEI. During the summer of 1997, Wu began consolidating his power within the organization. In July 1997, one of the vice-ministers from MEI, Liu Jianfeng, was reassigned to another ministry. During that period, great concern arose among the foreign telecommunications service companies as they prepared for a conservative shift in government policy.

As the Chinese redoubled their efforts toward accession to the World Trade Organization (WTO), Premier Zhu Rongji had to respond to foreign requests to open the telecommunications sector and to allow greater competition and foreign investment. Senior leadership applied greater pressure on MII to open the market. This shift in sentiment was reflected by the assignment of ME Vice-Minister Yang Xianzu (former MPT) to become President of China Unicom, the nation's second service provider. There were even rumors of MII Minister Wu Jichuan's resignation.¹⁸ In March 1999, China Telecom announced that it would be restructured into four independent divisions: satellite, mobile, paging and fixed line. In the near future, these entities would be allowed to compete against one another.¹⁹ Later in the same month, MII announced that foreign companies would be allowed to purchase interests up to 35 percent in Chinese telecommunications companies, and AT&T entered into a joint venture agreement to provide Internet services for the Pudong District of Shanghai.²⁰

"Introduction to the Ministry of Information Industry," Xinhua News Agency, February 1, 1999.

"New rumours say Mr. Wu is to leave Mil," Economist Intelligence Unit, March 19, 1999.

"China Company: China Telecom to split up," Economist Intelligence Unit, March 19, 1999.

"China to allow 35 percent foreign investment in telecoms," CBnet, April 1, 1999.

Background to the Restructuring

Ministry of Posts and Telecommunications

The Ministry of Posts and Telecommunications (MPT) had traditionally served as the supervisory authority over the telecommunications sector. The industry was viewed as a natural monopoly; that is, the national interest would be best served by having only one provider of telephone service. Given the technological limitations of the time, the costs of introducing a second service provider would outweigh the benefits. As a result, MPT exercised power as both regulator and sole service provider until the early 1990's.

In 1994, the Ministry was split into two bodies. The Directorate of Posts and Telecommunications was established as a department within MPT to regulate policy proposals, equipment approvals, inter-network construction, and telephone operations.

The second body, China Telecom, represented the operational branch of the former ministry. However throughout the mid-1990's, the division of industry regulator and telephone operator only existed on paper, and China Telecom continued to receive preferential treatment from MPT.

Ministry of Electronics Industry

The Ministry of Electronics Industry (MEI) was formed out of the former Ministry of Machinery and Electronic Industry in 1993 to oversee the planning, coordinating, supervising, and servicing of the electronics industry in China. MEI was also mandated to speed up the development of electronic information and military electronic product manufacturing.

MEI also oversaw the development of telecommunications equipment manufacturers, and it set national equipment standards. As MPT grew in its demand for equipment, its leadership felt the need to indigenously manufacture telecommunications equipment, and thus threaten the share of market and power base of MEI. Tensions arose between these competing ministries as MPT used its monopsony power to purchase from MPT manufacturers whenever possible.

In countering MPT's efforts, MEI Minister Hu Quli lobbied other ministries and the State Council to create a second telecommunications service provider to compete against the MPT monopoly. He succeeded in forming a consortium of 15 organizations to found China Unicom in 1994.

Ministry of Radio, Film, and Television

Prior to the ministerial restructuring, the Ministry of Radio, Film, and Television (MRFT) was considered a full ministry. The 1998 change resulted in shifting the regulatory function of MRFT into MIL. The operational component had been separated into a lower ranking bureau-level organization, but it still directly reports to the State Council.

According to the U.S. Information Technology Office, the former MRFT had begun to challenge China Telecom's market monopoly in 1997. It possessed an extensive cable network, of which approximately 10 percent was capable of two-way data

transmission.²¹ These connections could be subsequently converted to deliver telecommunications and value added services, thus representing a potential threat to the existing telecommunications regime.

Other Regulatory Bodies

State Development and Planning Commission

The State Development and Planning Commission (SDPC) formulates long-term economic policy, including five- and ten-year plans. The commission exercises direct control over the production and allocation of critical natural resources and goods of political importance. SDPC influences China's macroeconomic policy through the allocation of labor force, material supplies, and financial resources. These responsibilities also link it with the Ministry of Finance and the People's Bank of China, thus making SDPC a critical force in guiding China's economic growth.

SDPC also approves capital construction projects and determines the size and distribution of investment funds. Foreign investment projects, including telecommunications construction projects, exceeding US\$30 million are subject to approval by SDPC. The approval role is crucial in telecommunications where projects often exceed this limit. Approval can be a lengthy process, lasting from a few weeks to several years.

²¹ United States Information Technology Office, "The Ministry of Radio, Film, and Television: The MPT's Nemesis," USITO China IT Issue Report. August 1997.

State Economic and Trade Commission

The State Economic and Trade Commission (SETC) focuses on production planning for the industrial sectors of the domestic economy. Major functions of this commission include overseeing the separation of regulatory and operational functions of all government institutions. This will include some influence on the separation of ME from China Telecom.

SETC also formulates medium- and long-term plans. This necessitates contact with all ministries to organize, supervise, and implement annual commercial policy. SETC also manages national resource allocation, sets export standards, and examines macro-level technology policy. The commission controls national industrial production and maintains a production planning office, which handles problems related to state-owned enterprises and informs senior leadership of present and future economic needs.

There is some overlap in the division of responsibilities between SDPC and SETC, particularly over domestic sector and economic policy. Officially, both organizations formulate industrial programs and guide investment. SETC plays a key role in the realization of SDPC plans by ensuring adequate supplies of raw materials and energy. After the construction phase ends, SDPC passes production oversight to SETC.

However, the responsibilities between the two have shifted as a result of government reforms and internal dynamics. Currently, SETC seems to be growing in power, especially as China shifts away from a planned economy toward one guided by market forces. It is also favored by Premier Zhu Rongji, who founded SETC as vice-

premier in 1991, and he attempted to abolish SDPC (then the State Planning Commission) the following year.

Ministry of Foreign Trade and Economic Development

The Ministry of Foreign Trade and Economic Development (MOFTEC) is the principle body of the State Council that deals with business and trade activities with foreign entities, including telecommunications firms. Its responsibilities include the formulation of foreign trade laws, policies, and guidelines. The Ministry also promotes overseas trade, attracts foreign investment, and develops policies concerning technology trade with foreign countries. MOFTEC formulates bilateral and multilateral trade policies, and it represents the Chinese government in international economic and trade organizations. MOFTEC also serves as China's primary negotiating body for entry into the World Trade Organization.

MOFTEC works closely with SDPC in approving large-scale foreign investment projects. Because Chinese government policy prohibits foreign firms from any direct formal contact with commission-level bodies during project proposal (although informal contact is not uncommon), foreign entities must rely upon a Chinese conveyor to bring the project proposal to MOFTEC offices in Beijing. MOFTEC then forward the project request to SDPC, which evaluates the proposal and makes the final approval decision for the project. MOFTEC serves as the primary advisory and coordinating vehicle between SDPC and the foreign entity.

TELECOMMUNICATIONS SERVICE PROVIDERS

China Telecom

In 1994, MPT was split into separate operating and regulating entities. China Telecom represented the operating side of MPT. However, China Telecom maintained close association with MPT following the 1994 division, and many conclude that the split only existed on paper. MPT essentially continued to function as a single body.

As a result, China Telecom has performed remarkably well. Total telecommunications revenue amounted to RMB199.2 billion (US\$24.0 billion) in 1998, up 28.5 percent from the previous year. Telephone subscribers increased by 27.4 million in 1998 to a total of 110.9 million.²² Total fixed line subscribers have doubled every three years.

China Telecom has been building vast telecommunications infrastructure. In August 1997, total switching capacity exceeded 100 million lines to rank second in the world. It would increase to 130 million by the end of 1998.²⁴ China Telecom has been installing the latest in telecommunications technology, including advanced switching stations, fiber optic cable trunk lines, microwave transmission towers, and satellite stations.

China Telecom has experienced tremendous growth in the area of mobile telephony. It captured 96 percent of the cellular market, with 13.2 million by the end of

²² "China's Telecommunications in 1998," CBTnet Market Research, April 1, 1999.

²³ 1997 China Telecom Annual Report, p. 6.

²⁴ "China's Telecommunications in 1998," CRTnet Market Research, April 1, 1999.

1997. Cellular subscribers have nearly doubled every year for the past five years. In keeping with latest technology, China Telecom has established large digital GSM networks throughout the country. The number of digital subscribers currently surpasses that using the older analog standard. As of 1997, the GSM footprint covered 283 prefectural capitals and 1,731 county seats, including all major cities in 24 of China's 31 provinces.²⁶

China Telecom currently utilizes the 900 MHz frequency band for GSM. The amount of frequency spectrum allocated for GSM is limited in handling the current call volume. The rapid expansion of the cellular industry has resulted in significant service problems, such as all drops or network busy signals during rush periods. These problems may be resolved in the near future with the introduction of the GSM 900/1800 dual band network, which shifts frequencies during peak demand periods. This new technology is undergoing network trials. In addition, Chinese Premier Zhu Rongji recently announced the approval the CDMA standard, which will allow greater call volume for a given frequency bandwidth.²⁷

China Telecom has also expanded its international service capabilities. By the end of 1997, the company had established direct dial circuits with 81 telecommunications companies in 70 countries and regions.²⁸ In the area of cellular service, China Telecom has signed international roaming agreements with 31 carriers in 22 countries and regions.

²⁵ 1997 China Posts and Telecommunications Annual Report, p. 49.

²⁶ 1997 China Telecom Annual Report, p. 24.

²⁷ "China to approve U.S. telecom standard, CDMA," CBnet, April 1, 1999.

This allows the owner of a China Telecom GSM handset to communicate via his cellular telephone when traveling in one of the other signatory nations. China Telecom is also a partner in several international cable agreements, which allows it to serve the international communication demands of its customers.

China Telecom is also involved in value-added services. It is the largest provider of Internet access for the country through its CHINANET division with over 80 percent share of the nation's 2.1 million surfers.²⁸ China Telecom also provides advanced data communications services, including the construction of a financial data network in **cooperation with the People's Bank of China.**

China Unicom

In 1994, the State Council took inaugural steps to create competition against MPT. It authorized 15 bodies—led by MEI, the Ministry of Railways, and the Ministry of Power—to form China United Telecommunications (Unicom) as an official telecommunications service provider. The goals of the newly formed company were to capture of one percent of national teledensity, 30 percent of mobile telephone, and 10 percent of domestic long distance by the end of the century. Within a year, the company began commercial digital telecommunications service by opening GSM cellular networks in Beijing, Shanghai, Tianjin, and Guangzhou.

²⁸ 1997 China Telecom Annual Report, p. 17.

²⁹ "China's Telecommunications in 1998," CEInet Market Research, April 1, 1999.

China Unicorn's performance to date has been less than expected by the Chinese government and by its foreign partners. Competing against the incumbent player allied with the industry regulator created a near-impossible situation for Unicom to operate. MPT has used its regulating power to scrutinize Unicorn's operations, to add costs, and to delay network interconnection. By the end of 1997, Unicom held only four percent of the mobile telephone market. In addition, MPT has been extremely slow to implement interconnection agreements that would allow Unicom mobile customers to call parties serviced by MPT. In the case of Tianjin, a fully operational network representing RMB600 million (US\$72.3 million) remained idle from July 1997 to July 1998 because MPT had delayed in implementing interconnection to the national backbone.

China Unicom has experienced significant internal problems. Unicom has 15 shareholders, none of which own more than 14 percent. In the first four years of Unicorn's history, many of the industry executives assigned to the telecommunications venture held stronger ties to their parent organizations than to Unicom. As a result, China Unicom lacked a common purpose among its leadership. Further adding to the company's difficulties, Unicom experienced three changes in leadership in 1998 alone.

Without the level of financial support enjoyed by China Telecom, China Unicom has relied upon foreign parties to provide investment capital and technical assistance to construct its telecommunications network. Foreign companies initially welcomed the new entrant of a new telecommunications service provider, and many multinationals signed memoranda of understanding with Unicom to participate in joint ventures.

Over the last few years, foreign firms have openly stated their displeasure in dealing with Unicom. Almost all complain that Unicom expects the foreign partner to provide all the funding for the joint projects and to assume a disproportional amount of the risk. In these ventures, Unicom has been unwilling to offer any operator-like control over the telephone networks to the multinationals.

Moreover, the Unicom investment model, known as Chinese-Chinese-Foreign (CCF), was recently banned by State Council decree. Accounting for approximately 70-80 percent of all Unicom projects, the model entailed a foreign company establishing a joint venture with a Chinese partner. The joint venture entered into a network installation and service contract with a Chinese company that is licensed to operate a telecommunications network. Under the agreement, the Chinese-foreign company is not directly involved with the operation of the network; it can only monitor accounts, offer consulting, and propose technical upgrades and network services.³¹ Since the announcement of the ban, existing CCF ventures have been allowed to continue, but the previous model of Unicom funding has been rendered inoperable.

Signs are emerging that indicate that China Unicom is reorganizing itself for commercial viability. Specifically, several former MPT officials have been taken positions in the Unicom leadership, including the reassignment of MII Vice Minister

³⁰ David Wallerstein and Su Wei-chou, "Retrospective on Unicom," Reports on Chinese Information Technology & Telecommunications. Beijing: The United States & Foreign Commercial Service, 1998, p. 81.

³¹ David Wallerstein and Su Wei-chou, "Retrospective on Unicom," Reports on Chinese Information Technology & Telecommunications. Beijing: The United States & Foreign Commercial Service, 1998, p. 81.

Yang Xianzu as the current president of China Unicom. Since the entity was created by the State Council to compete directly with China Telecom, the company's collapse would be politically unacceptable. Even after the ministerial restructuring which formed MII, China Unicom still has several strong political supporters, including Premier Zhu Rongji and Vice Premier Wu Bangguo. With the pending breakup of China Telecom, Unicom will be the only remaining provider of the full range of telecommunications services. Furthermore, Unicom's financial woes have been partially mitigated with the recent allowance of 35 percent equity ownership of Chinese telecommunications by foreign partners.³²

China Telecom Great Wall

China's newest service provider is China Telecom Great Wall (Great Wall). It is a 50:50 joint venture between China Telecom and the commercial arm of the People's Liberation Army (PLA), known as China Electronic System Engineering Company. The joint venture was proposed by the State Council in 1995 to utilize the 800 MHz military frequency band and China Telecom's expertise and backbone interconnection. The joint venture also draws upon the PLA's entrepreneurial expertise. Given large defense budget cuts during the reform era starting in 1978, the military had to find other sources of revenue to sustain itself, so the military went into business. A large portion of the PLA budget comes from a broad range of commercial activities, such as hotel operations and equipment manufacturing.

³²China to allow 35 percent foreign investment in telecoms," CBnet, April 1, 1999.

Great Wall has been China's champion of CDMA technology. In mid-1996, Great Wall launched the first CDMA service in Fujian.³³ Great Wall subsequently began CDMA trials in conjunction with foreign telecommunications equipment providers: Motorola in Beijing, Samsung in Shanghai, Lucent Technologies in Guangzhou, and Northern Telecom in Xi'an.

The PLA's telecommunications plans are not limited to mobile telephony. According to the *Asia-Pacific Telecoms Analyst*, the PLA has secured the backing of several major European banks to invest US\$2 to 5 billion into building a public network.³⁴ The final draft of the pending telecommunications law will determine the opportunities for expansion into public service.

The creation of Great Wall has benefited both China Telecom and the PLA. China Telecom gained access to the relatively vacant 800 MHz frequency band at a time when its own 900 MHz band was reaching capacity constraints. The PLA secured market access through China Telecom. Moreover, China Telecom prevented the PLA from joining forces with rival China Unicom.

In July 1998, Chinese President Jiang Zemin ordered the military to divest itself of all commercial activities. The ultimate fate of China Telecom Great Wall is still unknown as of April 1999. The military currently retains ownership of the 800 MHz frequency band used by the Great Wall CDMA system, but its continued usage remains

³³ China Telecom Update, August 1996.

³⁴ *Asia-Pacific Telecoms Analyst*, December 15, 1997.

unclear. Resolution of the China Telecom Great Wall shareholding structure and the revenue arrangements for leasing the bandwidth remain indeterminate.³⁵

Jitong

Jitong Communications (Jitong) is a joint stock company that was sanctioned by the State Economic and Trade Commission in January 1994. Its shareholders consist of several large state-owned electronics enterprises, and it formerly fell under the supervision of MEL

After Jitong was established, the State Council decided to launch Golden Bridge, a project to construct a national public economic information network. Jitong was designated to lead the project. The initial phases of the project amounted to RMB870 million and covered 60 cities.

Currently, Jitong has limited competition with China Telecom in Internet services. In fact, it is the only commercial provider licensed to compete with China Telecom in this market. Competition is expected to intensify as telephone service expands throughout the country, and it may begin sooner than expected. In March 1999, Jitong, China Telecom, and China Unicom were allowed to pilot Internet telephone services in 25 cities across the country for a six-month period.³⁶ Despite relatively poor voice quality due to bandwidth constraints, Internet telephony is expected to be popular from its low cost.

³⁵ "Analysis on CDMA prospects in China," China Research Corporation, April 12, 1999.

³⁶ "Internet phone services go on trial," China Daily, March 7, 1999.

SUMMARY

The Chinese telecommunications sector can be divided into three distinct markets: fixed line, mobile, and value added services. All three markets are heavily regulated, and foreigners were recently allowed to take minority stakes in Chinese telecommunications service companies.

In March 1998, the Ministry of Posts and Telecommunications, the Ministry of Electronics Industry, and the Ministry of Radio, Film, and Television were combined into the Ministry of Information Industry. The new super-ministry was created to coordinate the administration of national information media, to serve as a neutral regulator, and to promote competition.

MII will oversee several telecommunications service providers. The dominant provider is China Telecom. As the former telecommunications service provider, China Telecom currently dominates the mobile market and controls the fixed-line public network. A second provider, China Unicom, was created in 1994. It has focused primarily on the mobile market and has entered into some fixed-line networks, but its performance to date has been disappointing. However, recent changes in the senior leadership, including the installation of a former MII vice-minister as president, have signaled a potential turnaround in the company.

There are two other minor players in the market. China Telecom Great Wall, a joint venture between China Telecom and the PLA, has completed trials of its CDMA mobile network. A recent mandate by the Chinese President to the military to divest itself of all commercial activities has left the fate of Great Wall in flux. Jitong is competing in

Internet services, and it recently received a license to provide IP telephony on a trial basis. Its role in the market may become larger as this technology becomes fully adopted and as voice and data communication further converge.

GOALS OF THE CHINESE GOVERNMENT

The 15th National Congress of the Chinese Communist Party in September 1997 signaled a shift in government policy. The next age of leaders, headed by Jiang Zemin, would “hold high the great banner of Deng Xiaoping Theory” in aggressively pursuing a path of reform, including the adoption of market-based principles and openness to the outside world.³⁷ During that session, President Jiang orchestrated a major reshuffling of the Party leadership to consolidate his power in the Chinese polity.

President Jiang launched his reform of the Chinese government the following March at the Ninth National People’s Congress. He installed Zhu Rongji as Premier of China. A noted reformist and protégé of Jiang, Zhu announced a radical restructuring plan of the central government. The number of ministerial level bodies was reduced from 40 to 29, including the consolidation of the information and media sectors into the Ministry of Information Industry. Within a year, Zhu had reduced the size of central government staffing from 33,000 to 16,000. He now seeks to cut the size of local and provincial governments from 5 million to 2.5 million within the next three years.³⁸

The senior leadership seeks reform of the Chinese state-owned enterprises. Supported by the government, these state-run companies had become bloated and inefficient, more often concerned with maintaining employment stability than generating

³⁷ Jiang Zemin, Report Delivered at the 15th National Congress of the Communist Party of China, Beijing, September 12, 1997.

³⁸ Zhu Rongji, Joint Press Conference of the President and Premier Zhu Rongji of the People’s Republic of China, Washington, D.C., April, 8, 1999.

profits. In bringing reform, Jiang hopes to clearly define the roles between ownership rights and enterprise operation, and to restructure incentives to make the Chinese state-owned enterprises viable competitors in the marketplace.

The process will require process reengineering and possibly bankruptcy, resulting in significant unemployment as the state sector retooled itself toward efficient operation. Unemployment looms as a serious concern, since disgruntled laid-off workers could become a potent political force in the urban areas and trigger social upheaval. In fact, unemployment reached 10 million in China in 1998.³⁹

The Chinese government responded by promoting growth in the economy. The economy grew by 7.8 percent in real terms in 1998, and by 8.3 percent in the first quarter of 1999. The central government has poured RMB1.2 trillion (US\$145 billion) into infrastructure development over the next three years to stimulate the domestic economy, especially since the Asian financial crisis has made Chinese products less competitive in overseas markets. This fiscal policy has been moderately successful, resulting in a reduction of unemployment to 6 million in 1999.

The Chinese government has also taken steps to move the restructure the People's Liberation Army (PLA). Specifically, there are three main objectives: first, to reassert Party control over the military, especially over its finances; second, to reduce the overall size of the military force; and third, to reorganize the PLA into a modern professional

³⁹ Zhu Rongji, Joint Press Conference of the President and Premier Zhu Rongji of the People's Republic of China, Washington, D.C., April, 8, 1999.

⁴⁰ Dexter Roberts, "China: What's Going Wrong?" Business Week, February 22, 1999, p. 48.

fighting force with power projection capabilities to commensurate to China's aspirations to superpower status.⁴² In July 1998, President Jiang directed the military "back to the barracks," ordering the PLA to divest itself of its commercial interests. This is the first step to assume control over the military's finances. By removing the PLA from its business activities, Jiang could more easily pursue his agenda of manpower reduction and force modernization.

President Jiang and Premier Zhu seek to transform the nation's financial sector. In October 1998, Zhu began examining the nation's investment and trust corporations (initially established to trade overseas and to raise foreign capital), and he found rampant corruption and smuggling resulting in the loss of \$45 billion.⁴³ Furthermore, Chinese banks are awash with bad debt, since the traditional system had allowed government officials to exert significant influence over loan decisions. This resulted in inefficient allocation of resources and loan defaults.⁴⁴ As a result, the Chinese are now examining foreign models to create asset management companies to handle the non-performing loans of state-owned banks. Reform will also seek to transform the state banks into

⁴¹ Zhu Rongji, Joint Press Conference of the President and Premier Zhu Rongji of the People's Republic of China, Washington, D.C., April, 8, 1999.

⁴² Mark Mechem, "Chinese Government: Overview of Reforms," Reports on Chinese Information Technology & Telecommunications. Beijing: The United States & Foreign Commercial Service, 1998, p. 7.

⁴³ Dexter Roberts, "China: What's Going Wrong?" Business Week, February 22, 1999, p. 49.

⁴⁴ Kenneth Lieberthal, lecture at the University of Michigan, November 5, 1997.

genuine commercial banks to enhance the ability of the central bank to supervise and regulate banking activity according to international practice.⁴⁵

The Chinese are also interested in seeking foreign trade investment to spur economic growth. President Jiang stated, "We should take an even more active stance in the world by improving the pattern of opening in all directions, at all levels and in a wide range, developing and open economy, enhancing our international competitiveness, optimizing our economic structure, and improving the quality of our national economy."⁴⁶ To promote its image of economic stability, the Chinese have kept the exchange rate of the renminbi (RMB) stable against the U.S. dollar, despite significant competitive pressure to devalue its currency. The Chinese have stepped up their efforts to attract multinationals by proposing significant concessions during its last round of negotiations with the U.S. Trade Representative for entry into the World Trade Organization (see Appendix B for excerpts concerning Chinese concessions in information technology and telecommunications).

⁴⁵ Zhu Rongji, Joint Press Conference of the President and Premier Zhu Rongji of the People's Republic of China, Washington, D.C., April, 8, 1999.

⁴⁶ Jiang Zemin, Report Delivered at the 15th National Congress of the Communist Party of China, Beijing, September 12, 1997.

CHINA AND THE WORLD TRADE ORGANIZATION

In July 1986, China applied for entry into the World Trade Organization (WTO). Originally known as the General Agreement of Tariffs and Trade (GATT), the organization was founded by 26 members in 1948. Membership in the association guarantees permanent most-favored nation (MFN) among its members. Although the term "most favored" suggests special treatment, it now means non-discrimination. Any trade-related privilege granted toward any one particular country must be shared by all other WTO trading partners. In fact in the United States, the term "most favored nation" was recently changed to "normal trade relations" (NTR).

WTO has grown over the years, now encompassing 131 members, and China is the only remaining major trading nation without membership. WTO membership would allow China greater access to trade with the other countries.

SINO-U.S. TRADE STATUS

The United States currently represents China's largest trading partner, amounting to US\$75.3 billion in 1997. Moreover, U.S. direct investment into China has grown by US\$12 billion during the period 1994-1997 to US\$45.3 billion. Moreover, China as of 1997 was second only to Japan in holdings of U.S. government debt instruments, and many Chinese firms have heavily invested in American operations.⁴⁷

⁴⁷ Kenneth Lieberthal, "The Ties that Bind," The China Business Review, Vol. 25 No. 3, May-June 1998, p. 11.

Despite the high level of economic activity, Sino-U.S. trade relations have been sporadic over the last decade. Most visibly, Congress debates the renewal of NTR status for China every summer.

The requirement comes from the Jackson-Vanik Amendment to the Trade Act of 1974. Passed during the cold war, the Amendment stipulated that MFN (now known as NTR) could be extended to non-market economies only if the President issues a waiver certifying either that the country does not impede emigration or that providing MFN status will likely lead to greater immigration. Once MFN status is granted to the non-market economy, it must be renewed annually.⁴⁸

China first gained MFN status in 1980, and it has been renewed without interruption. In the year following Tiananmen incident of 1989, the annual summer debate taking place (China's NTR status expires on July 3) on Capitol Hill draws strong pro-and anti-China sentiments, especially since many in the U.S. feel that NTR could be leveraged against the Chinese government to improve human rights, limit weapons proliferation, and open Chinese markets to more American goods. Since 1994, President Clinton separated NTR from human rights issues, stating that the United States would treat them as separate issues. Even with this shift in U.S. policy, Congress inevitably discusses human rights issues during the time period surrounding NTR renewal for China.

⁴⁸ Nicholas R. Lardy, China in the World Economy. Washington: Institute for International Economics, p. 99.

Ironically, the original purpose of the Jackson-Vanik Amendment has been almost forgotten. In the year that China was granted MFN status, Deng Xiaoping allowed up to 10 million people to emigrate to America. Indeed, Chinese emigration is limited by U.S. immigration restrictions rather than Chinese emigration policy. Under the U.S. Immigration Act of 1990, a maximum number of 270,000 immigrant visas can be issued annually, not including immediate relatives of U.S. citizens, refugees, and a select number of exempt groups. The Act further states that no more than 20,000 of the visas can be issued to natives of any single country.⁴⁹ The queues for immigration visas at the American embassies and consulates in China remain lengthy year round. In short, the annual number of Chinese citizens seeking to emigrate far exceeds the number that the U.S. is willing to admit. Thus, the conditions of the Jackson-Vanik Amendment should make Chinese NTR approval a moot issue.

BENEFITS AND RISKS OF CHINESE WTO ENTRY

China has been seeking entry into WTO for nearly thirteen years, and its entry bears significant consequences. To date, the Chinese government has been seeking the support of the Americans for entry into the organization. Thus, the following analyzes the benefits and risks for China and the United States.

⁴⁹ Nicholas R. Lardy, China in the World Economy. Washington: Institute for International Economics, p. 99.

Chinese Benefits

The Chinese would receive permanent NTR relations with the United States. Although this may not seem like much, especially since NTR has been successfully renewed every year, the Chinese government and U.S. companies doing business in China expend considerable resources lobbying Congress to reaffirm this status, including the Washington doorknock program by the American Chamber of Commerce in China.⁵⁰ Every summer, anti-China rhetoric appears in the press, typically concerning issues of human rights, Tibetan and Taiwanese independence, and more recently nuclear spying. This annual debate generally stimulates negative sentiment in the United States toward China. Thus, accession to WTO would take this annual round of China bashing off the agenda.

WTO entry would signal Mainland China's assumption of its proper role among the community of nations. During the Maoist era, China had sought to isolate itself, seeking to develop the nation internally and ridding itself of foreign influence. Starting with the Deng era in the late 1970's, China began to open itself to the rest of the world, and it has continued with China's current president, Jiang Zemin. Through WTO membership, the Chinese would have a voice in formulating future trade regulations. They seek to build foreign confidence in China, with the hope of attracting additional foreign investment to build its economy.⁵¹ China represents the last major trading nation

⁵⁰ The American Chamber of Commerce in the People's Republic of China, introduction brochure.

⁵¹ "Chief negotiator outlines benefits of World Trade Organization membership," BBC Worldwide Monitoring, April 21, 1999.

outside WTO, and Chinese entry would serve as a vote of confidence to the world community that openness would be in the interest of all.

Entry would also give the current leadership considerable political clout. President Jiang forwarded a bold agenda in opening to the outside world. Jiang had generated considerable political capital from his reciprocal visits with President Clinton, and he prides himself as a statesman. WTO entry would represent a culmination of the foreign and trade policies for the reform-minded leadership, and it would solidify President Jiang's position to continue with greater reforms in his country.

Chinese Risks

Not all factions within the Chinese government support entry into WTO, for it would place great strain upon China's domestic industries. President Jiang had once described state-owned enterprises as "the pillar of the national economy."⁵² Many of the state-owned enterprises operate inefficiently relative to international standards. Thus, tariff reductions on foreign products would threaten to topple the Chinese pillar, potentially resulting in layoffs and bankruptcy. The belief in the "iron rice bowl," referring to the protection and benefits provided by the Chinese socialist state, could quickly fracture when foreign companies enter the market in mass.

The resulting unemployment resulting from state-owned sector reform and foreign competition could potentially become a destabilizing force in the Chinese economy. In

⁵² Jiang Zemin, Report Delivered at the 15th National Congress of the Communist Party of China, Beijing, September 12, 1997.

the best case, WTO entry would be cautiously accepted by the heads of state-run industries and conservatives in the government who believe that China should pursue a more gradual course in opening to the world.

WTO entry would place China in a position of greater dependence on the world economy. WTO entry would reduce tariffs, and it would allow for broader foreign involvement in service-oriented industries, such as finance, insurance, and telecommunications. Many Party conservatives refer to the impact of foreign capital flows and their role in the Asian financial crisis. They fear a similar fate for China if the country were to open too quickly.

U.S. Benefits

The Americans stand to greatly benefit, especially since the Chinese have demonstrated willingness to open its markets to foreign products and services, to lower tariffs in imported goods, and to eliminate quotas. U.S Trade Representative Charlene Barshefsky drove a hard bargain with the Chinese, resulting in the following offers by the Chinese: reduction of average tariffs in industrial products from 9.44 percent from 24.6 percent, elimination of all geographic limitations on foreign insurance firms, allowance of banks to conduct business in local currency within two years, and 49 percent ownership of Chinese telecommunications service companies by foreign investors. (see Appendix B

for further details concerning the information technology and telecommunications portions of the Chinese offerings).⁵³

The concessions of the Chinese were significant, including the distribution of goods and services by foreign firms, which is currently performed by Chinese firms or joint venture companies. They demonstrate China's desire to embrace the world, especially the United States. Business leaders have voiced their backing of the Chinese deal, especially after President Clinton's refusal to grant his support for Chinese WTO success, although Clinton and Premier Zhu have agreed to seek Chinese accession by the end of 1999.⁵⁴

On the political front, WTO entry would support the current American policy of "constructive engagement." Sino-U.S. relations have been on an upswing ever since President Jiang's visit in the October 1997. It is in the best interest of the United States to maintain close relations with this emerging power in Asia, and support for WTO would do much to building stronger ties across the Pacific.

Chinese entry would stabilize the Sino-U.S. relationship. As stated earlier, WTO accession would remove the summer China bashing sessions surrounding NTR renewal. In time, American business would view China in much more favorable light, lower political risk associated with the country, and seek opportunities for direct investment as the market of 1.2 billion consumers opens itself to greater foreign involvement.

⁵³ Helene Cooper and Bob Davis, "Barshefsky Drove Hard Bargain, but Lost to Politics," *The Wall Street Journal*, April 12, 1999, p. A24.

⁵⁴ Bill Clinton and Zhu Rongji, Joint Statement by President Bill Clinton and Premier Zhu Rongji,

U.S. Risks

The United States bears some political risk in supporting China's bid for **WTO** entry. Once describing the Chinese leaders as the "butchers of Beijing," Clinton has done an about-face in hosting President Jiang's 1997 visit. Many in Congress still view China with suspicion, including China's policy toward Taiwan and recent allegations concerning nuclear spying. Thus, supporting the Chinese bid will require some political risk, but it promises substantial economic rewards.

SUMMARY

The Chinese have been seeking entry into **WTO** for the past 13 years. As the last remaining trading nation without membership in this organization, China views **WTO** entry as a sign of taking its place among the community of nations. Entry into **WTO** would grant permanent **MFN** status (now known as **NTR** in the U.S.), and the Chinese view this as a critical component of opening to the world.

The Chinese have much to gain from by entering **WTO**. First, it would stabilize its relationship with its leading trade partner, the United States. Second, it would symbolize a coming of age in China, where it would seek greater overseas trade and foreign investment. Third, **WTO** would legitimize the current Chinese leadership's agenda of opening to the outside world, granting it authority to conduct greater reform activity in the future.

April 10, 1999.

The risks taken by the Chinese are as equally great. Chinese state-owned enterprises would likely suffer the most. Bloated and inefficient, these entities would need to quickly restructure when tariffs and quotas on imported goods are either dramatically reduced or eliminated. Unemployment may result, potentially causing political unrest. Moreover, WTO entry would result in greater dependence on the world, which alarms older, more conservative leaders who would prefer a more gradual shift toward market liberalization.

The U.S. stands to greatly benefit with Chinese accession. First, the Chinese have demonstrated willingness to open many of its sectors, including insurance, agriculture, industrial products, and telecommunications services. Chinese entry would reduce the tariffs on products being exported to China, narrowing the price advantage enjoyed by indigenous firms. Second, it would strengthen Sino-U.S. ties, which may be one of the most important relationships as the world enters the 21st century. Finally, Chinese accession would stabilize American sentiment toward China, removing the annual anti-China campaigns that surround NTR renewal debates on Capitol Hill.

In essence, the Chinese offered much to obtain American support for its bid into WTO. From the American view, there is little to lose, and so much more to gain. The Chinese already have relatively open access to American markets, and they have NTR status (although it must be annually renewed). On the upside, American businesses have much greater opportunities to do business in China with lower tariffs and quotas on

American products across the board. In sum, Chinese accession into WTO would be in the best interests of both nations.

ARGUMENTS FOR TELECOMMUNICATIONS LIBERALIZATION

Although China has started down the road of telecommunications liberalization, the market still remains virtually a monopoly. Specifically in 1994, the State Council authorized China Unicom to compete against incumbent China Telecom; however, Unicom's performance to date has been lackluster, serving less than five percent of the market.⁵⁵ The division between industry regulator and service operator in MPT was opaque at best.

The Chinese people have voiced strong favor for competition. A poll of 1,290 residents in Beijing, Shanghai, and Guangzhou by the Business Climate Monitoring Center revealed that 72 percent of the respondents felt that the state monopoly should be broken, allowing greater competition; otherwise, they feel that development will be stifled.⁵⁶

Only recently has there been activity to split China Telecom away from the regulating ministry. In March 1999, the State Council announced that the state-owned telecommunications monopoly China Telecom would be divided into four separate entities with the intention of having them compete against one another in the future.

With greater domestic competition, the next stage of liberalization would be to allow greater foreign involvement in telecommunications services. Numerous countries have followed the path toward market liberalization, including 69 nations of the World

⁵⁵China's Telecommunications in 1998," CEInet Market Research, April 1, 1999.

⁵⁶State monopoly in telecommunications opposed," Xinhua News Agency. April 6, 1999.

Trade Organization that agreed to open basic telecommunications services, including local, long distance, international voice and data transmission.⁵⁸ Representing 94 percent of the global telecommunications services market, the signatory nations have observed the benefits of liberalization. The Chinese have nominally agreed to open its markets upon accession to WTO.⁵⁹ In March 1999, the Chinese allowed its first foreign involvement in telecommunications services by licensing AT&T to form a joint venture to provide value added services for the Pudong District of Shanghai and by permitting up to 35 percent equity stake in Chinese telecommunications firms.⁶⁰

There are numerous issues regarding greater competition and foreign involvement, with many of the Chinese concerns discussed below. The following arguments give examples describing the experience of countries introducing competition over the last two decades, noting that many of the additional carriers often included some form of foreign involvement.

NATURAL MONOPOLY AND NEED FOR INFRASTRUCTURE BUILD-OUT

In resisting the introduction of competition in telecommunications services, MII claimed that the industry was a natural monopoly, and the introduction of competition would be a waste of natural resources. That is, each region would be most efficiently

⁵⁷ "China telecom to split up," Economist Intelligence Unit, March 19, 1999.

⁵⁸ Agreement on Basic Telecommunications Services, World Trade Organization, signed February 15, 1997.

⁵⁹ Charlene Barshefsky, United States Trade Representative, "Market Access Commitments of the Government of China on Goods, Services, and Agriculture," Office of the United States Trade Representative press release 99-34, April 8, 1999.

⁶⁰ "China to allow 35 percent foreign investment in telecoms," CBnet, April 1, 1999.

served by having only one service provider. Given the extensive construction required to serve a community, the duplication of such a network would be of little value. The country would be best served by utilizing the existing network, and that network is operated primarily by China Telecom.

The argument of natural monopoly does not hold true. Given recent technological advances, the telecommunications industry is no longer a natural monopoly. In the United States, the breakup of the AT&T monopoly in 1984 was facilitated by the introduction of digital microwave and switching technologies. They allowed companies to operate without having to lay copper cable into every American household, and competition in long-distance telecommunications since 1984 has flourished in the U.S.

In a competitive market, companies cannot afford to waste resources. They must be more efficient to survive; otherwise, market mechanisms and high cost structures will drive them out of business. Even in developed markets like the U.S., competition leads to lower prices, greater usage, growth of the market, and introduction of new services. The telecommunications market in China is still in a young, high growth stage. The issues of redundancy and waste of natural resources should be of minimal concern to regulators and policy makers.

China's teledensity, the number of telephones per 100 people, amounted to 10.64 percent as of the end of 1998, and telephone penetration continues to grow at a much faster pace relative to the national economy. China Telecom plans to invest RMB144.5 billion (US\$17.4 billion) in fixed assets in 1999, with the goal of adding 28 million

telephone users, including 13 million mobile subscribers.⁶¹ This would make China the fastest growing telecommunications market in the world.

Given the massive size of the Chinese population, there still remains much more work to connect the rest of the country to the national backbone. The Chinese are already spending nine percent of its budget in telecommunications investments.⁶² Foreign investors will have to provide additional capital to further increase network build-out. Foreigners have demonstrated the willingness to invest in the Chinese telecommunications market, especially if given equity ownership or owner-like controls. The RMB16.55 billion (US\$1.4 billion) raised by China Unicom as of the end of 1997 through the Chinese-Chinese-Foreign model provides some indication of their eagerness to enter the market.⁶³

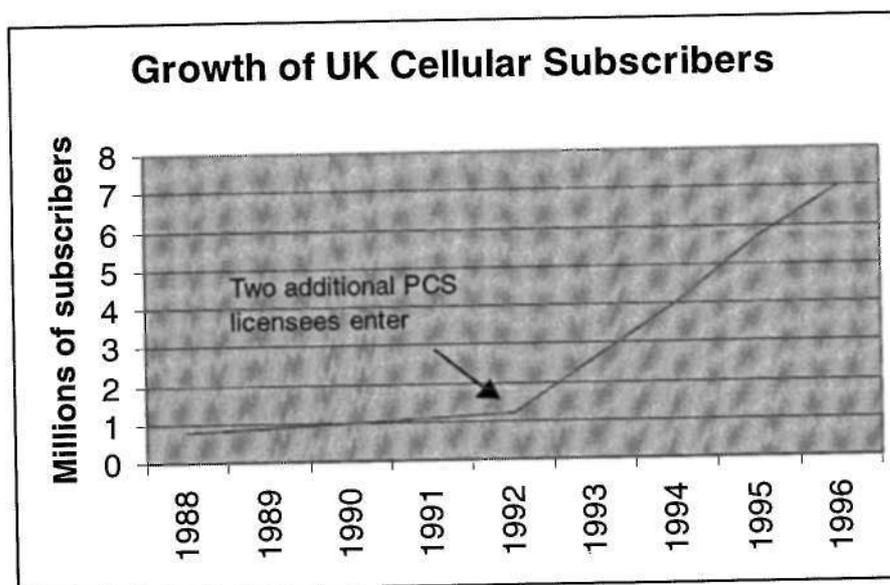
The introduction of competition in many other countries has resulted in large-scale build-outs in telecommunications infrastructure. The Philippines opened its telecommunications market in 1993, and service construction experienced a 15-fold increase. In 1992, only 13,000 new lines were added to the existing telephone system. In 1993, 199,000 new lines were added and in 1994, the number was 250,000. In Hong Kong, the government opened the cellular market in the late 1980's. As a result, cellular

⁶¹ "China's telecommunications in 1998," CEInet Market Research, April 1, 1999.

⁶² Zheng Jie, President, Shanghai Long Distance Telecommunications, China Telecom, presentation at the Harvard Asia Business Conference, Boston, February 6, 1999.

⁶³ Paul Kullman, "Chinese-Chinese-Foreign Investment Ban," Reports on Chinese Information Technology & Telecommunications. Beijing: The United States & Foreign Commercial Service, 1998, p. 79.

subscribers grew six-fold from 134,000 in 1990 to 986,000 in 1996. The United Kingdom brings another example of the introduction of competition in its mobile market in 1992.



Source: ITU Telecommunications Indicators Database

The introduction of foreign expertise would also be helpful in accelerating the Chinese telecommunications infrastructure in terms of development and profitability. The multinational firms build value from investing their expertise along with their money, and foreign investors are more willing to invest if they see commitment from foreign telecommunications operators.

⁶⁴ Reed E. Hundt, Chairman, Federal Communications Commission, speech at the Asia Society, Hong Kong, October 11, 1996.

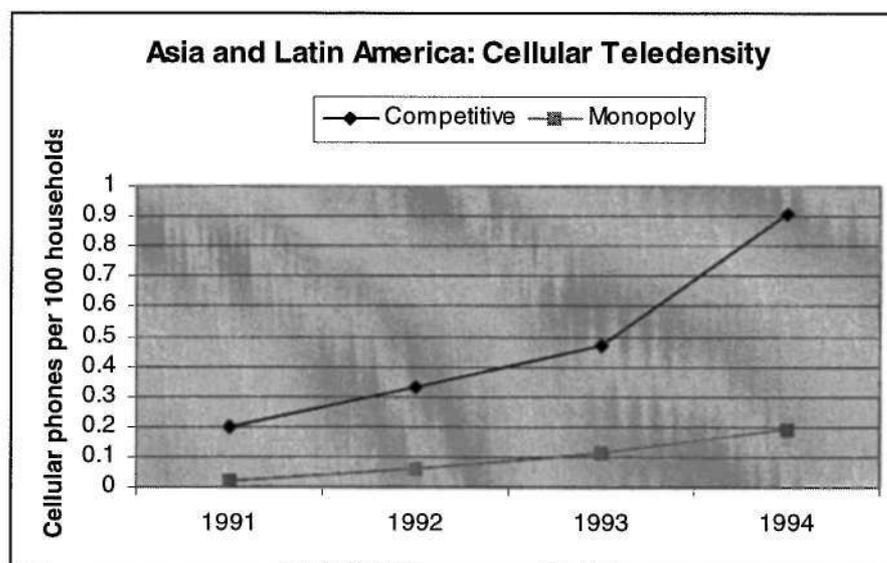
UNIVERSAL SERVICE

Universal service remains a concern for the Chinese government; that is, they fear that foreign telecommunications firms would take advantage of the market, serving only the more profitable urban regions and neglecting the more undeveloped areas around the country, a term known as "cream-skimming." This issue was brought up by Chinese participants at a telecommunications law roundtable,⁶⁵ and it is an often used argument to defend telecommunications monopolies.

Recent evidence contradicts this belief. In fact, one can strongly argue that competition does not hinder universal service; it actually boosts network construction and service availability. Chile provides probably the best example in resolving the problem concerning universal service. The legislature created a rural telecommunications fund, financed from government revenue, to increase the number of public pay phones in rural and low-income urban areas. The regulatory authority in Chile, after consulting with local governments, annually issues a list of projects to be supported through the development fund. The regulator specifies the available subsidy to finance the project, and it issues a bid calling for technically qualified companies to assume the project. Bids are opened during a public meeting, and the bid that proposes the least amount of subsidy funds wins the bid and undertakes the project.

⁶⁵ United States Information Technology Office, "Summary of the Issues, Questions & Answers Raised During the USITO-Unicom Telecommunications Law Roundtable," USITO China IT Issue Report, Beijing, September 24-25, 1997.

In further describing the Philippines situation, the country had relied upon its state monopoly for network build-out. The government initiated a major paradigm shift when it decided to introduce competition with the explicit objective of encouraging rapid infrastructure construction. It established competition in local, long distance, wireless, and international services. Entrepreneurs found opportunities in regions once assumed unprofitable. As a result, the Philippines has seen tremendous growth not only in urban areas, but also in less inhabited areas where technology and entrepreneurship have provided impetus for network construction.



Source: Petrazzini, *Global Telecom Talks: A Trillion Dollar Deal*

In a study of 26 countries in Latin America and Asia, those with privatized telecommunications grew twice as fast during the five years following privatization than those that did not privatize. A closer look at the data on mobile markets revealed that competitive cellular markets achieved a much higher network penetration than monopoly

cellular markets, and the gap becomes more pronounced over time. Moreover, the study indicated that those countries with competition in the mobile market also experienced positive growth in fixed-line services.⁶⁶

Mexico provides an example of growing network penetration caused by competition. In 1988, the Mexican government began implementing policies to privatize Telefonos de Mexico (Telmex) and to liberalize the telecommunications sector. The liberalization would occur two years later in 1990. A significant portion of the telecommunications monopoly would be made available to foreign buyers. In the four-year period 1986-1990, the number of communities served by Telmex grew from 4,781 to 6,980, representing a 9.9 percent compounded annual growth rate (CAGR). By 1994, Telmex was serving 18,342 communities, a 31.1 percent CAGR.⁶⁷

Historical experience in the United States also provides evidence to support the argument that competition promotes telecommunications build-out. In the early 1890's, the Bell system served only the 72 most prosperous cities in the country, providing virtually no service to the rural areas, and teledensity growth was less than one percent per year. Competition was introduced between the mid-1890's and the early 1920's. By

⁶⁶Ben Petrazzini, Global Telecom Talks: A Trillion Dollar Deal. Washington, D.C.: Institute for International Economics, 1996, pp. 37-38.

⁶⁷"SBC Communications Telecommunications Privatization in Mexico: Economic and Labor Impacts," Price Waterhouse and Strategic Policy Research presentation on November 12, 1996.

1910, teledensity growth was over 18 percent per year. By the early 1920's a higher percentage of farm families had telephone service than non-farm households.⁶⁸

In contrast, countries that have kept their markets closed to foreign involvement have generally experienced much slower network construction. In an extreme case, teledensity in Bangladesh in 1983 was 0.12 percent; in 1993 the network expanded to serve only 0.21 percent of the population. There was little incentive to expand the infrastructure during that decade, and wait times for telephone service still averaged 10 years. Myanmar provides another example. Given its geographical location, it should serve as a natural telecommunications hub of Asia, bordering China, India, and Thailand. Yet in the five years ending in 1992, teledensity grew only seven percent to 0.18 lines per 100 people.⁶⁹

NETWORK AND SERVICE QUALITY

Experience shows that firms in liberalized markets modernize their networks than those in non-liberalized markets. Digitization in telecommunications infrastructure gives one indication of network quality, providing superior connections over its analog counterparts. Countries with competitive environments enjoy much higher levels of digital networks. In the early 1990's, digitization of the network in the Philippines was 7 percent, and neighboring Myanmar had 18 percent. The Filipino market liberalized in

⁶⁸Ben Petrazzini, Global Telecom Talks: A Trillion Dollar Deal. Washington, D.C.: Institute for International Economics, 1996, p. 40.

⁶⁹Reed E. Hundt, Chairman, Federal Communications Commission, speech at the Asia Society, Hong Kong, October 11, 1996.

1993. By 1994, the Philippines' digitization level reached 64 percent, and Myanmar's

70

lagged behind at 35 percent.

Countries with liberalized telecommunications markets tend to adopt technology and to introduce new services more quickly. Competition provides incentive to adopt the latest technology to establish an advantage over one's competitors. The end result is a much faster rollout of modern hardware and innovative services. For example in the Organization for Economic Co-operation and Development (OECD), the growth of

71

Internet hosts is five times faster in competitive markets than in monopoly markets.

Service quality is of concern to the Chinese. In a poll by the Business Climate Monitoring Center, 37 percent of the respondents complained about poor service and the arrogant staff at the state-owned telecommunications companies.⁷² Although quality is starting to improve, Chinese customers often have to wait at least a month to obtain telephone service. Furthermore, calls on the digital GSM mobile networks are often dropped, especially during peak usage periods.

The introduction of competition has made positive impacts on service quality, especially in the developed countries where universal service goals have been achieved. Within OECD, liberalized markets have reached higher service quality standards than non-liberalized ones. The Federal Communications Commission quantified the

⁷⁰ Ben Petrazzini, Global Telecom Talks: A Trillion Dollar Deal. Washington, D.C.: Institute for International Economics, 1996, pp. 40-41.

⁷¹ Ben Petrazzini, "Competition in Telecoms—Implications for Universal Service and Employment, Public Policy for the Private Sector," Public Policy for the Private Sector, Note 96, The World Bank Group, October 1996.

⁷² "State monopoly in telecommunications opposed," Xinhua News Agency, April 6, 1999.

advantages enjoyed by OECD countries with competitive markets: 97 percent reduction in wait time to get telephone service, 17 percent lower call failure rate, 39 percent fewer faults per 100 lines, and 34 percent lead in number of phones digitized.⁷³

NATIONAL SECURITY

The Chinese government has also forwarded national security concerns. It fears that the introduction of foreign service provision would reduce its degree of control. MII Minister (then MPT Minister) Wu Jichuan repeatedly stressed the importance of national security and China's determination to retain complete control over the public telephone network. In China, the telephone network is viewed as a strategic asset. Along with the media, it serves as a primary means to maintain contact with the people. Any disruption of or tampering with that service would have serious ramifications on security matters. Thus, the Chinese view this issue as being great enough to warrant direct oversight over the telecommunications infrastructure.

The Chinese do not wish to have its communication backbone depending on the actions of a foreign company. In times of crisis, the foreign telecommunications firm could potentially find itself in a conflict of interest if the company originates from a hostile nation. The Chinese fear that such a company could be leveraged by the opposing government to obtain intelligence or to facilitate the sabotage of China's command and control network.

⁷³Ben Petrazzini, Global Telecom Talks: A Trillion Dollar Deal. Washington, D.C.: Institute for International Economics, 1996, p. 41.

National security has been a matter of great concern to China, especially given its history of relative isolation from the founding of the People's Republic of China to the beginning of the reform era. Concerning the dangers of having foreign service operators, the Chinese should examine the Israeli telecommunications model. Given the relative hostility of its neighbors, Israel is probably one of the most security conscious nations in the world. Many of the telecommunications networks, especially in the cellular market, are owned and operated by foreign firms. However during times of national emergency, the Israeli government reserves the right to assume direct control over the nation's telecommunications regime, even if foreign-owned.

The Chinese should also view the advantage of having some network redundancy created by competition. Given its value as a strategic asset, telecommunications networks should be reliable, modern, and redundant. Monopoly infrastructures will be less reliable and technologically inferior than those built by competition, and they will have little or no redundancy. During a time of natural disaster, such as the floods experienced by China during the summer of 1998, having an extensive and somewhat redundant telecommunications infrastructure would be highly desirable, since it would mitigate the risk of losing communications with the crisis area. It would be the most likely structure to save lives in time of emergencies, and it should be seriously considered in any national security analysis.

⁷⁴Joseph Kahn, "China determined to go it alone on phone service," The Ottawa Citizen, September 2 1997, p. C3.

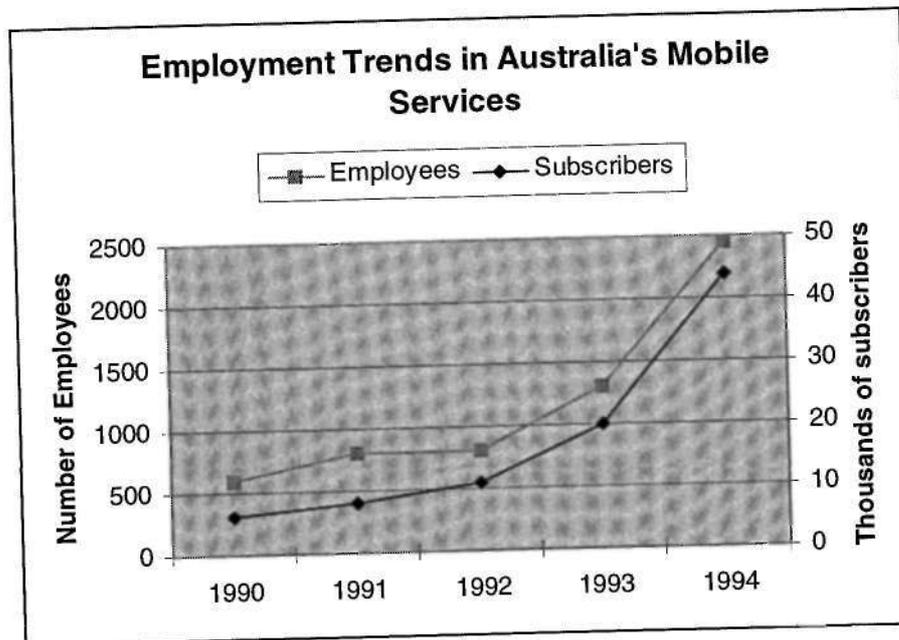
EMPLOYMENT

Employment and social stability remain key concerns for the Chinese government, and all signs indicate that liberalization in the telecommunications sector would stimulate job growth. With the introduction of additional carriers, telecommunications firms must hire additional people for marketing, sales, customer service, and software design. A study of 26 Latin American and Asian countries revealed that markets with competition consistently increased employment levels by an average of 16 percent. In contrast two-thirds of the monopoly countries witnessed a shrinking of employment by an average of 9 . 75 percent..

Competition generates significant impact in increasing market size and creating employment opportunities. In Australia, growth in mobile services up to 1992 remained moderate, growing approximately 30 percent over the period 1990-1992. After competition was introduced, jobs in the cellular sector tripled in the two-year period 1992-1994.⁷⁶

⁷⁵ Ben Petrazzini, Global Telecom Talks: A Trillion Dollar Deal. Washington, D.C.: Institute for International Economics, 1996, pp. 49-50.

⁷⁶ Ben Petrazzini, Global Telecom Talks: A Trillion Dollar Deal. Washington, D.C.: Institute for International Economics, 1996, p. 51.



Source: OECD

In India when competition was introduced, the incumbent operator (Department of Telecommunications) had to improve its marketing, and it opened thousands of public call offices around the country. The agency expected to expand its workforce from 700,000 to 3,000,000 by the year 2000. In the cellular markets, new mobile companies were hiring people at a hectic pace. The Birla-AT&T group planned to hire 5,000 employees within the first three years of operation. Given there are over thirty licensed mobile operators in the country, the employment figure for mobile telecommunications could easily exceed 100,000.⁷⁷

The deregulation of telecommunications has also created new industries and job opportunities in India. The software industry in Bangalore was created out of India's

⁷⁷ Ben Petrazzini, Global Telecom Talks: A Trillion Dollar Deal. Washington, D.C.: Institute for International Economics, 1996, p. 50.

high-skill labor pool and low-cost, reliable international communications. The industry had export revenue of \$300 million in 1994, and it expected to employ 100,000 people as of 1996. Indeed, advanced communications creates greater opportunities.

78

The Mexican example illustrates the efficiency and employment gains of telecommunications liberalization. A Price Waterhouse/Strategic Policy Research study revealed significant productivity gains among Telmex employees following liberalization in 1990. The number of access lines served per employee almost doubled from 85 in 1988 to 168 six years later in 1994. When examining the number of telephone minutes served by each employee, the study showed that the number increased by 130 percent, from 80 minutes in 1988 to 184 in 1994. Furthermore, the direct and indirect effects on job creation in the Mexican economy were substantial. The study estimated that the introduction of competition and Telmex privatization generated a total of 41,700-59,400 jobs for the Mexican people.

PRICES

Despite a recent announcement by MII lowering the cost of international, domestic long distance, and telephone installation charges,⁸⁰ Chinese consumers still complain about high telecommunications costs. Active competition would effectively address that issue. Among OECD countries, prices for international services with

⁷⁸ Reed E. Hundt, Chairman, Federal Communications Commission, speech at the Asia Society, Hong Kong, October 11, 1996.

⁷⁹ "SBC Communications Telecommunications Privatization in Mexico: Economic and Labor Impacts," Price Waterhouse and Strategic Policy Research presentation on November 12, 1996.

⁸⁰ Wang Chuangdong, "Ministry unveils fee adjustments," China Daily, March 1, 1999, p. 1.

competitive markets are on 11 percent lower on average than the OECD mean. In the United States, the 1984 placed great downward pressure on long distance rates. AT&T's prices fell more than 70 percent in real terms between 1983, the year prior to the breakup of AT&T, and 1991. Similarly in Japan, competition in 1986 resulted in Nippon Telegraph and Telephone's long distance rates falling by 50 percent between 1985 and 1992.⁸¹

A similar pattern is evident among the developing countries. Chile provides a good example. From 1989 to 1994, the country privatized and introduced limited competition. In the same period, local rates dropped an average of 36 percent, long-distance rates by 38 percent, and international rates by 46 percent. After full competition in international services was introduced in 1993, seven companies were offering low-rate international services. In 1994, international rates fell an additional 70 percent, giving Chile the lowest international prices in the world. The price of a call from Chile to the United States cost four times less than one from Brazil to the United States, and seven times less than one from Argentina to the United States.⁸²

In some cases, liberalization resulted in an increase in telecommunications rates, but those usually occurred in countries that had some form of cross-subsidization, e.g. high international long-distance rates used to help fund local services. This model was used in the United States during the AT&T monopoly during the pre-1984 era, and it has

⁸¹ Ben Petrazzini, Global Telecom Talks: A Trillion Dollar Deal. Washington, D.C.: Institute for International Economics, 1996, pp. 32-33.

been adopted by several other nations. For example, countries charge high accounting rates (the amount of revenue received from international calls) to fund national infrastructure construction.

Modern technology is beginning to make this model unsustainable in the future. Callback features present consumers with the option of originating international calls from the lower cost country; call routing permits calls to take advantage of differences among international settlement rates, even passing the call through the switchboards of several countries to connect the call at the lowest possible price. Internet Protocol (IP) telephony probably provides the newest, greatest threat, allowing users to dial anywhere in the world at the price of Internet connection. Initially opposing the usage of IP telephony because of the threat to international call revenues, China is taking initial steps to embrace it. In March 1999, ME licensed three Chinese companies—China Telecom, China Unicom, and Jitong—to conduct a six-month trial of IP telephony.⁸³ The results of these trials could have major impact on future developments and rate structures in the industry.

ADDITIONAL ECONOMIC BENEFITS

The benefits of a massive telecommunications infrastructure build-out in China would have tremendous economic impact. For the rural areas in China, the benefits of connecting the first telephone line to a village would provide invaluable benefits. It

⁸² Ben Petrazzini, Global Telecom Talks: A Trillion Dollar Deal. Washington, D.C.: Institute for International Economics, 1996, p. 33.

would allow village leaders to quickly request assistance during times of disaster. The communications link could be used to give villages access to highly trained physicians and to receive outpatient telemedicine care. Telephone service could also be used to educate children. From any region in China, Internet access would open the eyes of the young to the rest of the world.

Telecommunications services can also generate savings by cost cutting and promoting economic efficiency. In Uganda, an estimated 250 worker-years of government labor are annually wasted on approximately 40,000 administrative trips that could otherwise be served by telephone. A study in Yemen found that 10-25 percent could be avoided if good, reliable telecommunications were available. Given the current transportation situation in China—congested urban avenues and underdeveloped rural road systems—the value of a highly developed telecommunications infrastructure becomes self-evident.

SUMMARY

The telecommunications services industry in China is still virtually a state-run monopoly, although it is showing signs of changing. The Chinese people have voiced strong favor toward competition this sector. The government has responded with breaking up China Telecom and allowing limited foreign involvement in telecommunications services. Many Party conservatives still express apprehension toward

⁸³China starts to try IP phone," Xinhua News Agency, March 17, 1999.

full liberalization; however, technology changes and recent experiences by other nations provide insight to answering their concerns.

In addressing natural monopoly concerns, recent technological advances have allowed for direct competition. In the United States, digital microwave and switching technologies allowed secondary carriers to compete effectively against AT&T. Competition also creates provides incentive for efficient allocation of resources and greater opportunity for market expansion.

Universal service remains a key concern. Many fear that foreign companies will serve only the most lucrative markets and neglect the underdeveloped regions of the country. Countries such as Chile have answered the need by creating a rural telecommunications fund, financed from government revenues. The fund is then used to subsidize lower return projects.

Network service and quality have demonstrated signs of improvement with market liberalization. To establish an advantage over their competitors, companies will adopt the new technologies. As a result, digitization is highest among countries with competition. Customer service also improves with competition, since customers ultimately reserve the right to switch service.

National security also presents a tough challenge. Countries desire self-reliance, especially with strategic assets such as telecommunications. Israel responded by reserving the right to assume control over all communication assets during times of crisis.

⁸⁴ Ben Petrazzini, Global Telecom Talks: A Trillion Dollar Deal. Washington, D.C.: Institute for

Competition will create some redundancy in the telephone network. During times of natural disaster, the redundancy will serve to mitigate the risk of losing communication with the crisis area.

Employment has remained a critical issue during China's reform of state-owned enterprises. The Chinese government should be comforted in knowing that introducing competition will not only generate new jobs, but it has also created new markets, such as the software development industry in Bangalor, India. One study of Asian and Latin American countries revealed that markets with competition in telecommunications significantly increase employment levels.

In most competitive environments, prices tend to fall. This is also true in telecommunications services, leading to price drops as high as 50-70 percent. Exceptions to this rule include instances of cross-subsidization of telephone rates, e.g. using high international rates to help fund local service; however, this scenario will be unsustainable. Technological advancements—such as callback, call routing, and Internet Protocol telephony—will seek the lowest cost alternative and impact rate structures in the near future.

The benefits to liberalization and market competition are overwhelming. The Chinese have realized this lesson, and they have taken the initial steps to open to the outside world. Recent developments in the telecommunications sector have been

encouraging, and these will definitely benefit the Chinese people as the country heads into the next millennium.

APPENDIX A: MINISTRY OF INFORMATION INDUSTRY

Minister: Wu Jichuan, former MPT Minister
Vice Ministers: Lu Xinkui, former MEI Vice Minister
Qu Weizhi, former MEI Vice Minister
Zhou Deqiang, former MPT Vice Minister

Director-Generals and descriptions of the 13 functional departments of ME:

General Office

Director-General Cheng Guanghui
Deputy Director-General Guo Hao, Zhou Baoyuan, Chi Quanguo

Executes administrative work, including coordination, meeting planning, publicity, public relations, and financial affairs.

Department of Policy and Legal Affairs

Director-General Liu Cai
Deputy Director-General Ji Jinkui, Zhao Meizhuang

Researches and enacts laws, regulations, and policies pertaining to the information industry sector, international cooperation, and important reform programs.

Department of Comprehensive Planning

Director-General Wang Jianzhou
Deputy Director-General Wang Jianzhang, Jiang Shaobing, Liu Rulin

Researches and drafts strategic development plans for the electronic information product manufacturing industry, communications industry, and the software industry; coordinates the construction of the basic telecommunications network, computer network, radio and television networks, and other special communications networks so as to promote the development of public networks and special networks; coordinates the development of service and manufacturing industries; manages the allocation of resources to prevent redundant construction; oversees construction budgetary matters; sets guidelines for the import of technology, promoting foreign investment and international cooperation; formulates standards and norms for the design and construction of communication and information networks; macro-manages the communication and information network construction market; and gathers statistics and publicizes industry information.

Department of Science and Technology

Director-General Xu Shuncheng

Deputy Director-General Wen Ku, Chen Xiaozhu

Tracks international trends in information technology; formulates technological development programs and policies; composes technological standards for public communication networks; handles network suffix planning; drafts technological standards for radio and television network systems; coordinates significant research projects and promotes the industrial application of advances in scientific research; inspects the quality of electronic information products; and administers electronic information technology standards and measurements.

Department of Reform and Economic Operations

Director-General Li Zhiming

Deputy Director-General Lin Yuanfang, Zhou Zixue

Drafts enterprise reform plans and sets guidelines for enterprise reform, reorganization, transformation and management; handles significant issues relating to enterprise reform; formulates policies and measures to promote the development of large enterprises, and guides state-owned enterprises through their strategic reorganization; monitors economic operations; collects and analyzes statistics pertaining to economic operations; forecasts annual development estimates; macro-manages the electronic information products market; and administers the import of electronic information products.

Telecommunications Bureau

Director-General Zhang Chunjiang

Deputy Director-General Chang Xiaobing, Zhou Baoxin, Wang Xiujun

Formulates development plans, policies, and measures for the telecommunications industry; exercises supervision over telecommunications and information services to ensure fair competition and to protect the legitimate interests of consumers; approves and issues licenses to telecommunication and information service providers; supervises service pricing and quality; formulates and enforces methods of interconnection and revenue settlement between telecommunications networks; distributes and manages telecommunications network suffixes; administers Internet domain names and websites domestically and internationally; certifies telecommunications network equipment connection standards; manages network access telecommunications terminal equipment; organizes and coordinates the construction and management of the special telecommunications networks of party and government institutions; manages the State Telecommunication Network Monitoring and Control Center, State Telecommunication Entry-Exit Control Bureau, and Internet Security Control Center; directs the emergency telecommunication system; and researches and addresses problems regarding national telecommunications networks and information security.

Department of Economic Adjustment and Communication Revenue Settlement

Director-General Wu Andi
Deputy Director-General Zhang Xiaotie, Xue Taohai

Implements and enforces laws, regulations, and government policies concerning accounting systems and the management of national assets; formulates and enforces financial regulations for the telecommunications industry; formulates rules for financial tabulation and reporting by postal and telecommunications enterprises, and determines the rate of government appropriation and the rate of profit to be handed over to the state, as well as settlement of telecommunications enterprises; subsidizes services in accordance with relevant government regulations; sets telecommunications, information, and postal service rates; manages budgetary funds.

Department of Electronic Information Products

Director-General Zhang Qi
Deputy Director-General Xie Linzhen, Zheng Minzheng, Chen Chong

Formulates medium- and long-term development plans, policies, and measures for the software and electronic information products manufacturing industries; guides the development of product lines; organizes the development and production of fundamental products including large system equipment and micro-electronics, localizes the production of equipment, components, appliances, and materials required for major projects; composes industrial investment guidelines; and promotes the practical application of electronic information technology.

Military Electronic Bureau (Special Electronic Equipment Bureau)

Director Bao Yanghao
Deputy Director Liu Xiaoying, Wang Shaoxiang

Manages military electronic industry.

Information Promotion Department (replaces the former State Information Office)

Director-General Song Ling
Deputy Director-General Zhao Xiaofan

Formulates development plans to promote the application of information technology in the national economy and society; guides the application of information technology in all regions and industries; assists industries in their effort to promote significant information projects; promotes the development of the software industry; formulates policies and measures relating to the development of information resources; coordinates the development and application of information resources and information security technology; and promotes the application of information technology through publicity and education.

Radio Regulatory Bureau (replaces the former State Radio Regulatory Commission)

Director Liu Lihua

Deputy Director Zhu Sanbao, Chen Ruming

Plans and rationally allocates radio frequencies; oversees the operation of radio stations; handles matters relating to radio-magnetic interference to maintain radio wave order; exercises radio control in accordance with the law; coordinates satellite orbit positioning; organizes delegations to participate in international radio conferences; and manages foreign radio matter.

Department of Foreign Affairs

Director-General Zhao Xintong

Deputy Director-General Zhan Xuan, Qu Wenchu

Oversees China's entry into international information industry organizations; coordinates the signing and implementation of intergovernmental agreements concerning telecommunications and information issues; drafts policies on international economic and technological cooperation in the information industry and handles matters concerning international cooperation; and examines and approves proposed Chinese international delegations and visits.

Personnel Department

Director-General Liu Yangsheng

Deputy Director-General Zhou Nairui, Lin Yihong

Manages personnel and training, including personnel from overseas.

APPENDIX B: CHINESE CONCESSIONS

Excerpts from "Market Access Commitments of the Government of China on Goods, Services, and Agriculture," Office of the United States Trade Representative press release 99-34, April 8, 1999.

Broadly speaking, the market access commitments China has made will bring China at or above existing WTO standards on issues and sectors of major concern to the U.S. They address each layer of Chinese trade barriers to American exports.

In each case, the U.S. has achieved commitments that address the principal barriers to American products; are highly specific and fully enforceable; are phased-in over a relatively short period of time, with increased market access in every area as of day one of China's ultimate accession; do not offer China special treatment; and meet or exceed commitments made by many present WTO members. The commitments include:

- Significant market access benefits effective immediately on China's accession.
- Full market access for U.S. firms to distribute their products throughout China.
- Tariff reductions immediately upon accession, with further phase-ins over reasonable periods of time to levels below those of most U.S. trade partners.
- Bindings for all tariffs—i.e., China will be unable to raise tariffs again after accession.
- Elimination of quantitative restrictions.
- Resolution of outstanding problems with sanitary and phytosanitary standards for key agricultural products, effective immediately.
- Participation in the three major multilateral agreements negotiated since the Uruguay Round: the Information Technology Agreement; the Agreement on Basic Telecommunications; and the Financial Services Agreement.
- Commitments to more open service sectors which cover the broad range of sectors, including distribution, value-added telecommunications, insurance, computer and business services, environmental services, franchising and direct sales, legal and accounting, sound recordings, and entertainment software.

Tariff Reductions In High Technology—China will implement the Information Technology Agreement. This will reduce tariffs from present levels averaging 13.3% to zero for semiconductors, computers, computer equipment, telecommunications equipment and other information technology products. Most of these tariff eliminations will be phased in by 2003 with some exceptions until 2005. All other Information Technology Agreement participants will have implemented tariff cuts by 2005.

Quotas and Other Non-Tariff Measures—WTO rules bar quotas and other quantitative restrictions. China has agreed to eliminate these restrictions immediately on accession for top U.S. priorities and with phase-ins limited to five years for others.

China will eliminate existing quotas upon accession for the top U.S. priorities (e.g. some fertilizers and fiber optic cable). It will phase-out remaining quotas, generally by 2002, but no later than 2005.

Telecommunications Services—China now severely restricts sales of telecommunications services and bars foreign investment. China's commitments mark its first agreement ever to open its telecommunications sector, both to the scope of services and to direct investment in telecommunications businesses. Through these commitments, China will become a member of the Basic Telecommunications Agreement. Specific commitments include:

Regulatory Principles—China now allows its telecommunications bureaucracies very wide discretion to apply arbitrary and discriminatory standards. China will now agree to implement the pro-competitive regulatory principles embodied in the Basic Telecommunications Agreement (including cost-based pricing, interconnection rights and independent regulatory authority), and agreed to technology-neutral scheduling, which means foreign suppliers can use any technology they choose to provide telecommunications services.

Scope of Services—China will phase out all geographic restrictions for:

- paging, value added and closed user groups: 4 years
- mobile/cellular: 5 years
- domestic wireline services: 6 years

China's key telecommunications services corridor in Beijing, Shanghai and Guangzhou, which represents approximately 75% of all domestic traffic, will open immediately on accession in all telecommunications services.

Investment—Under present circumstances, China allows no foreign investment in telecommunications services. With this agreement, China will allow 49% foreign investment in all services, and will allow 51% foreign ownership for value added and paging services in 4 years.

Investment and Technology Transfer—These provisions will also help protect American firms against forced technology transfers, as China has also agreed that, upon accession it will not condition investment approvals, import licenses, or any other import approval process on performance requirements of any kind, including:

- . local content requirements,
- offsets,
- . transfer of technology, or
- . requirements to conduct research and development in China.

These are significant commitments that go a long way in addressing concerns about the terms and conditions of investment in China, and the government's role in what should be commercial decisions.

APPENDIX C: NOTES FROM BEIJING TRIP, MARCH 1-5,1999

March 1, 1999

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AmCham proposals

- Favors Chinese accession into WTO
- Advocates legislation of Chinese telecommunications law
- Advocates separation of government regulation from network operation

Liberalization impact in insurance

- Shanghai: let in foreign companies
- Market size increased; share of Chinese companies decline from 100% to only 85%
- Competition in services resulted in market expansion
- Chinese view manufacturing sector as zero-sum scenario: if foreigners sell, then Chinese do not sell

Securities firms

- Less foreign speculation
- Chinese do not understand ROI

Premier Zhu is a central planner

- Use markets only for discipline
- Desire to maintain central control

Market forces

- Allowing competition (including U.S. firms) would regulate economic activity
- Encourage innovation
- Expand market

Chinese policy factors

- Fear of chaos
- Fear of losing sovereignty
- Foreigners should not be allowed to control something that should be Chinese

March 1, 1999

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References

- USITO presentations from invitees: Sep/Oct 1997, Oct 1998
- AmCham position paper
- Chinese arguments from professors, MRFT
- Michael Borrus from U.C. Berkeley

China is not considering any one national model in reforming the telecommunications sector

- Japan and Germany liberalizing more slowly

CCF model

- No more CCF
- Current projects to be reviewed
- Seen as step backward from liberalization

March 5, 1999

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Breakup of China Telecom

- Telecommunications licensing system being introduced
- Press calling for lower tariffs
- CDMA lobby

U.S. model

- Debate on how to open services
- Zhou Qiren, Beijing University; Wang Xiaochang for CT; Fang Hongyi from SARFT
- FCC model appeals to consumers, supported by SETC and the public

Press has been criticizing telecommunications prices and service quality, started late 1998

FCS conducted round table in October 1998

- Universal services: cause to block China Unicom
- Corbett presented telecommunications reference paper
- Attended by Chinese think tanks
- Stimulated flurry of articles

Issues

- Market liberalization
- Benefits of competition
- Universal service
- WTO entry
- Telecommunications reference paper

Zhou Qiren article

- Introduction of foreign technology and expertise benefits China's growth
- Consumer electronics example: Hai'er now leading in market share
- Competition improves quality, now Chinese firms kicking out foreigners
- Liberalization brought China to world standards

Competition between SARFT and CT

- Cable modems can now be used for data transmission in addition to television
- SARFT wants to provide voice service, create competition
- State Council response: stay in your own realms
- SARFT national backbone nearly complete, possibilities with IP telephony

Unicom

- Introduced to bring about competition
- Brought GSM to China
- Currently possesses only 2% market share
- Leadership change, mostly from MII
- May go public in a couple years

Premier Zhu Rongji

- Wants competition in the sector
- Separation of operator from regulator
- Resolve interconnection issues
- Regulator should remain neutral

MIIT Minister Wu Jichuan

- Power is waning
- Expected to step down in 2-3 years

Models for CT breakup

- AT&T breakup (1984)
- All MIIT proposals for breakup have been rejected
- Speculation that CT will be broken along functional lines with fixed telephony further divided along regional lines

March 2, 1999

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Liu Cai

- Telecommunications experiencing 12% growth rates compared to the economy (less than 8%)
- China Telecom is doing well on its own
- Why liberalize?

Virtues of competition

- U.S. ongoing for 15 years
- Need for independent regulator
- Visit by FCC Chairman, Secretary of Commerce, companies

Recognize competition is necessary

- Chinese want only domestic companies
- Highly profitable sector
- Law is taking a long time to work out
- Fear of foreign companies entering only the most profitable sectors

Universal service

- MII Minister Wu bragged about building the line to Lhasa
- Experiencing only 5% return
- Who else would build that line?
- Counter-argument: Create a universal service fund

National security

- Chinese want access to monitor conversations
- Iridium restructured from using direct satellite linkup to passing through ground station

Wu Jichuan

- Conservative
- Believes in monopoly in being more efficient in resource allocation
- Monopoly builds his personal power base
- Eliminated opponents
- Ended CCF Unicom deals, will probably result of buyout of MetroMedia and Sprint stakes

Breakup of China Telecom coming from Zhu Rongji

CDMA

- Situation unknown
- Limited expansion?
- China deliberately going in against U.S. standards, choosing European to offset U.S. power, as evidenced in barcoding, electrical voltage/frequency

Chinese realize that competition is good

- Evidenced in breakup of China Telecom
- Anticipate spinoff companies will jump into other markets within 2 years

Telecommunications liberalization will have a massive growth effect into other sectors

- Cause for boom in the U.S.

Chinese are eyeing the Korean chaebol model in bringing about economic reform

Problem in reforms

- Asian crisis
- Power relationships within the government
- Zhu had to backpedal

U.S. companies losing patience

- Ameritech, SBC, GTE
- People closing up shop
- Property values declining
- Business more secure in Europe

National security concerns

- Codes to Iraqi missiles
- Encrypted sabotage
- GSM chose for appearance of security, although the system is very insecure

Concerns with current Chinese telecommunications liberalization

- Lack of national champion
- National security
- Development of remote areas
- Ability to compete internationally
- Development of expertise
- Network security
- Lack of management skills

CCF

- Sprint/Metro One
- Chinese backed down from taking action against current deals due to foreign pressure

Consumer interests

- Note recent reduction in telephone installation charges
- Reduced network access charges
- Growing consumer movement, clamor for quality

Domestic production desired

- Semiconductor, telecommunications equipment
- Chinese currently have no know-how in managing its network
- Foreign companies apprehensive to give
- Chinese do not want to pay
- Chinese equipment contains advanced technology, but they do not know how to use it

Pro-liberalization issues

- Argument counter-intuitive
- Telecommunications sector doing well, generating revenues second to tobacco tariffs
- Chinese desire China Telecom to go abroad
- MII officials dismiss pro-liberalization examples as not applicable
- Decisions not necessarily rational

Anti-liberalization issues

- Universal service
- Cream-skimming
- Chinese concerned of being dependent, want national champions

Economy slowing down

- People getting disappointed
- Status symbols change

MII Minister Wu made a lot of enemies

- Academics, think tanks
- SDPC, SETC
- Wu being forced to change

March 4, 1999

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Started in China with Asia-American Commodities

- Partner with Metro Media
- Sichuan/Chongqing/Ningbo GSM venture
- Estimated \$500 million investment
- Required 25 joint ventures due to \$30 million investment cap
- Sought to lift investment ceiling
- Unicom would not sponsor

Xinde classified as a finance leasing company

- Not subject to \$30 million cap
- Can do projects with only one JV
- Lease of telecommunications equipment to Unicom
- Currently operates 3 or 4 GSM networks
- Positive responses from operator
- Ventures are cash positive
- Foreigners possess some degree of control
- 2-3 committee members from investors, 2-3 members from Unicom
- Roles of drafting budgets, implementing schedules, and participation on board
- Control via approval of project work plan

Unicom

- Never concerned with ROI or maximizing ROI
- Poor management, both technical and managerial

Xinde lease allows

- Greater flexibility in negotiations: \$30 million cap, 30% registered capital by investors
- Rest funded from debt financing, guaranteed by foreign investor
- Xinde has no investment ceiling and no registered capital
- Minimization of risk exposure
- Long-term solution: members on the board and equity positions

Who wins, and who loses with current structure?

- Enormous benefits to China: employment, training, technology transfer, tax revenue
- Unhappy investors: most willing to leave, sell out, making less than cost of capital

Contrast with Hong Kong example

- Entry of 4 mobile and 6 PCS operators
- Fits Zhu Rongji's emphasis on infrastructure development
- Hong Kong Telecom's mission statement: to provide higher EPS for stockholders (note focus on shareholder return)
- Mindset not in China: Key managers are getting rich, not shareholders

Lack of transparency

- Attempts to audit Unicom deals, but never given appropriate information

Philippines

- Introduction of universal service obligations when foreigners entered

Taiwan

- Good engineering plan
- Minimal waste of capital investment
- Fear of redundant capital investment

China Telecom open to FDI?

- Why not have CT gain foreign expertise
- CT listed in Hong Kong and New York to raise foreign capital
- Telecommunications network operations currently poor
- China wants to make the shift to PCS/VAS

Challenges

- CT has high volume customers
- Next move into the countryside
- Volume per line to decrease
- CT crunched by universal service obligations

March 1, 1999

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ME Minister Wu is losing his power base

- CCF review
- China Telecom breakup
- Pressure for reform coming from State Council, SDPC, Ministry of Finance

Influential research organizations

- ETDRC
- ME Information Center
- China International Engineering Consulting Company

Study announced

- Looking into employment and economic growth aspects of telecommunications reform
- SDPC presentation on national backbone development, service-oriented competition, and implications on infrastructure and overall economic development
- Report to SDPC for the 10th Five-Year Plan (2001-2005)

China wasting \$6 billion/year from current tariff costs

- Articles from ETDRC and Zhou Qiren

No specific country is being benchmarked in introducing reforms

- Chinese looking at Germany, Japan, and the U.S.
- German model: high control, buildup of infrastructure from public sector
- U.S. model: powerful private sector, economic justification for buildup

MII feels current infrastructure is sufficient for the next 30 years

- Key is to encourage efficient usage, not build-out
- Value of foreign companies: make operations more efficient
- Price will be the determining factor
- Telecommunications services highly elastic

Network is very advanced

- Everyone connected to backbone with high-speed lines
- People not necessarily demanding the service
- Chinese desire newest technology

Chinese hope that competition will cause a reduction of tariffs

- Lower cost of services
- Stimulate the economy
- Faster deployment of technology
- Push for domestic competition

Breakup of China Telecom

- Allow crossover within a couple years
- creation of new operators
- new entrants allowed to compete

Sensitive telecommunications issues

- High initial investment
- National security: vulnerability to information war

Chinese need expertise in developing and managing networks

- Develop ability to employ the new technologies
- Convergence in advanced networks, including IP telephony, video, and data