Chapter V

CHINA’S TELECOMMUNICATIONS SECTOR AND ITS IMPLICATIONS

I Introduction

China’s telecom is one of the fast growing sectors in the world. Constant upgradation of technology and monitoring of communication have put up several challenges for the Government to constantly restructure the sector. There is pressure to develop telecom infrastructure in the country as China made commitments to open up the sector. Free and fair competition in the market needs to be carried out in a transparent and efficient manner. While doing so, the Government faces the key challenge of monitoring the flow of communication with the entry of foreign players for safeguarding its own national security. China has already made certain commitments in the GATS under the WTO to open up its telecommunications sector further after joining the WTO. These are geographic restrictions on paging and value-added services which will be phased out two years after the WTO accession while the phasing-out period for mobile and domestic fixed line services will be five and six years respectively. Such commitments are important to measure the future growth of the sector.

This chapter makes an attempt to analyze the telecommunications sector in detail in China especially after it has joined the WTO. Though the chapter aims to take into account the historical perspective of the sector, it devotes adequate analysis to the post-WTO regime. The chapter is organized as follows. First, it provides an overview of the structural and policy changes and framework starting with the reform process in 1978 to its accession to the WTO. Second, it deals with the telecom market situation in China after acceding to the WTO. It describes the domestic component of China’s telecommunication reforms and also as to how domestic industry has performed during this period. It also provides an analysis of telecommunications services growth while exploring as to how liberalization of services has contributed to the growth of China’s economy, and assesses dimension of regional employment in the sector. Third, it analyzes the implications of the WTO’s services commitments on China and
its relations with major powers. The issues of foreign direct investment, sovereignty and national security have also been addressed. Fourth, it summarizes main findings of the chapter.

II Overview of Structural and Institutional Policy Changes in the Telecommunications Sector in its Accession to the WTO

China's telecommunications sector witnessed a series of fundamental institutional changes and strong centrally planned initiatives during the eighties and the nineties. These initiatives radically changed the incentive structure of telecommunications enterprises and their business environment. When China began modernizing its economy in the late seventies through structural reforms, the telecommunications sector appeared as a visible bottleneck in the economy. The inaccessibility of the infrastructure hindered the advancement of reform programme. This hindrance had raised serious concerns among the policy makers. By then China was fully aware that the sector was significantly backward and there existed remarkable gap between supply and demand.

Moreover, the Chinese telecommunications sector remained a strong state monopoly since the early eighties when several government circulars were issued to protect it. It was one of the most centrally planned and controlled sectors where market entry, pricing, and business organizations completely remained under the regulation of the state through the Ministry of Posts and Telecommunications (MPT) (Bhalla and Qiu 2004:120). To correct the system and make it useful for the running of the economy, the State Council intervened and took an active part to reform the telecommunication system. Its earlier realization of telecommunications sector along with transport and energy as the big bottleneck for economic growth pushed the leadership further to designate telecommunications as the area for priority development (Yu et al. 1999: 479). This resulted in the telecommunications industry witnessing four phases of development—featuring four significant reforms. These processes were carried out in anticipation of promoting healthy competition in the industry. A number of reforms were introduced to make the telecom sector grow from a bottleneck to an expanding strategic sector.
Since 1990s the telecommunications sector has been undergoing profound changes across the world. Technological advancement coupled with ever increasing business activity has necessitated the evolution of this sector on a continuous basis. More and more opportunities coming in the wake of globalization influenced many developing countries to re-look into the specificity of this sector, so as to benefit optimally from the ever expanding global markets. Following this general pattern, China had developed a sophisticated telecommunication network since the 1990s.

Thereafter the telecommunications sector in China has undergone a sea change. From a completely state controlled, regulated, and operated sector, it has moved towards liberalization and privatization of the sector by introducing structural adjustment and institutional changes. These include: revamping of the Ministry of Posts and Telecommunications (MPT); creating the Ministry of Information Industry (MII) for regulation of the industry; and introducing private capital and competition in the industry. This experience of competition and liberalization of the industry allowed the economy to benefit immensely from the overall application of the sector in the conduct of the economic activities of the country. With the onset of liberalization, a number of players have been allowed to operate in the domestic market. It has helped the sector in many ways; allowing the telecommunication industry to experience significant growth and providing better service facilities to the consumers.

II.1 Initial Development during 1978–1993

In the first phase a major initiative was taken to restructure the earlier semi-military administration in the Ministry of Posts and Telecommunications (MPT) system. The MPT is the functional organ of the State Council responsible for providing country-wide postal and telecommunications services. In 1979, the State Council took interest in reorganizing the MPT. It wanted to make the MPT as the central planner of the entire country-wide postal and telecommunications development. It issued a directive to reorganize the entire setting of telecommunication network in the country. All the local postal and telecommunications enterprises came under the dual control of provincial governments and the MPT, the latter becoming the main decision maker. As stipulated by the directive, the government administration and business management remained separated. The postal and telecom administration had to
As decentralization slowly gained acceptance in the country, the local postal and telecommunications administrations (PTAs) were set up at the provincial level under the dual leadership of the MPT and the provincial governments. From 1983 to 1985, the MPT introduced a new accounting system known as “Enterprise Own Revenue;” an exhaustive methodology mainly created to calculate the revenue of an individual postal and telecommunications enterprise. Thereafter all the Post and Telegraph Enterprises (PTEs) had established their independent accounts and started to operate on a system of contractual responsibility in which their earnings were linked to their business performance (Jain et al., 2000:16). Since then, the administrative structure of China’s telecommunications sector has evolved as a vertically organized hierarchical structure. The national ministry at the top is responsible for overseeing the planning and management of the industry. It controls international and interprovincial communications and was in charge of setting and enforcing various technical standards and formulating key policies. The PTAs performed similar role at the provincial level. Hundreds of municipal and prefecture bureaux were created and remained under its rule.

By mid-1980s, Li Peng, the then Vice Premier had taken keen interest in revitalizing the telecommunications sector. He had mobilized the interests of the Government to indicate the huge importance the sector was assuming, as China was trying hard to integrate itself with the world economy. The framework of long term policies of the sector was laid down during mid-1980s, in line with the renewed emphasis Deng had placed on science and technology. A leading group for the revitalization of electronics industry under the stewardship of Li Peng took the responsibility of propelling the growth of this sector as part of the drive to electronic age. Like in South Korea, Singapore and Taiwan their respective governments took the full advantage of electronic age to promote their telecom manufacturing. China began to approach telecommunications as a crucial sector; a vehicle to stimulate domestic equipment and component manufacturing. Indigenous enterprises like Huawei Technologies and Zhong Xing Telecommunication Equipment Company Limited (ZTE) were supported by the Government to produce quality products. In the mid-eighties, although they
were in their early stages of growth, they were encouraged to adopt a "Go Out" (Li 2006: 1) strategy to upscale their products and compete with major multinational firms like Motorola and Nokia. Though China was trying hard to promote its domestic companies, yet it knew it had to develop advanced telecommunication networking and the role of foreign players in the sector was inevitable. This role of active participation of foreign players grew during this period as it insisted upon foreign suppliers of telecommunications equipment entering into technology transfer agreements through joint ventures to China. In 1985 under this stimulus, the MPT submitted a fifteen-year plan for telecommunications development to the State Planning Commission. The MPT had set up a highly ambitious plan. By the year 2000, the country was expecting to have a teledensity (lines for 100 people) of 2.8 (Ure 1997: 16). In fact, the targets were achieved far ahead of schedule.

The Government further initiated some major reforms in 1988 when the MPT underwent a deeper revamping. Beijing announced the so called "sixteen character policy" for telecommunications infrastructure development. The policy was summarized by four principles (Wong and Lu, 2002: 334-335):

1. Overall planning of industrial development should be unified under the MPT.
2. Ministerial administration should be coordinated with regional authorities.
3. Responsibilities should be defined and shared among different administrative levels.
4. Construction of infrastructure should mobilize resources from all concerned.

Following these principles, postal and telecommunications investments were largely decentralized in the late eighties. The Seventh Five-Year Plan (1986-90) stipulated that the intra-province telecommunications projects to rely mainly on local financing. Institutions and individuals were also encouraged to invest in infrastructure proposals. During this time the MPT established the Directorate General of Telecommunications (DGT) and the Directorate General of Posts (DGP) to incorporate business enterprise functions.

This came to be known as China Telecom with 29 provincial postal and telecommunications authorities (PTAs), all of which offer local and long distance services. The PTAs located in the advanced cities like Beijing, Shanghai, and Guangdong also provide international services. The MPT also handled the regulatory
matters through its Department of Policy and Regulation and other governmental functions were looked after by the Telecommunications Administration Department, the Department of Science and Technology and the Department of Finance. Thus these set of reforms provided financial administrative autonomy to the PTAs. Given the policies, technological improvement and supporting factors, sources were further mobilized to promote the rapid development of the telecom industry. After consistent efforts the sector made progress in terms of network size, level of technology and service. By the end of 1993, telephone penetration had reached 2.2 percent across the country (Baark 2009: Personal Interview). China established an extensive communication network with the application of technologies and equipment like programme-controlled exchanges, mobile communications, data communications, optical fibres, digital microwaves, etc.

Table 1: Growth of China's Telecommunications Sector, 1978-1994

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone Switching Lines</td>
<td>1.7 million</td>
<td>48.8 million</td>
<td>6%</td>
<td>23.1%</td>
</tr>
<tr>
<td>No. of Long-Distance Calls</td>
<td>186 million</td>
<td>7,777 million</td>
<td>11%</td>
<td>26.2%</td>
</tr>
<tr>
<td>Revenue (RMB)</td>
<td>6,039 million</td>
<td>53,900 million</td>
<td>6.6%</td>
<td>14.6%</td>
</tr>
<tr>
<td>Investment (RMB)</td>
<td>266 million</td>
<td>61,500 million</td>
<td>6.8%</td>
<td>40.5%</td>
</tr>
<tr>
<td>No. of Phone Subscribers</td>
<td>1.9 million</td>
<td>28.8 million</td>
<td>6.6%</td>
<td>18.4%</td>
</tr>
</tbody>
</table>


Another set of policies implemented in China during the late eighties also held the key to liberalized policy changes of telecommunications sector. This includes economic assistance to the MPT in the form of the ‘three 90 percents’: 90 percent of Central government’s loans may not be repaid, PTA could keep 90 percent of its taxable profits, and the MPT could retain 90 percent of its foreign currency earnings from incoming international traffic (Ure1997:16). The policy was a great success as some of the results are seen in Table-1.
Tougher Competition due to Industrial Restructuring during 1994–2001

Till mid-1994 China’s telecommunications industry was not competitive. China Telecom, one of the biggest state-owned enterprises (SOEs), was managing the communication services and distribution network as the only single service provider in the country till 1994. Till this period it remained under the control of the Government. The Chinese people were not satisfied with the poor service and high fees charged by the SOE. In addition, the weak telecom infrastructural facilities faced by the domestic as well as export oriented enterprises also put pressure on the Government to introduce competition in the domestic market. Process of accession to the WTO had also necessitated this urgency. The Central leadership thought that competition was necessary for two purposes. First, the domestic industry needed to provide better and more telecom services to the Chinese customers. Second, local service providers needed to improve their competitiveness against foreign rivals when China would open its domestic market to the world.

As the telecom sector began to witness competition in China, changes in the telecom services were noticed. Propelled by the global demand and situation, China initiated the process of liberalization and privatization of the sector. Several small steps were taken starting in 1994. China Telecom was split in 1994 to two as China Telecom and China Unicom, another government backed company. China Telecom was separated from the MPT. Further, a set of organizations were created to provide value added services to the wide ranging demands of the consumers. Soon China Telecom faced competition from China Unicom. This was another state sponsored organization supported by the Ministry of Electronics Industry, the Ministry of Railways, the Ministry of Electric Power, and a few more state run enterprises which had shown interest in entering China’s telecom services market (MII, Annual Report, 2000).

In 1994, China for the first time witnessed movement of privatization in the telecom market. The move was made to introduce competition in the industry to improve service quality and production efficiency. As China witnessed competition in the market in the mid-nineties, overall service facilities and infrastructural support were improved. Competition could set in lower tariffs and installation fees, shorter time for waiting and better service. Competition also forced companies to adopt more advanced technologies.
With this change in the market it is observed from the Table 2 that the numbers of long-distance calls during the year 1994 were 7777 million. It increased to 21,998 million by 2001, almost a three-fold increase.

Table 2: Growth of China’s Telecommunications Sector, 1994–2001

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Long-distance Calls (million)</td>
<td>7,777</td>
<td>10,139</td>
<td>12,739</td>
<td>15,540</td>
<td>18,259</td>
<td>17,825</td>
<td>21,075</td>
<td>21,998</td>
</tr>
</tbody>
</table>


Through this policy and the central direction of surpluses from the wealthier provinces such as Guangdong and municipalities of Beijing and Shanghai to the poorer central and western provinces, the Ministry wanted to narrow the gap between them (Ure 2007: 9). By 1997 the Government realized that the policy was no more required to lure the MPT and the PTAs to expand the network. The initial advantage of striking a better rate of growth of telecommunications was achieved within couple of years of its implementation. As years went by, the policy failed to maintain the expansion of network at the provincial level because it could never provide business license or legal sanction to local and postal telecommunication bureaux in the mould of an enterprise. Enterprise was still not a very familiar term in the Chinese business and administration, especially the functional definition of an enterprise was not very clear in the Post and Telegraph Ministry of Chinese establishment. As the policy failed to infuse enterprising venture into the Chinese society, the Government repealed the ‘three 90 per cents’ policy in 1995 (Harwit 1998: 187).

In 1996, there were already about 93 million telephone lines and 78 million telephones (Harwit 1998:184). Such ambitious results were far ahead of the Government’s schedule of establishing a vast network of telecommunications in China by 2000. This ambitious task became achievable because the Chinese government took adequate measures in the policies to expand the network. Rapid expansion of telecommunication
network in the late nineties in the country only justified the significance the Central Government had attached to it by declaring it as one of the seven priority areas in 1986 (*Telecommunications Development Asia Pacific* 1994: 67–70).

By the end of 1996, telecommunications sector was fairly well developed in the Chinese market. The MPT formally announced that the telecommunications infrastructure in China was finally equipped to satisfy the basic demand of the economy and the public. This was an important turning point where the Chinese telecommunications market had turned into a buyer market rather than a seller market (Kan 1999: 9). Looking at the success rate, the Chinese Government pushed the telecommunications industry to adopt the policies and mechanism of the market economy. Operational efficiency became more important as the Government realized that the high growth rate of telecommunications had mainly resulted from the preferential policy that it adopted in the early nineties.

Besides the influence of policy change as a direct cause of telecom growth, changing life style pattern and rise in savings since 1990s were attributed to the growth of telecom sector. Since the early nineties, there has been a marked rise in the living standards of the Chinese people. The yearly growth of consumption per capita has been about 15 percent, and annual average growth in the savings deposit balances of residents have been over 50 percent since 1978. The four cities with the highest per capita consumption are Shanghai, Beijing, Tianjin and Chongqing, while the five provinces with the highest total personal consumption are Sichuan, Guangdong, Shandong, Jiangsu, and Liaoning. Since the Chinese government readjusted the allocation of resources, stimulating more consumption, and less capital accumulation, the savings of the people had accumulated rapidly and steadily. New pattern of standard of living coupled with glamorous lifestyles, desire for value added services and personal savings had resulted in the explosion of telecom devices and services. Many local as well as foreign manufacturing companies had developed their businesses in China because of growing demand emanating from personal life style and savings (Zhu 2009: Personal Interview). It can be observed from the Figure 1 how the number of urban and rural telecom subscribers has gone up in China during the nineties.
Till 1994 and even 1995, China followed the traditional model of a government-owned and government managed post and telecom authority, with the MPT administering the nation’s postal and telephone systems. This ministry was devoted to the entire regulation and operation mechanism in the country. It functioned both as a regulator and an operator. The telecommunications service providers operated as a national monopoly through a hierarchical structure with the Ministry in Beijing at the top followed by the provincial offices, and then the country offices and municipal and local offices (Figure 2).

Enterprise offices those were formed as a part of the competition drive were also segregated from government functions; separate directorate-generals were established for post and telecom operations, and a wide range of decision-making responsibilities were shifted from the central ministry to provincial and municipal operating entities. A degree of local autonomy was introduced, allowing the local PTAs greater management flexibility in planning, investment, and tariff setting policies. Provincial and municipal operators were permitted to purchase network equipment, from a variety of competing MPT approved suppliers and the terminal equipment market, and the paging services sector were opened to competition by the late nineties.

China Telecom's long affiliation with the MPT in securing a monopoly in the country had developed a unified interest group until 1998. In the absence of any legal

framework and transparent policy guidelines, such a situation meant that it was inevitable that new entrants would be treated unfavourably. Friction between China Telecom and China Unicorn continued till the Government finally set up a regulatory body by merging certain departments called the Ministry of Information Industry (MII) to streamline the path of telecommunications liberalization. Though the Chinese telecommunications policy experiment during 1994–1998 was seen as a significant development in the entire process of structural and institutional changes, yet the task of creating a climate of healthy competition could not be achieved.

What really hindered the competitiveness of telecommunications market in China till 1998 was the lack of a proper legal framework. It is essential to establish an impartial legal framework to ensure an orderly development of the sector and to adopt an appropriate mechanism by which the entire sector is to be regulated. This is very much amplified in the Basic Telecommunications Agreement of the WTO which suggests that member countries should be committed to establishing an independent regulatory body that “is separate from, and not accountable to, any supplier of basic telecommunications services. The decisions of, and the procedures used by regulators, shall be impartial with respect to all market participants.” It is normally argued that independent regulatory agency should also remain at a distance from the government because when a regulatory body is also simultaneously a government department since chances of it getting influenced or remaining vulnerable to political intervention are high (Selvarajah: 1999).

Experience in many countries, however, has demonstrated that transition from a traditional regulatory framework with the government having regulatory and operator functions to a single independent regulatory agency can be slow and contentious process. Many late comers have learnt it the hard way (Yan and Pitt 2002: 91). The friction over interconnection issue between China Telecom and China Unicorn only indicates that ineffective regulatory framework was unfavourable to the new entrant and patronized only the incumbent. China, therefore, suffered in fostering competitive telecommunications industry early on.

---

Nevertheless China was keen to integrate with the world economy and wanted to join the WTO, it understood the significance of having a domestic competitive sector sooner by putting in place an independent regulatory framework with a sound legal regime. Besides, the principles of good regulatory system are well known. They include transparency, objectivity, efficiency, professionalism, and independence (Intven and Oliver 2000: 19).

Thus in March 1998, the Ninth National People’s Congress, the supreme legislative body, approved an institutional restructuring scheme proposed by the State Council. On 1 April 1998, the MII was officially established as a result of amalgamation of the MPT and the MEI (Ministry of Electronic Industry). The aim of this restructuring was to consolidate the government’s regulatory role and create an environment for effective competition. As an example, since the restructuring, China Telecom and Unicom were to be treated in the same fashion under the guidance of MII and were to compete on a more equitable basis. Under the new administrative system, the MII is the sole regulator responsible for price setting, licensing, and other regulatory matters. The MII became the sole watchdog for the IT sector. In addition to establishing telecommunications-related policies, laws and regulations, the ministry was entrusted with the responsibility of negotiating with foreign enterprises. The MII had broad discretionary powers to formulate regulations and apply them. Only important strategic policy decisions were approved by the State Council. Such restructuring was brought about with the hope that it would make the sector efficient and effective.

An overhaul of this bureaucratic system was accompanied by reform of the structure of telecommunications enterprises. In a major move, China Telecom was broken into four separately operated companies responsible for fixed line, mobile, paging, and satellite communication services (People’s Daily: May 17 2000). The rationale behind this was to break the dominance of China Telecom and to allow new independent service providers to operate in a regulated market to promote effective competition in the telecommunications industry.

The passing of the legislation of regulation in 2000 came to be recognized as the first major state instrument in handing telecommunications in China in a transparent manner. Many scholars and industry experts noted the importance attached to such legislation. According to DeWoskin: “The document is an extremely important step
towards clarifying the roles of all the players in the sector...and it has created a fixed set reference points for further regulatory work" (DeWoskin 2001: 641).

Table 3: China’s Commitment under its WTO Service Schedule, 2001-2007

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>12/01-12/02</th>
<th>12/02-12/03</th>
<th>12/03-12/04</th>
<th>12/04-12/05</th>
<th>12/05-12/06</th>
<th>12/06-12/07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic telecom services-fixed</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>25% in Beijing, Shanghai, and Guangzhou</td>
<td>35% in 17 cities</td>
<td>49% with no geographic restrictions</td>
</tr>
<tr>
<td>Basic telecom services – mobile</td>
<td>25% in Beijing, Shanghai, and Guangzhou</td>
<td>35% in 17 cities</td>
<td>No change</td>
<td>49% with no geographic restrictions</td>
<td>No change</td>
<td>No change</td>
</tr>
<tr>
<td>Value-added services and paging service</td>
<td>30% in Beijing, Shanghai, and Guangzhou</td>
<td>49% in 17 cities</td>
<td>50% with no geographic restrictions</td>
<td>No change</td>
<td>No change</td>
<td>No change</td>
</tr>
</tbody>
</table>

Source: WTO- http://docsonline.wto.org/DDFDocuments/t/WT/ACC/CHN49A2.doc

China’s commitment on telecommunications in the WTO, after initiating structural and institutional changes on home front, gave a signal to the outside world that its market was well regulated, stable, and provided enormous opportunities. By early 2000 and 2001, China’s commitment to the WTO had thrown the administration of telecommunication services into a market mode. This included several measures. Important among them were change in sourcing investment from different quarters, reorienting resource-planning managements in the event of restructuring of industry and tariff making policies based on cost-based pricing.
III Telecommunications Sector in China since 2001

China becoming a member of the WTO was seen as a significant development for world economy. Thus, a new chapter opened in China's telecommunications services. The Chinese Government's WTO commitments allowed the foreign direct investment to come into the indigenous telecom operating entities. According to the commitments, a foreign investment cap on basic telecommunications services operators was set at 25 percent in major cities and at 49 percent in semi-urban areas allowing the Chinese government to retain control by securing more than 50 percent of ownership.

In mobile telecommunications, foreign investment allowed up to 25 percent share immediately upon accession. This share was to be allowed to rise to 49 percent after a 3-year period. For fixed network services, it was to take 5 years to reach the investment cap. The arrangement further calls for the cap to be raised to 50 percent after 2 years for value added services and paging services. The foreign investment cap also applied to the internet service providers. Detailed Chinese commitments under its schedule of the GATS are given in Table 3. By the time China became a member of the WTO, its telecom sector had opened up domestically in a significant way and many major service providers like China Telecom, China Unicom, China Mobile, China Netcom, and China Jitong were competing with each other.

Concern for national security had resulted in delaying of complete restructuring of telecommunications sector in China. It was kept under the tight state control and remained protected from foreign competition. National security and national sovereignty were of vital importance to the Chinese Government as articulated in the "Five Principles of Peaceful Co-existence." In order to ensure that these principles were abided by the Chinese domestic laws and rules in the telecommunications sector remained non-transparent and obscure (Kobayashi 2007: 146). However, the approach to the sector began to change when China joined the WTO. The WTO commitments came into effect throwing the sector open to foreign competition.

China witnessed a virtual explosion in the sector as both fixed and mobile users shot up significantly in its post accession period. By 2002, China's telecommunications exchange capacity had reached 201 million lines and mobile switching capacity
amounted to 235 million lines. The total number of telephone subscribers had gone up to 388 million— with 188 million fixed users and 162 million mobile users— making China’s telecommunications network the largest in the world in terms of size and subscribers. 41 The number of wireless phone users in China had also reached 250 million by the end of 2003 (Statistical Year Book of China, 2005).

China was not only regarded as a market for service providers but also as a manufacturing base for telecommunications equipment. Increase in subscribers had resulted in the expansion of domestic manufacturing industry. Demand for value added services by consumers led to constant upgradation in industry, which had forced China to look for state-of-the-art technology. As telecommunications is a technology and capital intensive sector opening up the sector to foreign investment became a necessary condition for achieving constant improvement in the industry.

III.1 Upgradation of Industry

Major expansion in telecommunications industry called for upgradation. With the competition setting in especially after the accession to the WTO, the market segments for all the players were geared up aggressively. The local competitors had emerged to dominate the low-end market segment and were stepping up their efforts to compete in the medium-end market. Foreign companies were permitted to sell telecom equipment in the domestic market and were allowed to set up joint ventures with local manufactures, for production of equipment in China. Large foreign companies such as AT&T, Motorola, Siemens, and NEC had taken advantage of this policy, and some of their products for example, Motorola mobile phones, dominate the domestic market.

Since the demand for domestic equipment market was continuously rising, the establishment of sophisticated technology telecommunications equipment enterprises was urgently required. Against this background, the increasing demand for telecom equipment ranging from telephone handsets to infrastructure construction was supported through the inflow of foreign capital and the increasing level of international co-operation. These measures led to the development of a domestic communications equipment industry. After its accession to the WTO, China witnessed the growth of a number of telecommunication enterprises of a considerable level of

technological competence, which could match up to the international level in terms of competition. China Putian Information Industry Group Co. was ranked as the twentieth in the top fifty giants of telecommunications manufactures in the world (*People's Daily: 23 June 2000*).

As the domestic market grew more technology-driven and sophisticated, China decided to focus on high technology related equipment, for which it substantially had to depend on imports of such technology. The development path of telecom industry took a different turn and to fit these requirements, the MII took a policy decision of allowing significant imports in this area. The policy decision sent out by the Chinese government was to adequately strengthen the domestic manufacturing industry by importing latest technological inputs from outside world. Around mid-2002 China saw an impressive growth of 38 percent of the information technology manufactures and an increase of exports of 46 percent within the same period (*People’s Daily: June 26 2002*).

The development of the domestic mobile phones manufacturers had a similar dynamic. After its entry into the WTO, telecom industry has become open. Demand for cheap handsets has increased. Since 2002, the domestic industry has developed very fast due to substantial initiatives taken in the stream of research and development. By the mid-2003 a share of 16 percent was occupied by the local manufactures. The demand for domestic mobile phones had exceeded the supply around this period. However, technological level of domestic mobile phones varied: most manufacturers produced handsets which compete on a low or mid-tech level, but only some offered high-end products like WAP mobile phones for internet access as well.

Chinese domestic telecom companies had established themselves in their production facilities by the time China joined the WTO. Domestic companies like Huawei, ZTE, Julong, and Datang had become competitive enough to compete in the international market like China. To promote the brand value of domestic industry, professionals in telecommunications used the title ‘Ju Da Zhong Hua’ (the combination of the first

---

42 The first domestic manufacturers were Kejian (Shenzhen) and Eastcom (Hangzhou), both collaborating with foreign partners.
character of the above corporations' names) which in Chinese connotes 'Giant China.' This was adopted to showcase the indigenous telecommunications industry as something big, of giant size to attract foreign investment and to compete internationally (Yan and Pitt 2002: 147).

Looking at the performance of these domestic companies, the Government was motivated to enter into the mobile communication market. It wanted to spur the quality production of mobile phone market. The Government allocated 5 percent of the telephone installation fees during the period 1999-2003 as a special grant to develop R&D centres for mobile communication technology (Yan and Pitt 2002: 124). Initiative to upgrade the industry has also come from the Central Government when the Ministry of Information Industry (MII) planned out an investment proposal of 198.6 million Yuan to build a third-generation mobile technology (3G) testing lab. The move promises to help promote the development of TD-SCDMA, China's homegrown 3G standard, and support the commercialization of 3G in general. Construction of the 3G lab is undertaken by the China Academy of Telecommunications Research under the MII.

After its entry into the WTO, telecom industry has expanded and China is catching up with most advanced form of mobile business. Foreign mobile players have entered the Chinese market with cutting-edge technologies and the Chinese market place has boomed with wide range of products in demand. China has become R&D hub for multinational companies and a test laboratory for large-scale telecom operations (Beijing Review 23 February 2006: 36). Innovation of products also became a key selling point in the telecom industry. Latest technology was built into the mobile phones to work as a camera for consumers as consumers wanted to use mobile phones for multifarious activities (Beijing Review 9 June 2005: 39). Mobile phones are multitasking in nature. Consumers want to possess one good quality to take care of many aspects of life (Guoxing 2009: Personal Interview).

According to Nokia's multimedia chief Anssi Vanjoki, the Chinese market is constantly looking for value added service, hence the industry demands upgradation in its product range. Facilities like data communication, mobile internet, messaging, and mobile television are some of the upgraded facilities provided through Nokia
mobile sets to cater to the demands of the consumers (Beijing Review 29 September 2005: 28). Many Nokia’s R & D centres have been opened up in China.

China also experienced advanced technological upgradation in telecom industry when Motorola came forward to provide state-of-the-art technology. Motorola provided China Telecom with network infrastructure for the upgradation of a portion of its nationwide CDMA 2000 1X network in 2009. Motorola has expressed its desire to install CDMA radio access infrastructure in 42 cities in nine provinces across China in 2009. The entire infrastructure was installed in early 2009 and is part of an overall project to upgrade China Telecom's nationwide CDMA network to next-generation capability. It will also offer the latest versions of its CDMA2000 1X and next-generation CDMA equipment. Ruey-Bin Kao, president of Motorola China, said: “China is a major market for Motorola. The deployment of next-generation CDMA technology for China Telecom is another milestone in Motorola's long history of supporting major telecom operators in China. Motorola has a very significant install base of CDMA 1X equipment that will be expanded and upgraded reinforcing our position as a leading wireless infrastructure supplier in China” (People’s Daily: 24 December 2008).

China is already caught up with the 3G era. Local manufactures have sufficiently invested in building up a strong base for providing reliable equipment to the consumers. Analysts have pointed out that 3G cell phones can provide users with diversified services and a whole range of functions which offers a new platform as well as opportunities for other growing industries like entertainment (Beijing Review 3 March 2005: 38). The Ministry of Industry and Information Technology estimates that China will have 150 million 3G subscribers by the end of 2011. Telecom manufactures have started figuring out entirely new ways to use the combination of power and connectivity (People’s Daily: 2 July 2010: http://english.peopledaily.com.cn/90001/90778/90860/7049479.html).

III.2 Investment Measures to Promote Industry

Continuous expansion of telecom industry has resulted in profit sharing for the Government and companies. Entry into the WTO has augmented the need for further expansion of the industry. As the sector was profitable, the Government never
hesitated to invest in the sector. In fact, the investment pattern was by and large self-generated. MII had encouraged the private players in the market to come forward to invest in the sector. As the competition had become after China has joined the WTO, market players like China Telecom, China Unicom and China Mobile had invested in the business.

China Telecom’s failure to provide mobile connection to the consumers had encouraged China Unicom to enter the mobile network. In such a scenario, as a weaker player compared to China Telecom, it could not mobilize offshore investment for its own expansion, rather it devised a unique formula of entering into a joint venture scheme called CCF (China-China-Foreign) whereby a separate Sino-Foreign joint venture teamed up with Unicom to establish a third entity which was allowed in 1999 prior to its entry. China’s telecom sector had witnessed large amount of FDI in its manufacturing base in China much before the accession. On account of revenue sharing, however, that scheme was later abolished (Aldrich and Rooth 1999: 174).

The Government toyed with many ideas to make the domestic sector more competitive. This obviously required huge amount of investment. Looking at that angle, it adopted the policy of listing the telecommunications sector in major stock exchanges of the world such as the New York Stock Exchange and Hong Kong Stock Exchange since 2002. The listing process heralded a new beginning in the telecommunications sector where financing was sought through initial public offering (IPOs).

The new model is peculiarly Chinese or telecommunications ‘with Chinese characteristics’. All state-owned assets in China ultimately came under the supervision of the State-owned Assets Supervision and Administration Commission (SASAC). In the case of telecom sector, when they were incorporated for their IPOs the assets of four operating companies—China Telecom, China Netcom, China Mobile, and China Unicom were vested in their respective state-owned enterprises. A portion of the fund generated by the IPOs was used to buy further assets from the corporations on a province-by-province basis. Over the years operating profits of the companies were utilized to buy all network assets, which was the situation till the end of 2006. Under the commitments of the WTO, foreign ownership or equity today is allowed up to 49 percent and there is no provision to liberalize the
telecommunications market (Ure 1997:18), which is part of China’s commitment in the WTO.

With the new round of restructuring and China’s entry into the WTO, foreign investment came in a significant way to upgrade and innovate the telecom industry. Foreign investment inflows to China came into the areas of high tech industries like deep processing, telecom and IT from labour intensive sectors like textiles, rubber, etc. The telecom sector received investment in a continuous manner from 2003–04 onwards. These investments were put into developing R&D centres where new design and upgrading of industry were worked out on a continuous basis to suit the specificity of the industry (Beijing Review 1 September 2005: 30).

According to the MII, telecommunications service providers of China such as China Telecom, China Netcom, China Mobile, China Unicom, China Tietong, and China Satellite invested some US $ 28.7 billion in telecom infrastructure in 2006. As a result of this investment, Chinese telecom service providers added 86.2 million additional new subscribers (19.6 fixed line users and 66.6 mobile phone users) to bring the total number of telephone users in China to 830 million. Fixed line telephone penetration rate reached 28.3 percent and mobile communications penetration rate reached 35.2 percent. In 2007, the MII had projected that the Chinese telecom carriers would invest US $ 25 billion to capture 70 million fixed line telephone subscribers and mobile phone users. The number of telephone users in China reached more than 900 million by the end of 2007. By the end of 2007, the MII projected the fixed line penetration rate to reach 29 percent and mobile communications to reach 39.4 percent. China’s total number of telephone users were 986 million towards the end of December 2008. The number of mobile users was to the tune of 660 million and landline users were around 350 million (Beijing Review 22 December 2008: 16).

III.3 Entry of Foreign Companies

The entry of foreign companies to the Chinese market has not been easy as the Chinese Government pursued a policy of indigenous development model considering the issues of security and sovereignty. However, China needed the involvement of multinational corporations (MNCs) to leverage its growth. As MNCs were well
equipped with capital, technology, and management skills, it sought their help and MNCs were particularly interested to come in as they visualized China as a big market, having low cost labour for production, political stability, and certain advantage in terms of R&D facilities.

The MNCs had intensified their operations in a big way after China had entered the WTO. Motorola, Nokia, Siemens invested heavily into their R&D facilities and produced equipments catering to the 3G requirements. Such activities in turn could help in strengthening China's local manufacturing and R&D capacities. This in a way also helped China to develop its global competitiveness. Therefore, a large part of market competition in China's telecommunications sector has centred on the strategies of MNCs and practices of local manufactures, together with leveraging by the Chinese government.

Strategies drawn up by the MNCs from the beginning were very clear as they aimed at increasing their profits by a wide margin. However, they were forced to transfer the technology directly or indirectly, due to the Government's policies and market competition from their global and local rivals.

While product sale, technology transfer and local technology capability upgrading work together in a complex Chinese environment, MNCs' operations in the Chinese market can be characterized as an adding-and-dropping model. This is a model which has worked in many developing countries. All products are divided into three categories based on their technological sophistication—high (H), medium (M), and Low (L). At any point of time all the three categories remain. What have seen actual change are the actual products in the three categories. The MNCs have added new products to their 'H' category. Market competition and local capacity keep downgrading products from H to M and from M to L. This model can be applied to the telecommunications market in China in the 1990s.

A significant aspect of entry of foreign companies to China is that foreign telecom equipment manufacturing companies like Motorola, Nokia, Siemens, etc. were allowed to come to China before its entry, whereas the foreign service providers like Vodafone and others were allowed after entry.
III.4 Local Manufacturing Companies

Evidence shows that local telecommunication companies have successfully enhanced their market share over the years. Local manufactures got a boost only when they tasted success with the Central Official Switches. It has been extended to optical fibre transmission systems, wireless, mobile base stations and switches, and most recently mobile handsets. In mobile handsets emphasis has been given to produce advanced technology so that consumers are satisfied with 3G connection. Local companies are engaged in manufacturing three mainstream standardized technologies such as WCDMA, CDMA2000 and TD-SCDMA for 3G mobile (Beijing Review 3 March 2005: 36). These standardized technologies are approved by International Telecommunication Union (ITU). Many indigenous manufacturers have recently emerged as successful corporations. Since use of internet has gone up, many indigenous telecom manufacturing companies have come out with latest modem to

<table>
<thead>
<tr>
<th>Company</th>
<th>Revenue (Million RMB)</th>
<th>Profit (Million RMB)</th>
<th>R&amp;D (Million RMB)</th>
<th>Export (Million RMB)</th>
<th>Background</th>
</tr>
</thead>
<tbody>
<tr>
<td>China Putian</td>
<td>64,248</td>
<td>2,644</td>
<td>613</td>
<td>14,533</td>
<td>Founded in 1980, it was originally called China Posts and Telecommunications industry Corporation and affiliated to the former MPT and current MII. It ranked No.1 in the Top 100 Chinese Electronic &amp; Information Enterprises in 2001 and 2002 and ranks 10th in the overall listing of China’s largest enterprise groups.</td>
</tr>
<tr>
<td>Huawei Technologies</td>
<td>16,229</td>
<td>2,654</td>
<td>3,050</td>
<td>999</td>
<td>A private corporation established in 1988 by several enterprises.</td>
</tr>
<tr>
<td>ZTE Telecommunications</td>
<td>10,926</td>
<td>797</td>
<td>1,130</td>
<td>353</td>
<td>A joint corporation sponsored by No.691 Factory under former Ministry of Aerospace Industry (MAI), Changheheng Industrial Co. Ltd. (Shenzhen office), and Yunxing Electronic Trading Co., Ltd. In February 1985.</td>
</tr>
<tr>
<td>Xi’an Datang Telephone Corp.</td>
<td>3,163</td>
<td>90</td>
<td>390</td>
<td>5</td>
<td>A joint venture established in 1993 by China Academy of Telecon Technology (CATT), the tenth Research Institute of former MPT and International Telephone and Teledata Incorporation (ITT).</td>
</tr>
<tr>
<td>Wuhan P&amp;T Institute</td>
<td>2,744</td>
<td>241</td>
<td>116</td>
<td>178</td>
<td>Wuhan Research Institute of the former Ministry of Posts and Telecommunications (MPT).</td>
</tr>
<tr>
<td>Jinpeng Telecom</td>
<td>2,262</td>
<td>15</td>
<td>23</td>
<td>0</td>
<td>Sponsored by the 54th Research Institute of the former Ministry of Electronics Industry (MEI).</td>
</tr>
</tbody>
</table>

Source: MII’s List of Top 100 IT and Telecom Enterprises in China (2002).
support the fast pace network of internet usage (Beijing Review 20 January 2005: 30).

Table 4 above provides a list of successful indigenous telecom manufacturing companies. These companies share certain interesting features. They were products of reform era that began in 1978 which marked the beginning of transition of China's economy from one of a central planning to a market oriented model. Many of them spent substantial amount of revenue on their R&D over 10 percent, which drives the technology development in China's telecommunications industry. Many of them emanated from China's research institutes.

Market size and rapidly growing demand have spurred the growth of the indigenous manufacturing companies. This is facilitated by the significant upgrading of technological capacity. Different strategies have contributed to the upgrading of local firms' technology capacity, including imitation and internal R&D. The importance of R&D expansion has been regarded as a major policy decision in China's upgrading technology. National and global expansion of R&D has therefore been recognized as one of the effective competitive strategies by many large Chinese firms including Huawei (Chen Jin 2003). Based in the Guangdong province China has R&D centres in Beijing, Shanghai, and Chengdu. These R&D centres are adequately connected to local centres to take full advantage of the big market. They provide access to local talent, information and connection to local markets. At the international level, Huawei has R&D centres in India to have an access to the might of Indian software engineers.

Huawei, the major telecommunications equipment maker in China, also had opened up R&D centres at various locations including the Silicon Valley in the US to gain access to cutting edge technology and talent. This kind of expansion in global R&D helps companies like Huawei and ZTE to update themselves with state of the art technology capability and produce their own advanced products. Through such measures, Huawei witnessed its overseas sales rising from US$ 50 million in 1999 to US$ 2.24 billion in 2004, accounting for 41 percent of its total sales (Huawei Technologies, 2005). Its overseas revenue in 2005 crossed the domestic sales for the first time, accounting for more than half of the company's total revenue.
Huawei’s competitive prices have been a major reason for its expansion in sales. A price of 30 percent lower than other suppliers has been possible because the company relies heavily on a pool of local engineers whose salaries are meager compared to their counterparts in developed markets. It is believed that Huawei capitalized so much on its price factor that initially when it launched its products in markets, Laos and Cambodia “its prices were below walk-away prices” for any developed country member (Harney 2005:15).

Another successful strategy which worked in the case of China was the reversed “partial technology outsourcing” from developed countries. As China always wanted to modernize its economy, it had understood the significance of technology. Knowing fully well that it has to look up to developed countries like the US to have latest technology; it followed the policy of partial outsourcing of technology, which it combined with aggressive in-house R&D innovation to produce updated products and sharpened its own competitive advantage. Through such innovations and access to latest technology indigenous manufactures could retain their market share. The success of these indigenous manufacturing companies came as a big lesson for the fledgling Chinese telecom vendors. Therefore an analysis of their globalization drive or strategy is of significance to this study.

The Chinese telecommunications equipment industry has been on an expansive mood since it has joined the WTO. Companies like Huawei and ZTE are entering into global markets like the US, EU, Southeast Asia, Africa and other places. It had developed high ambition of cutting into the markets of other telecommunication industry giants by focusing on a well thought out strategy. Many customers from Middle East, Africa and Southeast Asia found the Chinese products to be more stable and cheaper compared to Cisco (CSCO), Nortel (NT), and Alcatel-Lucent (ALU). Both Huawei and ZTE have signed deals to intensify their production and sales in the US markets. In August 2009, the U.S. wireless carrier Clearwire added Huawei to its supplier list of base stations and other key infrastructure parts under a three-year contract. This exemplifies how Huawei is moving beyond China and other emerging markets to tap into established markets in Europe and North America. In November 2009, Huawei surpassed Ericsson and Nokia Siemens to strike a deal with Norway’s

largest telecom operator, Telenor ASA. Under the six-year contract, which includes services and maintenance, Huawei will provide the Norwegian carrier with telecom equipment based on fourth-generation standard, known as Long Term Evolution (LTE), which offers cheaper operating costs and supports faster data uploads and downloads for mobile devices. (Beijing Review: Accessed on 14 January 2010: http://www.bjreview.com/business/txt/2010-01/09/content_238773.htm). Both companies emerged as globally competitive serious contenders for international market. Similarly, the ZTE increased its revenue by 25 times during 1997—2004 (Ji: 2005). Huawei also had experienced similar kind of revenue growth till 2005. An interesting aspect of this growth factor was that, they were never affected by the collapse of dot com or IT bubble in late 1990s. An analysis of strategy adopted by these two companies suggests that they have too many similarities in their approach. A set of unique characteristics emerges when their globalization drive was assessed. The strategy has been a mixture of technology intensive involvement of telecom business and country origin.

The People’s Republic of China is the home country as well as the market for these two companies. China being a huge market, the sales and turnovers of these two companies soared high within a short period of time as their major market operations took place within the country itself. Essentially, the growing number of fixed lines and the wireless connections helped these companies to register high sales and revenue. The revenue of these companies also went up high outside China’s border because of the initial globalization push that they received through joint ventures and favourable government policies.

The Chinese centric approach was not only visible in sales and revenue but also in the human resource or work force of these firms. In ZTE’s R&D centres and overseas offices more than half of the members of staff were recruited locally and the rest were sourced from China only and in Huawei’s R&D centres across the world except Bangalore, most of the staff were the Chinese (Huawei Annual Report: 2005).

The focus on R&D has been a priority in their globalization drive. A high degree of Huawei and ZTE employees are well qualified personnel. About 30 to 40 percent of employees are working on research and development of products and technologies. This is directly related to the technology intensive nature of telecommunications
industries where large telecom giants invest more than 10 percent of their annual revenue on R&D activities. In order to attract well-trained personnel especially from developed countries as well as developing countries, these Chinese companies have set up their R&D centres outside China in key regions and areas such as already mentioned — the Silicon Valley, Canada and, Bangalore in India. Followed by this were the sales and representations offices in various parts of the world. This approach minimizes the poor local adaptation and knowledge. The partnership with foreign companies has paid rich dividends to these companies. At one level, they could produce advanced products with the available technology and finance. At other level, the assistance and influence provided by foreign companies with distinctive and rich experience of globalization have inevitably sped up the globalization process of these companies. Besides, partnership with foreign firms provides credibility and legitimacy to products of these two companies.

The backing and support of the Government plays a key role in China as it has a strong influence in any business operation in the country. The guiding macroeconomic policies have enabled and facilitated the founding and continuous growth of Huawei and ZTE. It is not a coincidence that both these companies are headquartered in Shenzhen, economically the most open city in China. A ZTE in Shanghai and Huawei in Beijing would not have been possible because of different political and economic conditions prevailing in these cities.

China was able to register a big technological success because the current global political and economic environment favours the free flow of technology between China and many other nations. The political and economic change brought forward through the reform programme somewhat loosened many previous restrictions on technology import and export, which made technology outsourcing possible. Secondly, many of the Chinese have abandoned the strict ideological belief in nationalism and self-reliance as far as importance of technology is concerned. They argue, the idea is to produce 100 percent China based technology through collaborations or joint ventures. In the case of China it looked apparent that the theory of globalization and advantage of low labour which view China as an emerging global economy argue that China could rely more on foreign suppliers for access to foreign
technology and this would provide a competitive edge over other emerging economies. This view slowly began to be accepted among the Government circles.

China’s telecommunications industry has become an extremely sophisticated and dynamic industry. Constant engagement of MNCs and the indigenous manufacturers has made the sector extremely competitive.

III.5 Consolidation of Mobile Phone Industry

Industry experts believed that China’s mobile phone industry would take advantage of the country’s WTO entry to grab more market share. This is because the tariffs on raw materials for mobile phones—especially CMOS (Complementary Metal Oxide Semiconductor) chips—will be lowered as a result of the WTO entry. This could benefit domestic mobile phone companies, who traditionally imported CMOS chips. In fact, China’s mobile phone market has been open to overseas companies for so many years, that the domestic companies had never been fully protected by state preferential policies. Therefore, the WTO entry did negatively affect domestic mobile phone companies.

However, there are few technological differences between domestic mobile phones and those made overseas. In terms of function and price, the domestic mobile phones have the upper hand said the head of China’s TCL Mobile Telecommunications Co. Ltd (Xinhua: 27 November 2001). Foreign mobile phone giants including Nokia, Motorola, and Siemens claim over 70 percent of the market share in China. But domestic mobile phone companies have developed rapidly in recent years occupying the remaining 30-plus percent of the market. Since 2002, more and more dealers and customers have started to buy domestic mobile phones. Sales of TCL mobile phones exceeded one billion Yuan (US $ 125 million) during the first eight months of 2001, nearly six-fold over the same period of the year 2000 (Xinhua: 27 November 2001). Sales of TCL mobile phones were expected to have reached 16 billion Yuan in 2009. In 2008 sales were supposed to be around 14.2 billion Yuan.

From this analysis, it is evident that China’s industrial policy in the telecommunications sector experienced success and demonstrates the global technology leveling strategies of China’s indigenous manufacturers. The policies adopted by the Central Government and strategies evolved under the normal pressure
of market openness have created a situation where time and market space for indigenous players existed for them to grow and compete.

Table 5 clearly indicates that the manufacturing trend in China's mobile phone industry witnessed a continuous and significant rise in the post-entry phase. Producing more than 52 million mobile phones in 2000, the volume of production reached 121 million in 2002 immediately after its accession to the WTO, which signifies that opening up has resulted in greater demand for boosting China's indigenous telecommunications equipment industry. The same industry went on to produce 303 million mobile phones in 2005, almost six times more than the production it achieved in 2000. China's mobile phone industry has maintained a high speed growth in subsequent years. In 2006, 480 million mobile phones were produced in the country, increasing 58.2 percent over 2005 and the number increased by 14.3 percent to 549 million in 2007. However, the growth slowed down in 2008 with an annual growth rate of 2 percent to 560 million. Similarly, landline instruments witnessed a rise in output from 95 million in 2000 to reach 103 million in 2001. Production output registered a continuous increase from 2001 onwards till 2005 in respect of the landline sets. Landline production declined marginally in 2006 and came further down to reach 165 million in 2007 (Table 5).

Table 5: Output of Mobile and Telephone Sets, 2000-2008

<table>
<thead>
<tr>
<th>Year</th>
<th>Mobile Telephones (10,000 Units)</th>
<th>Telephone Sets (10,000 Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>5248</td>
<td>9598</td>
</tr>
<tr>
<td>2001</td>
<td>8032</td>
<td>10303</td>
</tr>
<tr>
<td>2002</td>
<td>12146</td>
<td>11892</td>
</tr>
<tr>
<td>2003</td>
<td>18231</td>
<td>12936</td>
</tr>
<tr>
<td>2004</td>
<td>23751</td>
<td>13967</td>
</tr>
<tr>
<td>2005</td>
<td>30354</td>
<td>18862</td>
</tr>
<tr>
<td>2006</td>
<td>48013</td>
<td>18648</td>
</tr>
<tr>
<td>2007</td>
<td>54857</td>
<td>16516</td>
</tr>
<tr>
<td>2008</td>
<td>56000</td>
<td>16687</td>
</tr>
</tbody>
</table>

This explains the continuous rise in mobile users which has consequentially led to the decline in production of landline sets. According to an Assocham Study, almost half of global electronics and telecommunication manufacturing occurs in Asia. Out of which China’s share is about 23 percent.

III.6 Exports of Mobile Phones and other Telecom Equipment

China is considered a significant player in telecom equipments in world market. It exports products to a wide range of countries. Table 6 below indicates that in relation to China’s other telecom equipments especially in the HS Code: 8517 (which includes equipments line telegraph, etc. and electrical apparatus), China’s exports to the world have witnessed a continuous rise. It is also observed that China’s exports to the world in this product category have witnessed a quantum jump in 2007 from 2006 almost registering a jump of seven fold.

It is found that China’s share of exports in the field of telecommunications equipments (HS Code: 8517) to the United States in 2001 was highest in the post-entry phase, registering 34.2 percent of its total manufacturing exports. The share thereafter till 2008 end saw a continuous decline falling to 14.38 percent. Similarly, Japan and the UK have experienced a decline in imports from China from 2001 to 2008. Gainers have been India, Russia, Hong Kong, and Thailand—all these countries have been continuous and huge importers from China over these years. China’s exports to France particularly have remained almost the same.

China’s major domestic telecom manufacturing company, Huawei, is an important global payer in world market. In 2009, it exported around 110 million units of telecom equipment to different parts of the world. It continues to dominate this segment in the world market after the Swedish major, Ericsson (http://www.isuppli.com/Abstract/P11020_20091014140826.pdf). Its exports amounted to US $ 2.2 billion or 40 percent of sales in 2004, a significant rise compared to the exports of US $ 1.05 billion or 27 percent of sales in 2003.
Table 6: China’s Exports in Telecommunications Equipments to Major Trading Partners and Countries in HS Code 8517, 2001-2008

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hong Kong</td>
<td>652.9</td>
<td>862.2</td>
<td>1143.7</td>
<td>1462</td>
<td>1792</td>
<td>2463</td>
<td>19124.2</td>
<td>23032.9</td>
</tr>
<tr>
<td>United States</td>
<td>1206</td>
<td>1302</td>
<td>1453.1</td>
<td>1632</td>
<td>1912</td>
<td>2488.4</td>
<td>14766.8</td>
<td>12926.1</td>
</tr>
<tr>
<td>South Korea</td>
<td>44.9</td>
<td>84.3</td>
<td>74.5</td>
<td>100</td>
<td>135.2</td>
<td>167.6</td>
<td>3202.9</td>
<td>6591.5</td>
</tr>
<tr>
<td>India</td>
<td>19.1</td>
<td>83.4</td>
<td>119.2</td>
<td>288.6</td>
<td>249.8</td>
<td>297.8</td>
<td>3810.2</td>
<td>3941.3</td>
</tr>
<tr>
<td>Japan</td>
<td>368.0</td>
<td>480.3</td>
<td>444.8</td>
<td>660.2</td>
<td>569.3</td>
<td>391.8</td>
<td>2082.2</td>
<td>2444.3</td>
</tr>
<tr>
<td>Singapore</td>
<td>43.9</td>
<td>36.1</td>
<td>116.7</td>
<td>140.0</td>
<td>175.7</td>
<td>193.4</td>
<td>3359.3</td>
<td>2239.5</td>
</tr>
<tr>
<td>Germany</td>
<td>98.2</td>
<td>104.3</td>
<td>134.0</td>
<td>206.2</td>
<td>258.0</td>
<td>366.6</td>
<td>3364.0</td>
<td>2146.3</td>
</tr>
<tr>
<td>Netherlands</td>
<td>92.5</td>
<td>89.5</td>
<td>114.2</td>
<td>150.1</td>
<td>306.2</td>
<td>496.4</td>
<td>1757.2</td>
<td>1931.0</td>
</tr>
<tr>
<td>UK</td>
<td>138.2</td>
<td>111.5</td>
<td>174.3</td>
<td>268.3</td>
<td>296.1</td>
<td>366.0</td>
<td>1723.8</td>
<td>1837.5</td>
</tr>
<tr>
<td>Brazil</td>
<td>29.2</td>
<td>17.7</td>
<td>24.0</td>
<td>64.1</td>
<td>144.5</td>
<td>127.5</td>
<td>1002.3</td>
<td>1642.8</td>
</tr>
<tr>
<td>France</td>
<td>74.5</td>
<td>54.6</td>
<td>98.0</td>
<td>189.5</td>
<td>200.6</td>
<td>254.7</td>
<td>1500.3</td>
<td>1487.6</td>
</tr>
<tr>
<td>Russia</td>
<td>14.5</td>
<td>29.3</td>
<td>37.1</td>
<td>119.4</td>
<td>209.6</td>
<td>230.3</td>
<td>960.2</td>
<td>1465.9</td>
</tr>
<tr>
<td>Mexico</td>
<td>1.5</td>
<td>10.7</td>
<td>12.2</td>
<td>37.9</td>
<td>60.4</td>
<td>180.4</td>
<td>960.4</td>
<td>1448.2</td>
</tr>
<tr>
<td>Taiwan</td>
<td>53.1</td>
<td>81.0</td>
<td>109.5</td>
<td>106.5</td>
<td>115.2</td>
<td>130.7</td>
<td>1033.2</td>
<td>1369.8</td>
</tr>
<tr>
<td>Italy</td>
<td>23.4</td>
<td>36.5</td>
<td>69.6</td>
<td>189.1</td>
<td>184.5</td>
<td>146.9</td>
<td>619.9</td>
<td>790.3</td>
</tr>
<tr>
<td>Spain</td>
<td>10.1</td>
<td>14.8</td>
<td>23.0</td>
<td>58.7</td>
<td>118.0</td>
<td>159.0</td>
<td>831.5</td>
<td>749.2</td>
</tr>
<tr>
<td>Thailand</td>
<td>47.9</td>
<td>33.7</td>
<td>50.6</td>
<td>129.8</td>
<td>160.8</td>
<td>231.7</td>
<td>673.1</td>
<td>745.8</td>
</tr>
<tr>
<td>Sweden</td>
<td>121.2</td>
<td>19.9</td>
<td>55.9</td>
<td>103.4</td>
<td>103.4</td>
<td>134.5</td>
<td>708.5</td>
<td>702.3</td>
</tr>
<tr>
<td>Pakistan</td>
<td>6.1</td>
<td>22.5</td>
<td>33.9</td>
<td>68.0</td>
<td>148.2</td>
<td>152.7</td>
<td>537.3</td>
<td>518.2</td>
</tr>
<tr>
<td>Belgium</td>
<td>7.9</td>
<td>13.9</td>
<td>84.3</td>
<td>163.5</td>
<td>231.1</td>
<td>227.5</td>
<td>313.6</td>
<td>327.7</td>
</tr>
<tr>
<td>World</td>
<td>3527.5</td>
<td>3953.4</td>
<td>5174.0</td>
<td>7672.5</td>
<td>9433.9</td>
<td>11805.4</td>
<td>78648.5</td>
<td>89886.3</td>
</tr>
</tbody>
</table>


Table 7 gives an indication as to how foreign and domestic telecom manufacturing companies operating in China have performed in terms of their exports. Nokia has topped the list in its exports from China followed by Motorola, Samsung, Sony Ericsson, etc. Huawei and ZTE the leading domestic manufacturing companies of China have comparatively exported much less to the world market. More than 60 percent of telecom instrument exports from 2000 onwards are shipped by foreign
companies (Guoxing 2009: Personal Interview). Every year since 1996, FIEs have accounted for more than 40 per-cent of China’s total exports (Moore 2002: 3).

Table 7: Export Volume of Key Mobile Phone Manufacturers
2007-2008 (1st Half)

<table>
<thead>
<tr>
<th>Companies</th>
<th>(10,000 Units)</th>
<th>(10,000 Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nokia</td>
<td>4202</td>
<td>5482</td>
</tr>
<tr>
<td>Motorola</td>
<td>2798</td>
<td>1460</td>
</tr>
<tr>
<td>Samsung</td>
<td>1920</td>
<td>3201</td>
</tr>
<tr>
<td>Sony Ericsson</td>
<td>1611</td>
<td>1351</td>
</tr>
<tr>
<td>LG</td>
<td>717</td>
<td>1761</td>
</tr>
<tr>
<td>Foxconn</td>
<td>636</td>
<td>2369</td>
</tr>
<tr>
<td>Flextronics</td>
<td>1861</td>
<td>972</td>
</tr>
<tr>
<td>Compal</td>
<td>1626</td>
<td>1022</td>
</tr>
<tr>
<td>ZTE</td>
<td>709</td>
<td>1159</td>
</tr>
<tr>
<td>Huawei</td>
<td>305</td>
<td>1101</td>
</tr>
</tbody>
</table>


Table 8: China’s Share in World Exports, 2001-2008

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>China’s total exports to World</td>
<td>266403</td>
<td>325642</td>
<td>438473</td>
<td>593647</td>
<td>762327</td>
<td>969324</td>
<td>1218155</td>
<td>1428869</td>
</tr>
<tr>
<td>8517 Electric Apparatus for Line Telephony etc., and Parts</td>
<td>6.88</td>
<td>6.07</td>
<td>5.81</td>
<td>5.91</td>
<td>5.47</td>
<td>5.19</td>
<td>26.19</td>
<td>26.28</td>
</tr>
<tr>
<td>851711 Line Telephone Sets with Cordless Handsets</td>
<td>29.57</td>
<td>26.21</td>
<td>24.59</td>
<td>19.18</td>
<td>16.99</td>
<td>15.05</td>
<td>2.72</td>
<td>2.17</td>
</tr>
</tbody>
</table>


Data provided in Table 8 suggest that China’s world exports have risen significantly in a span of seven years especially after its accession to the WTO. Between 2001 and 2008, the value of total exports has gone up more than five times. In relation to HS
Code 8517, China's share in world exports has reached 26.28 percent in 2008 from 5.19 percent in 2006 indicating that the share in 2008 was more than five times of the share in 2006. Looking at China's world imports in the same product category—HS Code 8517—it was found that the imports have seen a continuous rise from 2006 onwards till 2008. In 2006, imports amounted to US $ 3.6 billion and the same reached US $ 18.8 billion in 2008 (China Customs World Trade Online Database). Consistent rise in imports speaks volumes of the significance that is attached to the joint venture initiative between China and MNCs. This surge in activities has helped China to increase its exports in this product group category by innovating products through such value added imports.

III.7 Analysis of Telecommunications Services Growth

China operates one of the largest telecommunications networks in the world. With 215 million telephone lines in the world compared to 186 million in the US and around 42 million telephone lines in India in 2002 at the time of its accession to the WTO, it has seen a big jump in expanding its network over the last few years. Within a span of seven to eight years the expansion of the industry has gone up by almost four times (China Statistical Year Book: 2009).

Recent trends showed that the mobile phone industry in China has also experienced a substantial rise in its sales. Driven by a growing number of handset users, increasing component prices for handsets, and a wider range of services bringing more value to customers, the market touched 4.7 billion Yuan in 2008 and 5.56 billion Yuan in 2009, according to the CCID Consulting blue paper. The paper suggested, "The key driver is value-added services," (Xinhua 27 June 2007). Special services like accessories, music downloads or mobile TV represented only 2.5 percent of China's after-sales service market in 2004, but rose to 18.2 percent in 2006. The blue paper showed that more than 40 percent of handset users wanted to watch handset TVs and a similar percentage were keen to download music into their handsets. "In half of our authorized maintenance stores, the income from value-added services has already surpassed the fees earned for repairing handsets," said Li Jianquan, Executive Director of Quality, Service and Administration of Lenovo Mobile. "In some stores, the ratio reaches 67 percent," he said. "When customers come in to get their handset

44 A joint stock limited company incorporated in the People's Republic of China with limited liability
repaired, they might opt for a sophisticated new handset component like a high-definition colored screen," Jiang observed (http://english.cri.cn/3130/2007/06/27/262@242972.htm). There are now 487 million handset users in China with six million new users being added every month, according to the MII. According to the Ministry, the number is expected to reach 600 million by the end of 2010.

Though telecommunications growth was hit by the global financial crisis since 2008, current statistics provided by MII suggest that growth has witnessed a rise. According to latest statistics provided by MII in 2009, China's telecom industry achieved accumulated revenue of 2.5 trillion Yuan, a year-on-year increase of 14.4 percent; and it reached operating revenue of 870.7 billion Yuan, a year-on-year increase of 4.1 percent. For various telecom sectors in China, revenue from the mobile communications network business increased by 13.2 percent year-on-year to 509.09 billion Yuan, accounting for 60.4 percent of total revenue from main businesses; revenue from fixed line local network business declined by 14.4 percent to 135.68 billion Yuan, accounting for 16.1 percent; revenue from long-distance call network business decreased by 5.3 percent to 98.26 billion Yuan, accounting for 11.7 percent; and revenue from data communications network business increased by 0.3 percent year-on-year to 99.4 billion Yuan, accounting for 11.8 percent. In 2009, the number of China's total landline and mobile phone users increased by 79.467 million to 1.061 billion from 2008. The number of fixed line users decreased by 26.671 million to 314 million in 2009; and in the same year the number of mobile phone users increased by 106.138 million to 747 million. In addition, the number of broadband users in China increased by 20.347 million to 103.226 million in 2009 (China Statistical Year Book 2010).

According to Prof. Andong Zhu, Tsinghua University, Beijing “prospects for telecom exports (equipments) during this global financial crisis look more promising than other manufacturing products. As China is a manufacturing engine for world economy, it will be able to produce quality telecom products at a cheaper price in the world with new innovations required for value added service. Major winner has been the Huawei Technology. It has exported many telecom equipments like modems to India and other developing countries. FIEs in China have also contributed nearly 60
percent to this growth and it is estimated that their contribution would rise further in future."

It is also analyzed from that the number of Urban Household Telephone Subscribers during the year 2005 was 172 million. In the year 2006, the number rose and had reached the 176 million mark. In the year 2007, the number decreased to 169 million. The number of rural fixed telephone subscribers during the year 2005 was 110 million. It increased in the year 2006 and had reached at 116 million, showing an increasing trend to the tune of 6 million, and it further went up by 1 million to reach 117 in 2007. The number of rural household telephone subscribers during the year 2005 was 100 million. It further increased in the year 2006 and had reached the 105 million mark. There was, however, no increase in this category in 2007 (Statistical Yearbook of China 2008).

The growing number of subscribers during the year 2006 created more business, and the ministry’s projection of the telecom business income in 2006 reached more than 700 billion Yuan (US $ 86 billion). During the 10th Five-Year Plan period between 2001 and 2005, China’s telecom business income grew by an average 13.4 percent annually, with 100 million new subscribers every year. China has the world’s largest number of phone subscribers, both for fixed-line and cell phones.45

In 2001, at the time of accession, China had more than 180 million landline telephone users which reached to 367.7 million in 2006 showing a compound annual growth rate (CAGR) of 15.3 percent. Similarly in 2006, landline phone users per 100 inhabitants were 27.79 percent compared to 14.06 percent in 2001, registering a CAGR of 14.6 in 2006 over 2001 (Table 9). It can be also observed from the Table 9 that the percentage of CAGR registered at 15.3 percent during the period 2001–2006. However, calculation based on sourcing data from the International Telecommunication Union (2007), it was observed the percentage of CAGR during 2000-2005 stood at 19.3 percent which suggests a decline in the growth of mainline telephone in China. There has been a significant decline in terms of mainline telephone services in China possibly due to growth in mobile services. China also experienced like the other countries in the world, a mobile revolution making its telecom sector to grow as one of the fastest in the world.

45 MII, 2006.
Table 9: China’s Main Telephone Lines

<table>
<thead>
<tr>
<th>Year</th>
<th>Main Telephone lines (In 000')</th>
<th>CAGR % (2001-2006)</th>
<th>Main Telephone lines per 100 inhabitants</th>
<th>CAGR % (2001-2006)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>180368</td>
<td>15.31</td>
<td>2001</td>
<td>14.06</td>
</tr>
<tr>
<td>2006</td>
<td>367786</td>
<td>27.79</td>
<td>2006</td>
<td>27.79</td>
</tr>
</tbody>
</table>


Table 10: China's Mobile Cellular Subscribers (CAGR)

<table>
<thead>
<tr>
<th>Cellular Mobile Subscribers (in 000')</th>
<th>CAGR % (2001-2006)</th>
<th>Year 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Per 100 inhabitants</td>
</tr>
<tr>
<td>2001</td>
<td>144820</td>
<td>26.1</td>
</tr>
<tr>
<td>2006</td>
<td>461058</td>
<td>34.83</td>
</tr>
</tbody>
</table>


Table 10 indicates that the growth of cellular mobile subscribers in China witnessed an upward swing after its accession. China registered 144 million mobile users in 2001 and 461 million in 2006. It had about 55.6 percent of mobile users out of total telephone subscribers in 2006. It can also be observed from the Table 10 that a CAGR of 26.1 percent was noticed in 2006 (World Telecommunications Development Report, 2006, International Telecommunication Union).

From the available data in Table 11, it is clear that the telecommunication services sector over the next seven years especially after its accession to the WTO in 2001 performed better. The total business volume of Post and Telecommunications in 2001
<table>
<thead>
<tr>
<th>Item</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Volume of Post and Telecommunication Service (100 million Yuan)</td>
<td>4556.26</td>
<td>5695.80</td>
<td>7019.79</td>
<td>9712.29</td>
<td>12028.54</td>
<td>15325.87</td>
<td>19805.06</td>
<td>23649.52</td>
</tr>
<tr>
<td>Number of Mobile Telephone Subscribers at Year-end (10 000 subscribers)</td>
<td>14522.2</td>
<td>20600.5</td>
<td>26995.3</td>
<td>33482.4</td>
<td>39340.6</td>
<td>46105.8</td>
<td>54730.6</td>
<td>64124.5</td>
</tr>
<tr>
<td>Local Telephone Subscribers at Year-end (10 000 subscribers)</td>
<td>18036.8</td>
<td>21422.2</td>
<td>26274.7</td>
<td>31175.6</td>
<td>35044.5</td>
<td>36778.6</td>
<td>36563.7</td>
<td>34035.9</td>
</tr>
<tr>
<td>Local (Urban) Telephone Subscribers at Year-end (10 000 subscribers)</td>
<td>11193.7</td>
<td>13579.1</td>
<td>17109.7</td>
<td>21025.1</td>
<td>23975.3</td>
<td>25132.9</td>
<td>24859.8</td>
<td>23155.9</td>
</tr>
<tr>
<td>Rural Telephones Subscribers at Year-end (10 000 subscribers)</td>
<td>6843.1</td>
<td>7843.1</td>
<td>9165.0</td>
<td>10150.5</td>
<td>11069.2</td>
<td>11645.6</td>
<td>11704.0</td>
<td>10880.0</td>
</tr>
<tr>
<td>Number of Post &amp; Telecommunications Offices(unit)</td>
<td>57136</td>
<td>76358</td>
<td>63555</td>
<td>66393</td>
<td>65917</td>
<td>62799</td>
<td>70655</td>
<td>69146</td>
</tr>
<tr>
<td>Length of Postal Routes and Rural Delivery Routes (10 000 km)</td>
<td>659.53</td>
<td>659.22</td>
<td>680.20</td>
<td>686.70</td>
<td>697.15</td>
<td>693.64</td>
<td>717.05</td>
<td>735.00</td>
</tr>
</tbody>
</table>

a) The business volume of postal and telecommunication services before 2000 was calculated at 1990 constant prices and that in 2001 was calculated at 2000 constant prices. The rate of increase at constant prices was 27.6% in 2001. The same applies to the table following.

b) Statistical coverages of business volume of postal and telecommunication services and pieces of express mail services are China Post Group before 2006, and postal enterprises above designated size (with annual business revenue above 2 million yuan). The same applies to the table following.

c) The indicator of number of postal offices referred to postal and communication offices before 1998, and referred to postal offices from 1999 to 2006; it included postal offices and postal sub-stations since 2002, and was postal enterprises above designated size since 2007. The same applies to the table following.

amounted to 4.55 billion Yuan, and reached to 5.69 billion Yuan in 2002. The volume further increased to 9.71 billion Yuan in 2004 and showed a continuous increase, registering 23.6 billion Yuan in 2008 (International Telecommunication Union). The Number of mobile subscribers went up gradually. In 2001 at the time of accession, China had 145 million mobile users, one of the highest in the world. It experienced a significant rise in the year 2003, when it registered 269 million mobile users compared to 206 million in 2002. Between 2003 and 2004 and between 2004 and 2005, the rise is also significant as in 2004 it touched to get 334 million in 2004 and recorded 393 million in 2005. In 2008, it further increased to register 641 million. Similarly, local landline telephone subscribers also witnessed a rising trend. It registered 180 million in 2001 and rose significantly to reach 214 million in 2002. The number further increased to 311 million in 2004 and 350 million were finally registered by 2005 end. In 2008 the number of local landline subscriber came down, registering 340 million. This has happened due to consumers shifting to mobile phones. Local (urban) telephone subscriber numbers experienced an upward trend consistently from 111 million in 2001, and went up to register 239 million in 2005. It witnessed an increase in 2006 reaching 251 million, but in 2007 and 2008 the number has come down to touch 248 and 231 million respectively (Table 11). Likewise from the table, it is evident that other indicators like rural telephone subscribers, and number of post and telecommunications offices (PTO) witnessed some fluctuation in growth.

III.8 Telecom Industry during 2008-09

During this period most of the restrictions on the entry of foreign players to domestic market were supposed to be withdrawn. Around 2007-08, the telecom industry witnessed new dynamics in relation to resource distribution and development trends. On one hand, the mobile businesses grew fast while on the other, the landline businesses rapidly declined. Decrease in landline venture resulted in low economic benefits for the economy. As a result, the gap between enterprises at different levels increased and the competition dynamics in the market lost their balance. During May 2008, MII, the National Development and Reform Commission and Ministry of Finance decided to further restructure the telecom industry. The six major telecom operators were reshuffled to three, to improve the performance of the industry. The
three major players were China Telecom, China Unicom, and China Mobile, and each
one of them is involved with mobile, landline and broadband (China Daily: May 25
2008).

The current telecom industry in China looks quite promising as most of the
restrictions have been withdrawn. The foreign telecom players, who have been
waiting for a long time to serve the Chinese telecom market were now considering
giving shape to their plans of entering the world’s largest and highly lucrative telecom
industry. Various foreign players such as SK Telecom of South Korea and Telefonica
(the second largest phone company of Europe) already enjoyed substantial stakes in
China’s fixed-line operations, China Telecom and China Netcom. “Restructuring of
the Chinese telecom industry would give these players an opportunity to bring their
mobile business to the country as the domestic partners now have access to the
country’s wireless market,” says a telecom analyst.46 This sentiment was also
expressed by other Chinese experts (Zhu and Guoxing 2009: Personal Interview). For
instance, SK telecom, which held 6.61 percent of China Unicom’s total equity before
the telecom industry reorganization sought suitable opportunities to raise its stake in
the company.

As if to reward these moves, the Chinese government announced in September 2008
that it would relax access to its telecom industry for foreign investors by cutting
minimum investment criteria by as much as 50 percent. It is expected that
deregulation by the government may trigger an influx of foreign investment in the
Chinese telecom sector. The Chinese Government took up the initiative to finalize
issuance of 3G licenses in January 2009, which had opened up new avenues for
foreign players, to venture into the market as the market which was expected to create
huge demand for capital among the Chinese telecom operators. These companies are
actively expanding and upgrading their existing networks in order to gain a favorable
position in the country’s most promising 3G environment.

III.9 Employment and Its Role in Economy

In the telecommunications sector which is capital and technology intensive, the
pattern of employment had focused on having skilled workers. Both the equipment

46 From the discussion held at a business meet organized by the CII and Embassy of India, Beijing at
the Marriot hotel in Beijing on April 15 2009.
industry and the services sector require skilled workers to operate the system. During the 1990s and even till 2001, SOEs had remained the most important employers in telecommunications, as the state had a complete monopoly in the sector. Compared to other sectors in services such as retail and construction, telecommunications did not see much of a decline in employment because it remained protected. In the 1990s and early period of 2000 and 2001, employment in SOEs of posts and telecommunications remained quite high, i.e., almost 91 percent (Bhalla and Qiu, 2004: 125).

From the data provided by Statistical Yearbook of China, 2007, it can be observed that before the accession, the total number of employees in the telecommunications and other transmission services was around 1.3 million, which noticed a slight decline towards the end of 2001 to 1.1 million. In 2003, the number had further come down to little over 0.8 million, which meant that there had been a significant decline in terms of employment in this sector during the post accession period. As has been argued earlier, that during the accession time when China was undergoing serious restructuring and competition had already set in the telecommunications sector—being overwhelmingly protected and SOEs driven—it is largely agreed that SOEs had to lay off many workers as it was unable to sustain themselves in the face of fierce competition. However by 2004, employment scenario had marginally improved as the total number of employees had gone up from 812511 to 858992. That was the time when the private sector or the non-state sector had gained much and the employment scenario had started looking bright. The year 2005 also saw a marginal increase in the employment. The number of staff and workers continued to increase in telecommunications sector in China. There has been a substantial rise in employment in this sector, as national total increased to 955771 in 2006 and to 980431 in 2007 (ChinaStatistical Yearbook 2000:http://www.stats.gov.cn/tjsj/ndsj/2007/indexeh.htm).

Currently China's services sector may not be contributing as much to its economy as India does, but a significant part i.e., around 32 percent of its GDP comes from its services sector. As most of the services require an effective telecommunications system to perform, this sector directly or indirectly contributes to its economy.

The possibility of a rapid growth of telecom sector in China was well visualized as it began experiencing a lot of activity in the ITeS (Information Technology enabled Services) and Business Process Outsourcing (BPO). Over the last few years, the
worldwide BPO sector has undergone rapid transformation. Low cost, skill based workers, and good communications skills were proving to be key components of global competitiveness of this sector. Many companies were looking at offshore outsourcing as a strategic alternative. China seemed to have realized this and therefore it was making efforts in terms of developing English language skills and computer software to emerge as an attractive destination for future BPO activities.

The BPO, insurance, banking and financial sectors were, and continue to be the key users of telecom infrastructure. China’s opening up to the outside world and foreign companies coming into China will require world class telecom infrastructural facilities and this is a big opportunity for China to capitalize on those gains.

IV. Implications of Services Commitments on China

Unlike GATT, the mandate of the WTO included the services sector. With the introduction of General Agreement on Trade in Services (GATS) in 1995, the growing importance of services sector has assumed significance. As data and literature on post-accession are quite sparse on China’s services sector, the component of analysis becomes limited on the issue. A significant work done by Ianchovichina and Martin in 2001 (Mattoo 2003: 303) taking into account the market access and national treatment commitments, says that the coverage of market access commitments (the unweighted average count) was 57.4 percent. Table 12 gives an idea about the analysis done in this study.

Accession commitments in China are much higher than the commitments offered by any other group of countries including high income countries in the Uruguay Round. The ‘average coverage’ a measure of coverage that better reflects the extent of liberalization of services was 38 percent for China, which shows more openness about the sector compared to other high income group countries. The share of completely liberal commitments (no restrictions) in the maximum possible commitments was 23 percent for China, much higher than that of any other group of developing countries but somewhat lower than that of high income countries. From this, one can easily

---

47 Detailed provision relating to GATS can be accessed from http://www.wto.org/english/docs_e/legal_e/26-gats_01_e.htm
observe that China’s commitments towards national treatment are wider and deeper than many other groups of countries.

Table 12: Coverage of Specific Commitments during late 1990s (%)

<table>
<thead>
<tr>
<th></th>
<th>High-income countries</th>
<th>Low and middle-income countries</th>
<th>Large developing nations</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market access</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unweighted average count (sectors-modes listed as a share of maximum possible)</td>
<td>47.3</td>
<td>16.2</td>
<td>38.6</td>
<td>57.4</td>
</tr>
<tr>
<td>Average coverage (sectors-modes listed as a share of maximum possible, weighted by openness or binding factors)</td>
<td>35.9</td>
<td>10.3</td>
<td>22.9</td>
<td>38.1</td>
</tr>
<tr>
<td>Coverage/count (average coverage as a share of the average count)</td>
<td>75.9</td>
<td>63.6</td>
<td>59.3</td>
<td>66.4</td>
</tr>
<tr>
<td>No restrictions as a share of total offer (unweighted count)</td>
<td>57.3</td>
<td>45.5</td>
<td>38.7</td>
<td>40.2</td>
</tr>
<tr>
<td>No restrictions as a share of maximum possible</td>
<td>27.1</td>
<td>7.3</td>
<td>14.9</td>
<td>23.1</td>
</tr>
<tr>
<td><strong>National treatment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unweighted average count (sectors-modes listed as a share of maximum possible)</td>
<td>47.3</td>
<td>16.2</td>
<td>38.8</td>
<td>57.4</td>
</tr>
<tr>
<td>Average coverage (sectors-modes listed as a share of maximum possible, weighted by openness or binding factors)</td>
<td>37.2</td>
<td>11.2</td>
<td>25.5</td>
<td>45.0</td>
</tr>
<tr>
<td>Coverage/count (average coverage as a share of the average count)</td>
<td>78.6</td>
<td>69.1</td>
<td>66.1</td>
<td>78.4</td>
</tr>
<tr>
<td>No restrictions as a share of total offer (unweighted count)</td>
<td>65.1</td>
<td>58.0</td>
<td>52.3</td>
<td>63.5</td>
</tr>
<tr>
<td>No restrictions as a share of maximum possible</td>
<td>30.8</td>
<td>9.4</td>
<td>20.2</td>
<td>36.5</td>
</tr>
<tr>
<td>Memo item</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No restrictions on market access and national treatment as a share of maximum possible</td>
<td>24.8</td>
<td>6.9</td>
<td>14.3</td>
<td>29.8</td>
</tr>
<tr>
<td>Number of sectors committed</td>
<td>293.0</td>
<td>100.0</td>
<td>239.0</td>
<td>356.0</td>
</tr>
</tbody>
</table>

Source: Mattoo, A. 2003: 303

The schedule of commitments towards market access and national treatment that China made while entering into the WTO are very significant. A closer look at those commitments sector by sector reveals that for most sectors modes 1 and 2 are either fully open or unbound and not subject to specific restrictions. Commitments on mode 4 specified horizontally rather than sector by sector are also standard. Entry is
guaranteed to managers, corporate executives, and specialists defined as senior employees of a corporation of the WTO members being engaged in the foreign invested enterprises in the territory of the People's Republic of China for conducting business. They may be granted a long-term stay permit as stipulated in the terms of contracts concerned or an initial stay of three years, whichever is shorter (Report of the Working Party, 2001). No commitments are made regarding other categories of movement of natural persons, for example unskilled personnel or movement not linked to commercial presence. With regard to mode 3, dealing with commercial presence, the official policy of China today even puts into effect a lot of restrictive measures. These are as follows:

Form of establishment: foreign enterprise can make an entry to China on specific sectors in two ways. The typical restriction is the requirement to form a joint venture; which is either an equity joint venture (EJV) or contractual joint venture (CJV). Foreign ownership in EJVs is frequently restricted to specified levels ranging from minority ownership (49% or less) or majority ownership (50%) or full membership.

Geographic scope: Commercial activity may be allowed only in specified cities, for example in Shanghai or Shenzhen or in special economic zones. Business scope: Transactions may be permitted only with a subset of consumers or restricted in some other way. Regulatory requirements: Foreign firms may be required to have certain amount of assets and be established as a representative office for a certain period of time before commencing full business operations.

According to this specific schedule of commitments, FDI in joint ventures will not exceed 30 percent in specific cities such as Beijing, Shanghai, and Guangzhou. Within one year after accession, this geographical area will be extended to Chengdu, Dalian, Fuzhou, Nanjing, and others. One year after accession, foreign investment up to 49 per- cent will be allowed and within two years up to, but not more than, 50 percent. The above geographical restriction will be lifted within five years from the date of accession. The telecom services will include value added services such as voice mail, electronic mail, online information and data base retrieval, internet content, etc. These were the commitments made by China when it entered the WTO.

While the five-year “roadmap” for implementation of its scheduled market opening ended in December 2006 with most of the commitments met, some key commitments in sectors important to the US economy still have not been fulfilled (US-China Business Council).

Similarly, on the issue of national treatment it had not committed any limitation which signifies that the foreign invested enterprises and domestic players will have no discrimination in terms of treatment in the country. That also amply demonstrates that it wanted to encourage foreign players to come in, but in a gradual and geographically restricted manner. 49

In the services negotiations under the GATS framework countries make offers and request to achieve their specific schedule of commitments. These commitments are made at the time of accession to the WTO. The idea is this that when the negotiations at multilateral level were proving to be difficult to reach its desirable end, countries resorted to offer-and-request mechanism. China did the same thing in 2005 when it revised its offers 50 in a range of services in anticipation that this process or initiative would ease the negotiations to reach its final end. The revised offers in China’s telecom services suggested that the foreign service suppliers will be permitted to establish joint venture in value added telecommunications enterprises without confining to 30 percent equity and restricting to cities like Shanghai, Guangzhou and Beijing. Similarly, in other services such as on-line information and/or data processing, foreign investment in the joint ventures shall be no more than 50 percent. This is to suggest that with three to four years of accession China proceeded with its liberalization commitments in telecom services. This in a way was expected of China to do it because it had promised to remove such kind of restrictions and also became keen to liberalize the sector.

IV.1 Implications during Restrictive Phase (2002–2007)

China’s opening up of the telecommunications sector in a gradual and phased manner to foreign players was seen both as an opportunity as well as a threat. The Central Government was extremely cautious in allowing market access to foreign players.

50 TN/S/O/CHN/Rev.1 29 July 2005, WTO.
After joining the WTO, China, as a matter of principle, had to open its sector. For a long time restrictions in the form of commercial establishment have been prevalent in China and being justified as a source of acquiring technology or obtaining a share of monopoly rents. All such restrictions slowly apply to the forms of establishment. Restrictions of these kinds mentioned in the WTO agreement which confine foreign ventures to five cities for five years as in the case of insurance, will encourage agglomeration of these activities in the favoured cities, which will be difficult to reverse when the restrictions are subsequently lifted (Mattoo, A. 2002). Such kind of restrictions will have a rather adverse impact on the rural areas of the country even if they have the potential or the comparative advantage of the designated urban areas. Policies of liberalization towards telecom services pursued geographically was at one level a conscious decision of the Central Government because it knew in such pockets the rising purchasing power and developed infrastructure will be able to sustain such telecom growth and consumers’ demands will also be met (Xiangshuo 2009: Personal Interview). It is also the pressure of the domestic telecom lobby, which exerted immense pressure on the Government not to liberalize the telecom policy and allow the foreign players to come in. Though consumers complained because of poor service and high tariff structure, the Government had imposed during this period hardly addressed such concerns. The Government benefited from such policies as it obtained hefty revenue directly from the telecom sector (Xiangshuo 2009: Personal Interview).

China’s telecom liberalization is delayed due to vested interests of various interest groups. These groups are domestic telecom operators like the China Mobile, China Telecom and China Unicom who never wanted an early opening up of the sector. Though the commitments made by China in the WTO were regarded, yet the Government took five to six years to phase out most of the restrictions for foreign players to enter the Chinese market. This kind of market restrictions which remained after the accession till 2007 were supported by the Government as it provided lead time to the Government to gauge the impact of telecom liberalization in the country (Lei 2009: Personal Interview).
IV.1.1 Positive Impact

China's late entry of telecommunications in world trade is justified as it is a developing country and its domestic industry is not strong enough to face the global competition. Being a strategic sector, the Government may retain its control over the sector. Implications of late opening might not have been profitable for the Government, but the issue of security has never been compromised (Sang Ho 2009: Personal Interview). According to Prof. Hong Song: "Chinese domestic firms were not very strong in terms of their infrastructure, innovation and service. As a result there was intense pressure from the industry lobby not to open up the sector. The Chinese Government respected their concerns" (Song 2000).

According to Prof. Andong Zhu, Tsinghua University, Beijing, China: "When pressure on China mounted as China was negotiating for its entry into the WTO, it decided to open up its telecommunications sector in a phased manner confined to a few cities initially as it wanted to realize the impact of such liberalization policies. Telecom remained a closed sector for political reasons. It is also argued that the Chinese Government wanted to experiment the system of opening up on a selective geographical pattern. The Government was fully aware that such pockets had the purchasing power and initial development of telecom infrastructure will generate revenue for the Government." Implications of this opening up in a phased manner have not put the Government in any jeopardy as far as social and political security is concerned. As a part of the overall WTO's accession commitments, China had to open up and remove its restrictions on foreign players' entry. With the liberalization and FDI coming into the sector, the employment prospects have naturally gone up. In fact, the telecom sector is providing more employment currently than textiles. During this current financial crisis, the prospects for performing better lay more with the telecom compared to textiles (Zhu 2009: Personal Interview).

The overall accession commitments led to some amount of dilution of discretionary power of the Chinese Government as it fulfilled most of its commitments over a period of five to six years from the date of its accession. It has eliminated all its restrictions relating to foreign entry and foreign ownership. It will observe strictly national treatment, which basically means it will stop discriminating between trading partners and not even favour its own domestic firms. In totality, it vows to follow a
free and fair rule-based trading system. What China is going to lose most importantly in the wake of all these developments is its freedom to exercise its own policies at any point of time. The commitments are all desirable but how far the continuous restrictions on foreign entry and ownership will help China to have full benefits of foreign investment is an issue that needs to be debated. The commitments try to eliminate discretion existing in the system. It is a matter of fact that liberalization in many areas is taking place in China slowly because the Chinese government is reluctant to liberalize certain areas. Socio-economic factors and political pressures from various quarters hold them back and as a result protection still continues. The government even feels certain incumbent domestic enterprises or suppliers are unable to cope up or face the challenges of liberalization as the reforms in these may take longer for them to fight back. All these may lead to some form of protection and once protection is given will be difficult to lift it.

In addition, entry through joint venture looks to be a positive step for the foreign firms. Initially they can collaborate with a local firm as the firm will have the minimum assets and they will find an access to operate in China. However, binding ownership restrictions will affect the firm’s performance because the firm will not be in a position to obtain new technology and better manpower to raise its performance.

**IV.1.2 Negative Impact**

Though China has agreed to remove all restrictions on foreign entry, the Government feels somehow ambivalent about the nature and scope of foreign entry. What is uppermost in the Chinese Government’s mind is whether unrestricted regime will be good for China and to what extent, it is going to devalue the total control of the Chinese government on this issue. One reason could be that unrestricted entry of foreign companies may just completely swallow the Chinese market, as the domestic firms are not so well developed or well equipped in terms of providing better services at such a lower cost. Another reason is the issue of economies of scale. For example, in a vibrant services sector like telecommunications, if one domestic firm has worked out substantial fixed costs of networks, competitive bidding by foreign entry could lead to some kind of an inefficient network duplication (Armstrong, M, Cowan, S and J. Vickers, 1994).
In a technologically driven world, technology can even minimize the cost at some level. Openness in the system allows a country to have better technological leverage as to how a country can stop all these and go ahead with its old sterile and obsolete technology. The power and spirit of competition is yielding much better results.

Besides, entry restrictions do not develop a sense of competition among the local firms or incumbents; rather it creates an atmosphere of complacency or sometimes leads to collision, which ultimately results in unproductivity and inefficiency. More importantly, sometimes even the regulator is not adequately placed than the competitive system to derive the number of firms operating in the market and as to how they are being priced to produce or provide the best possible services. All this suggests that China may not worry to open up its sector or restrict foreign entry.

Excessive capitalization requirements to the tune of RMB 2 billion in the telecommunication sector as a part of the China’s regulations for foreign invested telecommunications enterprises proved an entry barrier for foreign telecom investors. As a result to develop an economically viable and efficient telecommunications services market in China had become difficult. This kind of restriction inhibited investor to turn to the Chinese market for future investment.

For many successful foreign enterprises such huge capital requirements for commercial purposes were never a practice and to invest so much in developing infrastructure in a different country initially did not look a very profitable proposition. Such policy doesn’t make positive contribution to a domestic infrastructural service like telecommunications especially at a time when the global telecom sector is facing huge capital resource crunch.

China’s huge capitalization requirements were also inconsistent with the licensing practices of other liberalizing economies. A global review of the start up capital requirement for a basic service provider found no amount of capitalization fee in the US, the EU, Canada, Japan, Australia, Brazil, Chile, Argentina. Hong Kong requires a performance bond; India requires a bank guarantee from US $ 5 million to US $ 80 million depending on geographic scope. It is only Taiwan which maintains a rigid policy like China (Brilliant, M. and Waterman, J., China’s WTO Implementation: A Three Year Assessment Report, 2004). This high capitalization policy had restricted
the movement of foreign service providers entering China. The policy also
discouraged the foreign companies to engage in any joint venture with a Chinese
partner. China's high capitalization requirement for basic telecommunications services
has limited its market access.

This policy adopted by China dissuaded many foreign enterprises to enter the market.
As a result, China suffered from developing its telecom sector as a modern,
productive, and sophisticated sector. It lost the opportunity of getting sophisticated
technological services and other managerial expertise into the sector, which in turn
would have helped China in the diffusion of knowledge and make the economy more
efficient. Lack of access to better services remained a bottleneck for the whole
industrial sector. Such restrictive policy did not help the consumers. This policy
remained active for the first three years of accession and slowly such restrictions were
lifted in the interest of the economy.

Such restrictions proved to be disadvantageous for the country as well as for the
consumers and were also not in conformity with the commitments of the accession
process. Restriction on foreign ownership was proving to be a major hindrance in the
liberalization of trade services in China. There was only one way in which foreign
presence in China can be administered, i.e., entry through a joint venture with varied
degree of limits on the extent of foreign ownership. China has undertaken a series of
reforms in gradually phasing out those restrictions but still in the areas of life
insurance and telecommunications, such restrictions persist.

Besides, the policy of geographical limitation followed after China joined the WTO in
terms of opening up of certain major cities like Shanghai and others to foreign players
and limiting to rest of the country, greatly impeded China's uniform growth in the
 telecom sector. As a part of China's own commitments to the WTO, this policy of
geographical limitations may have widened the intra-regional disparities. Though
China was committed to phasing out of geographical restrictions, sequential approach
to this kind of liberalization may prove even more damaging in the long run. The
existing pockets of development are going to witness even more progress as more
economic activities are going to be concentrated in these areas. This would even
widen the scope of intra-regional inequality. With due course of liberalization
occurring in the hinterland at a later stage, there is a doubt whether hinterland
economy will be able to adjust to the pace of progress that had occurred in the coastal belt. Inequality may thus continue to persist. These lacunae should be able to strengthen its case for lifting the geographical restrictions simultaneously rather than sequentially.

IV.1.3 Economic and political Hurdles for Opening Up

China's policy relating to restrictions on foreign ownership continues to be dominated essentially for two reasons—economic and political. Economic reason can be attributed to the fact of extending limited ownership by which foreign companies will be able to ensure efficiency-cum enhancing cost and services factor, whereas political reason implies that there is a huge adjustment cost involved that an immediate transfer of an ownership would lose control of the firm, which ultimately could lead to layoffs. This picture is well known to the Chinese Government and they visualize a major social backlash. But the liberalization on the other hand promises to provide better service by not developing a monopolistic scenario rather than bringing in a competitive system by introducing competing firms to provide quality service.

The above analysis gives an idea about the fact that accession commitments and its fulfillment are beneficial for a country like China. With its size, and a huge burgeoning middle class having a strong purchasing power, with great amount of infrastructural development and an earnest drive towards modernization, China can achieve spectacular success from this on-going liberalization process. If it is to make the most of liberalization that it had committed to after becoming a WTO member, then it has to put its independent regulatory network in place. China has not so far implemented its WTO Reference Paper commitment to establish an independent regulator.

The Chinese Government still owns and controls all major operators in the telecommunications industry, and the MII still regulates the sector. To create an independent regulator, China requires a series of reforms to be undertaken in the immediate future like establishment of a professional body that is separate from, and not accountable to, any basic telecom supplier. The body should be capable of issuing impartial telecom decisions and rules. Specifically, it is important that the regulatory body adopts transparent procedures for drafting, finalizing, implementing and
applying regulations and decisions. It must take appropriate measures consistent with the WTO Reference Paper, to prevent dominant suppliers from engaging in, or continuing with anti-competitive practices. It must set up an independent and objective process for administrative reconsideration of its decisions and appropriate procedures and authority to enforce China's WTO telecom commitments such as the ability to impose fines, order injunctive relief, and modify, suspend, or revoke a license. As the services sector is dynamic and rapidly growing, a strong, flexible domestic regulatory body is very much essential to tackle certain key issues like destabilization in the market, asymmetrical and inadequate consumer information, developing monopolistic tendencies, and guarantee fair and equitable access (Kanungo 2005: 344).

The first regulatory reform should come in the area of physical infrastructure like roads and railways for land transport and other specialized distribution networks, like cable and satellite telecommunications (UNCTAD) and World Bank, 1994). Unless a thorough regulatory mechanism is created, the market is going to witness some disturbance as the incumbent may not allow competition to set in and deny the competitors access to essential facilities.

Second, as services markets in China are being opened up, due importance must be given to providing consumers with the quality information in intermediate and knowledge based services. Normally in a large market, consumers may not find the appropriate information about the kind of services they are buying. For example, a consumer may not easily assess the competence of a professional such as a doctor or a lawyer or the effectiveness of a hospital or services of a transport system. Further obtaining that information from anywhere in the first place is difficult; secondly that information will prove to be expensive. In such a situation, an effective regulatory body having more autonomy and flexibility if in place can take care of increasing demand of social welfare.

IV.2 Implications during 2008–2009

With the beginning of the global financial crisis, China's telecom manufacturing companies initially experienced a setback. Export of telecom instruments came down from US $ 89 billion in 2008 to US $ 86 billion in 2009 [World Trade Atlas Online
Database, 2010 (HS Code 8517-miscellaneous telecom products)]. Domestic telecom manufacturing giants like Huawei and ZTE faced serious slump in the world market during 2008 and early parts of 2009. Their exports witnessed a decline. As their share of profit significantly depended on world demand, decrease in import demand from the world, posed a serious threat to their future expansion. As the wage factor is a determinant in the global competitiveness of these domestic firms, an increase by 15 percent in wage in rural China will affect the sustainability of these firms. Domestic telecom manufacturing companies may find it too hard to sustain in this current crisis (Lei 2009: Personal Interview).

According to the statistics from China's Ministry of Industry and Information Technology (MIIT)\(^{51}\), China's mobile phone output decreased by 11.2 percent year-on-year in the first two months of 2009 and its mobile phone exports decreased by 17.2 percent during the same period; the largest decline over the past few years. The statistics from MIIT show that in January and February 2009, a total number of 79.672 million mobile phones were produced in China, a decrease of 11.2 percent compared with the same period of last year.

The statistics from the customs departments show that the exports of China's mobile phones and mobile phone parts were to the tune of US $ 3.598 billion in February 2009, an increase of 25.3 percent compared with the previous month, but a decrease of 3 percent compared with the same period in 2008. In the first two months of 2009, the accumulated value of exported mobile phones and mobile phone parts was US $ 6.47 billion, a year-on-year decrease of 17.2 percent, and the value accounted for 14.8 percent of the total export value of China's high-tech products during the same period.

The competition of telecom industry is going to get tougher. Its growth will not be affected so much during this global financial crisis compared to financial services, as this sector plays an important intermediary role in business activity. Foreign service providers will find it hard to compete because Chinese consumers are culturally more sensitive and attached to their traditions. They would demand services in the Chinese language, which may prove difficult for foreign providers to adopt. Huge amount of

\(^{51}\) MIIT, established in March 2008, is the state agency of the People's Republic of China responsible for regulation and development of the postal service, internet, wireless, broadcasting, communications, production of electronic and information goods, software industry, and the promotion of the national knowledge economy.
investment has to come in from foreign service providers and to implement such services they have to hire many Chinese skilled workers. This will increase the employment prospects for the local people in this sector (Yong 2009: Personal Interview).

Though the sector experienced the slump due to decrease in world demand, yet in early part of 2010 it started recovering from that temporary slump. Huawei Technologies, the fast-growing Chinese telecom manufacturer reached global contract sales of over US $ 30 billion in the last quarter of 2009, marking a rise of nearly 30 percent from the year before. It is expected that this domestic company will increase its contract sales to US $ 36 billion by end of 2010. It is fast expanding to big markets (Beijing Review 9 January 2010:http://www.bjreview.com.cn/business/txt/2010-01/09/content_238773.htm). Besides, the sector provides key inputs in terms of information and IT enabled services to industry from time to time. Its prospect for growth can be envisaged. The government needs to prioritize the sector as a potential area of investment, which would help in raising its productivity and increasing its economic growth. This sector did not experience any major decline in growth during this global financial meltdown because this is a growing sector and its role is important to the growth of a nation as well as to world trade, as the telecom sector provides critical infrastructural inputs to the proliferation of world trade. Its expansion is inevitable and global financial meltdown requires more and better services from China’s telecom sector because it is currently one of the fastest growing economies in the world (Guoxing 2009: Personal Interview).

IV.3 Issue of FDI in Telecommunications Services

The issue of Foreign Direct Investment (FDI) in China’s telecommunications services sector occupies a critical place in China’s post-WTO accession period. The FDI in services virtually remained banned or extremely restrictive prior to its accession (Nolan and Wang 1999: 182). The scenario changed when the establishment of MII as the regulatory body came into existence and took measures to put in place an effective regulatory mechanism to monitor the foreign investment.

However, one of the significant reasons for China not allowing FDI in telecom services has been its deep concern towards national security and sovereignty. State
control of communications network and services has long been viewed as one of the important aspects of security and sovereignty. Ideological reasons also played a role in restricting FDI in telecom services and allowed the sector to move quite cautiously (Xiangshuo 2009: Personal Interview). As Wu Jichuan explained: “The rules prevented foreigners from owning telecom; there was worry that China’s security could be jeopardized” (Kuhn 2010: 322). It has often been observed in Asia particularly the linkage between national security and telecommunication services has been invoked as one of the main reasons for restricting the foreign ownership of operators (Janda 1999: 23). At the same time, the demand and ability of a country’s economic growth is fully dependent on such network of services, which is also equally recognized by the country. The countries, therefore, are trying hard to balance these contradictory and functional imperatives (Drake 2001: 27–28).

Countries in the 1960s and 1970s and during Uruguay Round shared the view that Western technology played a key role in enhancing their economic growth. Based on pragmatic assessment, countries realized giving up a degree of national sovereignty would result in ample dividends in terms of consumers’ welfare and deployment of equipment and efficient services (Frieden 2001:149). In a centrally planned economy like China, telecommunications were part of national security network and part of country’s requirement to stay in touch with the country side. As a result, sovereignty and national security since 1978 till its accession to the WTO have considerably influenced China’s policy on FDI in services and the broader direction of reform agenda in telecommunications.52

With the accession to the WTO, the policy debate shifted from a ban to how and to what degree the foreign ownership of operators and network services should be allowed without affecting the country’s national interest. Joining the WTO the Government automatically opened up the sector though the deeper issue of national security and sovereignty remained a primary concern. Recent regulations explicitly incorporate the notion of sovereignty. For example, rules governing the administration of telecommunications provide that “when managing telecommunications

52 Several studies have directly attributed to the conservative stance of China on FDI to the issue of sovereignty and national security. See Zhang and Peng (2000:14) and Xu (2002: 25–26).
construction, it is necessary to safeguard the state sovereignty in telecommunications.}\textsuperscript{53}

With the accession to the WTO, several foreign enterprises have made inroads to China. Flag Telecom from Europe is the first and the only private operator, that landed a submarine telecommunication cable in China. In addition to this, in 2003 South Korea’s SK telecom joined hands with China Unicom to develop the first Sino-foreign joint value added mobile service provider in China.

In compliance with the WTO agreements, China till 2004 had allowed foreign operators an equity of 25 percent in basic services joint ventures. Although 18 foreign firms are reported to have applied for investment in joint ventures, the scope of investment still remained narrow (Laperrouza 2006: 161). High capitalization requirements have acted as a huge disincentive for all these international carriers.

Besides the issue of security and sovereignty, certain other factors also attributed to the formation of restrictive policies. First, it wanted to give a free run to the MPT and thereby closed the gates of entry of FDI into China. Second, the Chinese government, like its counterparts in developing and transitional economies, wanted to protect the interests of the national domestic industry. This view is amply reflected in the work of Mueller and Tan that services market in telecommunication would remain restricted to foreign investors as long as national industrial policy and political considerations define the agenda of reforms. Third, it is believed that the sector did not provide a clear, predictable, and transparent environment for the foreign enterprises. Fourth, immediately after the accession, foreign investors were not clear about the timeline of the liberalization of different services. Fifth, the MII acts as a conservative regulator which limits the scope of expansion in an era of openness. Sixth, they were not sure of their profit margins as the post accession period does not liberalize the sector in a speedy manner, rather it does it in a phased manner over a period of six-years.

\textbf{V. Summary}

China’s telecommunications sector has undergone a sea-change since its accession process began. Fundamental changes took place in its structural as well as functional

\textsuperscript{53} Decree No. 20, jointly issued by MII and SDPC in February 2002.
areas. From functioning as a wing of the Government, it went on to introduce market reforms thus institutionalizing the distinct identity and functioning of regulators and service providers. The sector has remained a strategic sector as it contributed both to the manufacturing as well as service segments of the economy. With the joining of the WTO its strategic importance has increased because of the global connectivity and the issues of national security and sovereignty.

China’s GATS commitments symbolize a major initiative towards telecommunications liberalization. Within a period of six years from the date of accession, i.e., by the end of 2007, it promised to lift all forms of restrictions as far as market access to its territory is concerned. This is an encouraging sign for the trading partners who are all waiting and genuinely interested in establishing and nurturing a continuous trading relationship with China. By and large the commitments have allowed China to accrue gains in terms of providing employment, improving the service base, satisfying a wide range of consumers’ needs and helping in registering high economic growth. Signs of improvement have begun to show as it opened up the sector with some restrictions.

In the post-entry phase growth of the sector has been significant. Its exports in the field of telecom equipment have gone up and it has widened its network of world trading partners. It has increased its domestic consumer base by providing connectivity to many regions of the country and also remaining connected to the outside world. The industry also witnessed a sustained growth in its size since reforms began in the sector. The total value of telecom business services had soared from RMB 1.9 billion in 1978 to around 1.85 trillion in 2007 (China Statistical Yearbook, 2008).

The ongoing global financial crisis and global economic meltdown have not affected the sector in a major way. As a strategic and futuristic sector, it has the potential to grow. The telecommunications sector in China is set to prosper as more and more businesses are expected to employ more sophisticated telecom services.

In the long run, China’s telecom industry will develop into an information service industry. It will constantly endeavour to improve its quality which can compete with service providers in developed countries. It will aim to provide quality, reliable, safe
and diverse information services to the Government and to all sections of the society. As restrictions have been withdrawn, international players are allowed to operate in China. Vodafone is currently entering into an arrangement with China Mobile to provide services. This would infuse a sense of competition among the Chinese service providers. Such competition will lead to form an industrial chain for the coordinated development of all market players. This will help promote economic growth. Many experts believe that with an efficient regulatory system in place, many business brands with indigenous intellectual property rights (IPR) will enter the market. The Chinese telecom service providers will become more competitive in the overseas markets and will create a secure market for themselves as China has done in other sectors like hardware, electrical machinery, textiles, toys, etc. (Yong 2009: Personal Interview).

The telecommunications sector in China is on an expansive mode. Its mobile and internet sectors are the largest and second fastest growing in the world. For China to have an edge over the others, it must focus on innovation and technological upgradation. These requirements will pose a big challenge for the telecom manufacturers as well as for the service providers. To a large extent, the Government's role and involvement will be a major determinant in shaping future growth of China's telecommunications sector.