

Competition and liberalization policies and regulations for telecommunications industries in China and Pakistan: a comparative analysis

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Abstract. The economic growth of the country is linked with the development of the telecommunications industry. While most of the developed countries already have liberalized their telecom markets for open competition during 1980s and 1990s, this process is still under progress in developing countries of the world. The approach varies vastly among different countries due to different social and economic conditions, however, countries can learn from each other's experiences to review their policies to get the objectives of full competition, universal service, protection of consumer interests, and deployment of advanced services. This paper compares the different policies for the development of telecommunications industries in China and Pakistan and also makes some suggestions for the forthcoming converged world from the experience of developed countries. The main focus of this paper is on competition and liberalization policies. Pakistan has taken revolutionary steps to bring competition to its telecom industry by adopting the approach of full market liberalization as compared with China's gradual and controlled approach. New entry in Pakistan has been facilitated by all regulatory and policy means to attract private sector investment. China is trying to protect government-owned telecom operators by restricting entry in this sector due to concerns of Universal Service and foreign companies' dominance of telecom industry. China is trying for fair domestic competition while Pakistan has adopted the approach of free competition. It is obvious from some economic and telecom indicators that telecom industry is exponentially growing after the liberalization and de-regularization of telecom industry in Pakistan. The establishment of an independent regulator and the early promulgation of long-awaited Telecom Law are must for China. Both of these countries need more expertise and competency to accommodate convergence in reforms to facilitate the penetration of innovative technologies and services in their telecom industries.

Keywords: China, Pakistan, policy, regulations, telecommunications, convergence

1 Introduction

China is most populous country with the largest telecommunications market in the world.. Pakistan is Located in South Asia, one of the major regional economies and among the ten most populous countries in the world. Both the countries are categorized as developing countries. The telecom markets are exponentially growing in both the countries and there is a high potential for growth. The comparison of these countries' telecom markets will give a chance to look at the diversity of policies and regulations in developing countries. Northfield^[18] pointed out, "comparisons of national experiences identify some common lessons for nations to review their policies and provide a mirror for countries to examine the results of existing approaches". Although there is no widely accepted model of telecom reforms in the world yet countries can learn a lot from each other's experiences to review their policies for the improvement of their telecom industries. The developing countries of the world those attained economic prosperity in last decade have, in fact, continuously focused on expansion and modernization of the telecommunications infrastructure by attracting private sector

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investment as a first step towards narrowing digital divide and improving the economy of the country. Pakistan has adopted the worldwide strategy for the development of its telecommunications industry by opening this sector to competition and private sector investment. On the other hand China has adopted the policy of gradual and controlled liberalization of its telecom industry and is still under the process of complete liberalization of its telecom industry.

The main objectives of telecom reforms in Pakistan were to promote competition, attract private sector investment, and to safeguard the consumer's rights. The separation of regulatory authority both from operational and policy functions, the release of the limit on foreign ownership, the privatization of an incumbent operator, and the fast innovations in technologies (especially wireless technologies) played an important role in the recent explosive growth of telecommunications industry in Pakistan. China has given more emphasis on structural reforms to make its domestic operators more efficient and competitive. The assumption that privatizing an incumbent operator is necessary part of achieving the goals of efficiency and cheaper prices for customers is not strictly true for every structure of the market. China has proved that telecom sector can grow without full privatization of incumbent operator and without the involvement of foreign operators. Norway is another example which got the required results without privatizing its incumbent operator. On the other hand UK and Pakistan are among the countries who achieved the required results through privatizing their incumbent operators.

The rest of the paper is structured as follows. Section 2 is about regulator and regulatory environment. Section 3 discusses Competition policy. Section 4 is about new entry assistance and market liberalization. Section 5 discusses FDI policy. Finally, concluding remarks are given in section 6 of this paper.

2 Regulator and regulatory environment

Establishing an independent regulator is a crucial factor in the success of any country's effort to introduce competition and to liberalize the Telecommunications sector^[11]. The separate regulatory body was established in Pakistan under the Pakistan Telecommunication (Re-Organization) Act, 1996. Before this separation, the incumbent operator was performing the role of the regulator. The establishment of separate regulator was an historic event which leveled the field for reforms. Although regulator was separated from operational functions, still it was embedded in Ministry of Information Technology (MOIT) till 2001. In 2001, it started exerting its identity as independent force and separated its function from ministry functions in response to WTO commitments. The Pakistan Telecommunications Authority (PTA) is now an independent regulatory agency for the telecom industry. The PTA has proved itself a credible regulator through its credible and transparent policies. The PTA structure is given in Fig. 1^[1].

The historic event of China's telecom industry was the establishment of a separate regulator in March 1998. The Ministry of Information Industry (MII) was founded by merging the Ministry of Posts and Telecommunications (MPT) and Ministry of Electronic Industry (MEI). Before this, MPT was performing the dual roles of the incumbent operator and the regulator. This was the first serious effort in China for regularizing its telecom industry by separating the regulator from the operational functions. The MII is now responsible to oversee telecommunications, broadcasting, satellites, Internet, and multimedia markets. The MII has faced serious problems in attempting to find the way to keep the balance between the efforts of developing a national telecom infrastructure and regulating the business practices of enterprises. In addition, provincial telecommunications administration authority was also established to regulate the telecom sector. In 2000, the Communication Administration Bureaus were established in all provinces, autonomous regions and municipalities directly under the Central Government. The structure and responsibilities of telecom regulator were given in Fig. 2^[5, 13].

China's telecom sector is mostly governed by the Telecom Regulations issued in 2000. Telecom Regulations classify the telecommunications business into two parts: infrastructure telecommunications businesses and value-added telecommunications businesses. Each classification is further divided into a number of sub-categories. The Telecom Regulations define infrastructure telecommunications business as those business operations relating to public network infrastructure facilities, public data transmission and basic telephonic communication services. The Telecom Regulations define value-added telecommunications businesses as those

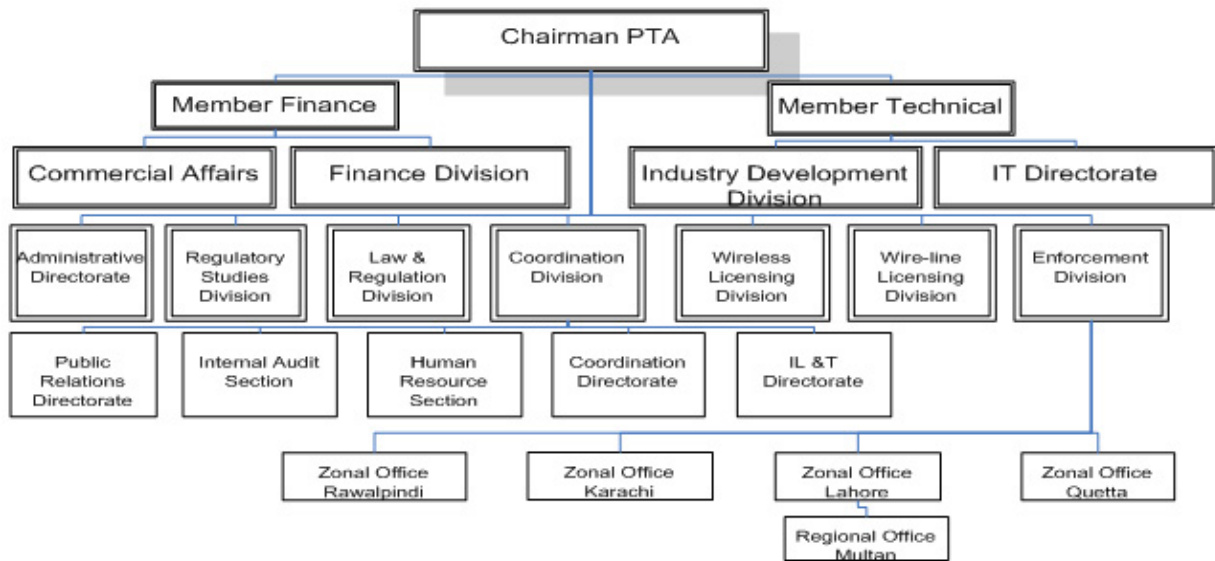


Fig. 1. Structure of the Pakistan Telecommunications Authority

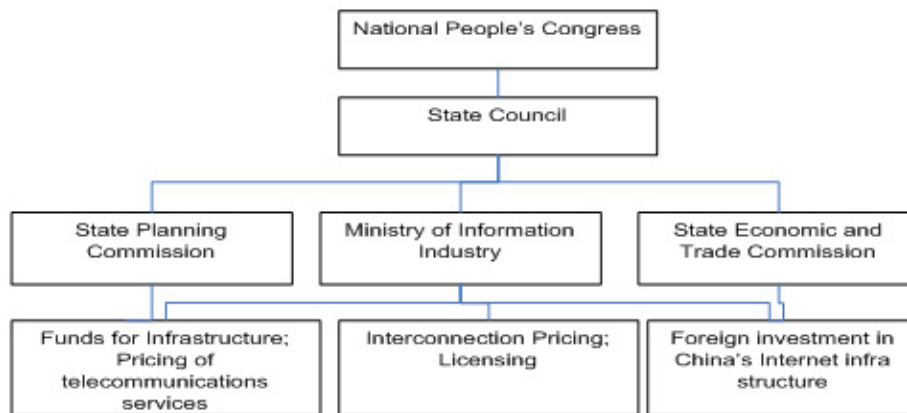


Fig. 2. China's policy and regulatory Authority

businesses that utilize public network infrastructure facilities to provide telecommunications and information services. Internet information services (commonly known as Internet Content Provider services) are classified under this category. The infrastructural services are required to be licensed from the MII and value-added services from the Local provincial authority.

The MII in China, like the PTA in Pakistan, has played an important role in bringing in competition and providing cheaper services to residential customers. The governments are the majority shareholder of incumbent operators in both the countries. The credibility of the regulator is always suspected in this environment. As Lovelock^[13] points out, “It is for this reason that the WTO argues that an independent regulatory agency is particularly important where the government retains any ownership and/or control of domestic telecommunications carriers”. The regulator in China is though separated from operational functions but still is not separated from policy functions. In comparison, PTA in Pakistan is separated both from operation and policy functions. The debate has been started in developed countries to limit the role of regulators and to prepare the digital communication law for the world of convergence. There is a widespread belief that the old laws of twentieth century are not suitable for the digital and converged world of twenty first century and these are creating hurdles instead of facilitating the penetration of new technologies. The convergence of telecom (voice), data com (data), and media (video) industries have forced most of the operators in the world to change their traditional business models and roles. China and Pakistan will have to take steps to accommodate these new trends through revolutionary policies and regulations. As recommended by Marth A. Garcia^[7], “Law should be broad in scope in order to more easily accommodate changes that take place over time keeping in view

the convergence that has occurred in information and communications technologies". China will have to give special attention to this matter in its forthcoming Telecom Law. Both of these countries need more expertise and competency to accommodate convergence in their policies and regulations to facilitate the penetration of new technologies.

3 Competition policy

One of the major goals of any country's reform is to establish the competitive markets in which prices are only set by market forces. Social welfare is maximized in competitive markets. As pointed out by Moises Naim^[16], "the prices under competition foster a better allocation of resources to meet consumer demands than do monopoly prices". In addition to providing cheaper services to consumers, competition also helps in expanding infrastructure to remote areas. Proper regulatory and anti-trust measures are needed to avoid anti-competitive practices like discrimination and collusion. The major operators can exploit the small operators by exercising its market powers in the absence of effective regulatory and anti-trust policies. This anti-competitive behavior not only knocks out the small operators but also discourages more investment in this sector. As Angus Henderson notes^[8], "in order to attract investment, developing countries may need to do more than their developed country counterparts in ensuring that effective measures are in place to address anti-competitive practices engaged in by government-owned major suppliers".

China has adopted the policy of gradual and structural introduction of competition in telecom sector. Competition was introduced in China's telecom market by establishing the JiTong Communications Corporation in 1993 and then China Unicom in 1994. The entrance of Unicom transformed the market structure from monopoly to duopoly like in UK and Brazil at the early stage of their reforms^[14]. Before this Ministry of Post and Telecommunications (MPT) was the only monopoly operator in the country. In order to promote competition and to eliminate the monopoly, series of structural measures were taken. The leading telecommunications entity was further divided into China Mobile, China Telecom, China Satellite and Guoxin Paging to introduce more competition in 1999. In the same year Guoxin Paging was merged in Unicom to make it more competitive. Afterwards China Netcom and Railway Communications (Tie-Tong) were established by granting two new licenses. China Railcom was the first operator under Ministry of Railway to compete with China Telecom in Fixed Telephone Network (FTN) services. At the end of 2001, foreign investment was also allowed in China. In 2002, China Telecom was further divided based on North and South regions^[5]. New China Netcom was established by combining ten provinces in Northern region with the former China Netcom and JiTong Telecom. The new China Telecom was established on the basis of 21 provinces in Southern China with some restructuring. These two companies are allowed to compete with each other. The MII introduced a new policy to allow four major telecommunications operators, China Mobile, China Netcom, China Telecom, and China Unicom, to offer the full range of fixed telecommunications, mobile phone, data connection and other basic telecommunications services^[12]. There has been increasing domestic market competition among independent telecommunications operators. The competition in value-added services is more due to opening of this sector to private investment and the requirement to obtain license from the provincial authority. There had been more than 14000 licenses issued to companies for providing value-added services up till July 2004.

The competition in Pakistan was started in some segments of the industry after promulgation of Pakistan Telecommunication Corporation Act, 1991. In order to ensure private sector participation and competition, the licenses were granted for cellular, card-operated payphones, paging and lately for data communication services. The cellular licenses based on AMPS and D-AMPS technologies were issued to two private companies, Paktel and Instaphone to introduce competition in cellular sector. Mobilink was allowed in the market as the first GSM operator in 1994. The cellular industry in Pakistan enjoyed remarkable growth when the tariff mechanism was changed from Mobile Party Pays to Calling Party Pays (CPP) regime in 2001, along-with decrease in prices. The competition in GSM cellular market was started in 2000 when Pakistan Telecom Mobile Limited (PTML), with brand name Ufone, launched its commercial services. In order to bring competition, Pakistan fully opened its telecom industry for private investment by deregulating its telecom industry in July 2003. The main features of Telecom Deregulation Policy are:

- New technology-neutral issuance of national cellular licenses.

- Putting roll out obligations on operators.
- Obligations on PTCL for interconnection.
- Radio spectrum would be allotted through auctioning to mobile licensees.
- Obligations on cellular operators for contribution to USF and R & D Fund.

The things really started changing after awarding two more cellular mobile licenses through announcement of Cellular Mobile Policy in January 2004. The Cellular mobile licenses were awarded through open bid auction, a superior mechanism compared to the beauty contests or “first claimant rule”, in April 2004. Two multinational companies, Telenor and Warid Telecom, won the bid for licenses and cellular market is heading towards full competition. Pakistan adopted the approach of market liberalization before privatization of its incumbent operator, as it is difficult to compete with private Incumbent operator. As pointed out by Angus Henderson^[8], “Government ownership of the incumbents raises, or potentially raises, very similar suspicions for many developing countries to consider when putting in place competition laws in the telecommunications sector”. The incumbent operator was privatized in 2005. Noll^[17] argues that the typical privatization choice in countries is selling controlling stakes of telecommunications incumbents to operators in developed countries, or at least to consortia that include a major telecom operator. The incumbent operator was sold (26 percent shares) to strategic investor by transferring management powers of the company to that investor. The main reason for this privatization was concern of inefficient working of government run organization that lacks the capability to compete with foreign competitors. The incumbent operator in Pakistan is facing many challenges and now is under restructuring phase to compete with national and multinational operators. Pakistan has made every possible effort to bring competition to telecom markets and these efforts are bringing fruits in terms of its fast moving markets towards competition. Mandatory interconnections play important role in getting the objective of full competition. Brief discussion on interconnection policies of both the countries is given below.

Interconnection Policy-Interconnection is important to achieve effective competition and to avoid wastage of resources through duplication. Smaller operators can not compete with bigger operators without assured interconnection. Indeed, large networks can limit entry and growth of rivals by foreclosing interconnection^[4]. Providing interconnection is one of the three major requirements for WTO accession. The MII issued “Provisional Regulations over Telecommunications Network Interconnection” in September 1999. This was reinforced by “Telecommunications Regulation” also known as China’s first telecom law promulgated by the State Council (Decree No. 291 (2000)) in September 2000^[17]. According to this regulation, providing an interconnection facility is must for a major carrier to the requesting telecommunications carrier, if technically feasible. Further these interconnections must be provided on the principles of fairness and justice, reciprocal cooperation and economic reasonableness^[5]. In case of any dispute on interconnection agreement, MII is responsible to coordinate between parties. China Telecom is the biggest operator with Significant Market Power (SMP) in domestic and international interconnection markets. Pakistan Telecommunications rules, 2000 are the first step for putting obligation on major operators to provide interconnection and driving the industry towards competition. The major features of these rules are: free negotiation among operators for interconnection with the possibility of intervention of PTA, if needed; compliance with all relevant international standards, including, without limitation, those of the ITU for interconnection; cost based charging of interconnection services by SMP operators; non-discrimination in pricing by PTCL for telecommunication services. PTCL is declared as a SMP operator both for domestic and international interconnection markets. On the basis of these rules, PTA made regulations to resolve the disputes regarding interconnection and also published Guidelines for Interconnection in the year 2004. According to these guide lines, it is the right of an operator to be interconnected with other operators on non-discriminatory basis. The charges of interconnection should be cost-based and on the basis of unbundled network elements. The cost of inefficiencies of an operator should not be passed on to other operators through higher interconnect charges. The SMP operator is obliged to prepare and submit Reference Interconnect Offer (RIO) to the Authority. PTCL’s RIO has been approved by the PTA for the interconnection with LDI, LL, and cellular mobile operators.

A large number of local and foreign companies are competing in Pakistan in every market including mobile, Local Loop (LL), Long Distance and International (LDI) and value-added services. Although incumbent operator still has monopoly position in fixed line Local Loop due to its copper infrastructure, yet signifi-

cant competition has been emerged in Wireless Local Loop (WLL) and this market is heading towards full competition in the presence of some financially strong companies as shown in Fig. 3 & 4^[2].

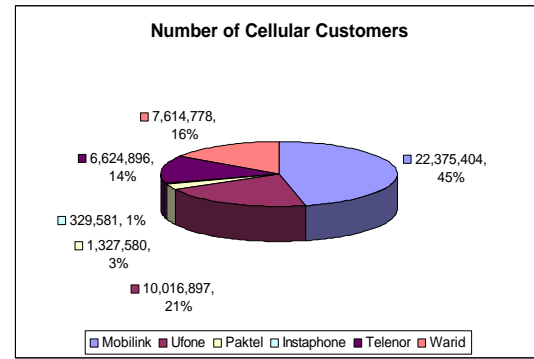
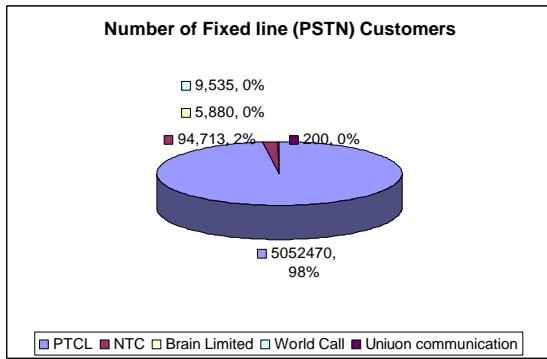


Fig. 3. Competition in fixed-line (PSTN) sector in Pakistan **Fig. 4.** Competition in fixed-line (WLL) sector in Pakistan

The cellular mobile market is also rapidly moving towards fully competitive market with the entry of two new multinational operators after announcement of Cellular Mobile Policy as can be seen from Fig. 5^[2]. The value-added services markets, including Internet and Card Pay phones, is already in full competition and are also declared by the regulator as fully competitive markets.

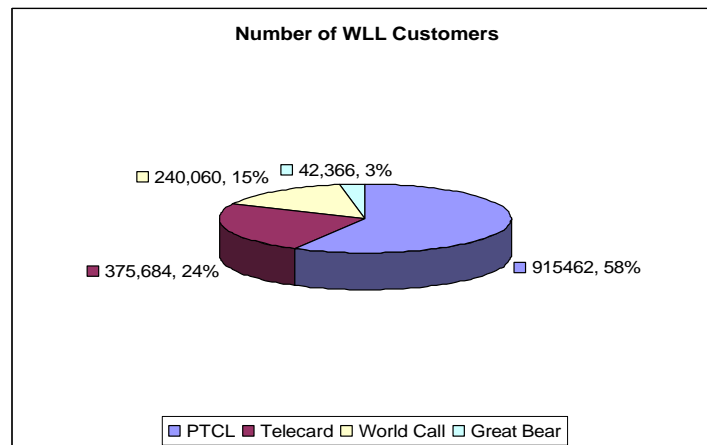


Fig. 5. Competition in Cellular Mobile sector in Pakistan

The telecom markets in Pakistan can be characterized as open competitive markets as compared with the domestically competitive markets of China. China is gradually opening its markets for foreign investors and is preparing its domestic companies, in parallel, for competition with foreign companies which are waiting for permission to enter in China. On the contrary, Pakistan has fully opened its telecom markets to domestic and foreign investors. Herfindahl-Hirschman Index (HHI), which is a measure of competition in the market and is computed by squaring the percentage share of individual firms and adding them up, is improving in Pakistan especially for the cellular mobile sector in the presence of six mobile operators in the market. While in China there are only two cellular mobile operators with the clear dominance of China Mobile (world largest wireless carrier by subscribers) over China Unicom. Both the countries, especially China, still need to do more for making their markets fully competitive to maximize social welfare. Massimo Motta proposes^[15], “Competition policy must be vigilant, and guarantee an environment where potential and actual competitors are able to challenge firms enjoying a position of large market power”. The enforcement of competition policies requires regulatory agencies to have access to great deal of information and high quality analysis^[16]. The regulator and antitrust agencies must be competent enough to inhibit anti-competitive practices exhibited

either through collusion among rivals or through exclusionary practices. Most competition laws including the European competition policy framework, is challenged by convergence^[10]. In US, the policy is shifting from before-the-fact (ex-ante) regulations to after-the-fact (ex-post) regulations to more rely on anti-trust agencies to ensure healthy competition. The nature of regulation needs to adapt to changing market conditions and ultimately moves towards the competition regulation.

4 New entry assistance and market liberalization policy

The world wide trend is to facilitate new entrants to help them survive in the presence of an incumbent operator. In order to compensate for the first mover advantage, the incumbent operators are always subject to some obligations like universal service targets, compulsory interconnection, and compliance with price cap control. The situation in China and Pakistan is different. Pakistan has fully liberalized its telecom industry while China has partially liberalized and is heading towards complete liberalization. Pakistan liberalized its telecom industry partially in early 1990s by allowing private sector investment in wireless, value-added, paging, and card payphones services. Later on data services were also liberalized. Pakistan has taken the initiative to deregulate and fully liberalize its telecom markets with the announcement of Telecom Deregulation Policy in July 2003. The main features of this policy that assisted new entry are open, unrestricted, technology-neutral licensing and PTA is made responsible to regulate rates and services of PTCL subject to price cap regulation. The exclusivity of PTCL in basic telephony has been abolished and numbers of licenses have been issued to private sector. In order to outweigh the first mover advantage, numbers of regulatory restrictions have been placed on the incumbent operator. There are in total 696 licenses have been issued till July 2005 for all types of telecom services^[3]. Pakistan adopted the approach of market liberalization before privatization of its incumbent operator, as it is difficult to compete with private Incumbent operator. As a result of this policy, numbers of big and small operators including some strategic operators have been entered in telecom industry in Pakistan. This policy made it possible to achieve the revolutionary growth by improving the telecom density from around 2 percent to around 35 percent within a short period of time as is shown in Fig. 6^[2].

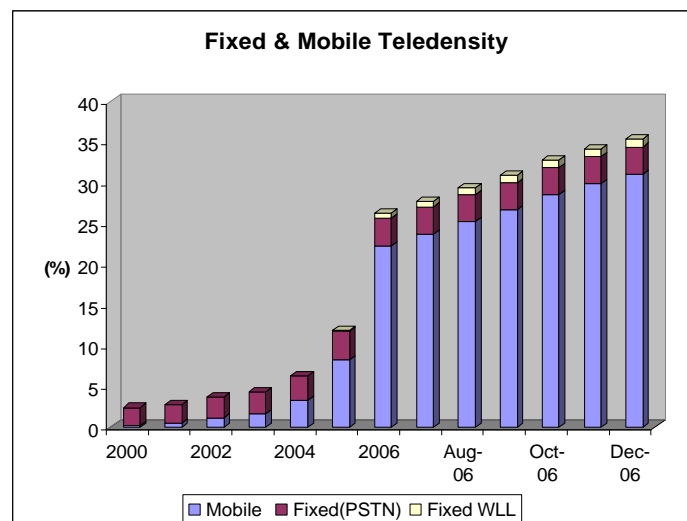


Fig. 6. Exponential rise in teledensity in Pakistan

China liberalized paging and other value added services in 1993. Afterwards, more restructuring measures for telecom sector were undertaken by introducing new carriers from other ministries and by splitting existing carriers into sub parts. The foreign investment was allowed first time in 2000 with the promulgation of the “Telecommunications Regulation” in September 2000. This liberalization was the result of market demand and pressure from international community and organizations, especially from WTO, for opening the telecom market to foreign investment. This permission was granted with some ownership restrictions. So there are only six major players for providing basic services which are indirectly under the Government control.

Pakistan has adopted the approach of full market liberalization with minimum constraints as compared with China's gradual and controlled approach. New entry in Pakistan has been facilitated by all regulatory and policy means. China has not permitted any foreign operator to operate. China is trying to protect government-owned telecom operators by restricting entry in this sector due to concerns of Universal Service and foreign companies' dominance of telecom industry. One of the theoretical argument to justify entry constraints as proposed by Csar Mattos^[14] is non-sustainability of the natural monopoly, mainly when the regulator enforces universal service targets and cross-subsidization restrictions to make it feasible, which would imply inefficient cream-skimming if entry is permitted. Most of the countries in the world have focused on private investment, particularly foreign investment, as the crucial aspect of their liberalization policy.

Foreign Direct Investment Policy- The relaxation of limitations on FDI in telecommunications is very much in line with liberalization and competition in the telecommunication market^[9]. Attracting private sector, especially, foreign sector investment (strategic investors) in the country is one of the major goals of the reforms due to incumbent incapacity to expand infrastructure. The foreign investment was allowed first time in December, 2000 before the China's accession to the WTO. Before this, China adopted the different policy of attracting foreign investment to raise the finances for the operators and to limit the contribution from the Government. China did this by floatation of a minority shareholding on stock exchanges of Hong Kong and New York. This strategy not only helps in providing cheaper services to public but also protects the operators from direct competition with foreign operators. China has put some restrictions and limits on FDI. Foreign companies may invest in telecom services in China in the form of an equity joint venture. Foreign investors in China may hold up to 50 percent of an equity joint venture providing value-added services within 2 years and 49 percent providing basic telecommunication service within 5 years^[5]. Foreign investment is also allowed in basic fixed line services in some major provinces with a limit of 25 percent. Government allowed service providers of Hong Kong and Macao to invest in five types of value-added services with fifty percent foreign investment cap in 2003 through Closer Economic Partnership Arrangement (CEPA). China is expected to open its telecom market more for foreign investment in this year by following the WTO commitments. Pakistan opened its market for foreign investment in early 90s by allowing foreign investment in value-added, cellular mobile and paging services. Instead of fully liberalizing its market for foreign investment Attracting FDI, therefore, is top priority of the current government in Pakistan. In order to attract foreign investment, following steps have been taken:

- Simplifying registration procedures for investors.
- Eliminating the requirement of minimum foreign equity in the services sector after declaration of telecom sector as industry in the year 2004.
- Lifting the restrictions from repatriation of the profits, by allowing foreign investors to repatriate 100 percent of their profits.
- Reduction and, in some cases, exemption in duties, taxes, and technical/royalty/franchise fees.

Pakistan has adopted more aggressive approach to attract FDI in the country than China's defensive approach. China is gradually allowing foreign investment in the country to protect its domestic operators. China wants to prepare its operators to face the challenges from foreign competitors. Pakistan has given the first priority to attract the FDI. This step was taken to boost the economy of the country which was facing difficult time and to gain the trust of foreign investors by allowing them to invest in the profitable segment of Pakistani markets. A huge amount of FDI came in Pakistan during the last five years due to these aggressive policies and percentage contribution of FDI in telecom sector is increasing year by year as can be seen from Tab. 1^[2]. This was also necessary due to capital scarcity of operator and country which had been proved to be a great barrier in expanding infrastructure to un-served areas and for penetration of advanced services. China will need more foreign investment to expand infrastructure to remote areas and for penetration of advanced services. This will help Government to focus on other areas to improve the living standard of citizens.

5 Conclusions

Policies and regulations can play vital role for the development of the telecom industry. The most important of all is the level of competition permitted in the industry. It is obvious from the Pakistan experience

Table 1. FDI in Telecom Sector in Pakistan

Year	Total FDI	FDI in Telecom	%Contribution
2001-2002	484.7	6.1	1.26
2002-2003	798	13.5	1.69
2003-2004	979.9	207.1	21.13
2004-2005	1524	494.4	32.44
2005-2006	3521	1905.1	54.11

that the telecom industry can get exponential growth by opening this industry to free competition. China's telecom industry has also achieved a remarkable growth in the absence of full privatization, liberalization and transparent regulatory system. China's telecom industry is facing fierce local competition but there is no foreigner operator in this competition. Both the countries have attracted huge amount of foreign investment through quite different policies. The experience of allowing fully liberalized FDI in Pakistan's telecom industry shows that the results are very positive for expanding infrastructure to un-served or under-served areas. China has adopted the approach of providing universal service through its incumbent operator by protecting it from foreign competitors. There is statistical evidence that comprehensive reform (including privatization, liberalization/competition, and the introduction of an independent regulator) promotes the availability of telecommunications services, service quality, and labor productivity^[6]. China needs to establish an independent regulator, both from operations and policy functions, for its telecom industry to ensure healthy and transparent competition environment and for implementing interconnection policy. Both countries need special expertise and competency to handle the issues of convergence. The existing policies and regulations are not optimal for the future converged services. China must promulgate its Telecom Law on priority basis. This law should be broader in scope to accommodate convergence and innovative technologies.

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