

CHAPTER IV

GATS and Changes in the Market Structure of Indian Telecommunication Services Sector

In this chapter we will analyse the changes in the market structure of the Indian telecommunication services industry in the light of the GATS subscription. This is significant as WTO GATS stand for global governance of the telecommunication network whereas many countries including India had a monopoly telecommunication services sector and desire for national governance of their own network.

Followed by the Balance of Payment (BoP) crisis in 1991 and the economic revival package opted by India forced the country to adopt the New Economic Policy (NEP) of liberalization. At this juncture, realizing the importance of telecommunication services sector in the overall development of the economy and as the world bodies- ITU, World Bank, IMF and other developed countries- demanded India to open up and make its telecom services of a world class quality, liberalization in the sector was restarted¹ in 1992. It is significant to remember that Uruguay Rounds were in full swing and discussions on services trade including telecommunications were in progress. Consequently telecom sector was partially deregulated by the Government of India unilaterally, allowing private sector participation in providing value added services (VAS) such as cellular (Wireless access) and paging services (Wireless access through text messaging).

WTO - GATS and National Telecom Policy 1994

Based on the prevailing telecom legislations and the Constitution of the country, Government of India opted for a monopoly telecommunication services sector. During the initial stages of the democratic India, the

Government considered telecommunication access as a luxury for the people of the country. Further, India maintained a closed network insulated from the rest of the world, with specific and defined links under bilateral agreements with other countries. The bilateral agreements were such that they often claimed huge accounting rates for settlement, which was not easily acceptable to most of the other countries. Neither such bilaterally fixed accounting rates for the settlement of international calls nor the tariffs within the country (for local/STD/ISD calls) were not reflecting the cost. In spite of the issues related to such an administratively imposed tariff structure, India stood by its force and continued to claim a higher share from the terminating calls. Situations changed fast and India compelled by the TINA factor, was forced to oblige to progressively liberalize the telecommunication services sector along with its ideological mixed economy. It amounted to a sea change in the realm of the policy – be it regarding the economy or the telecommunication sector- whereby the closed network philosophy and bilateral agreements radically shifting to integrated world network and multilateral agreement. This shift necessitated a clear policy enunciation but a half –baked policy, NTP 1994 came out, declaring sky-high goals and visions for a future telecom India. The telecom policy shift did not lead to the necessary change in the mindset of DoT, the then regulator.

The Government of India that took over all the telecom assets of all local kingdoms and that of a private company after the independence licensed private operators for providing telephone services by adopting the National Telecom Policy in 1994. This policy aimed at bringing about Universal Service² (Urban and rural coverage of telecommunication network) and qualitative improvement in telecom services. The policy also announced a series of specific targets to be achieved by 1997 (that is the appointed time for the crystallization of GATS commitments submitted to the WTO). Besides, it recognized need for private enterprise and investment to bridge the resource gap for ensuring universal telecommunication access.

The National Telecom Policy (NTP) announced in 1994 aimed at improving India's competitiveness in the global market and provides a base for a rapid growth in exports (two objectives for the economy in general). NTP 1994 facilitated the emergence of Internet services in India on the backbone support of an already established basic telephone network in the country. The new policy paved way for the entry of the private sector in telephone services.

The main objectives of the policy were:

- To ensure telecommunication is within the reach of all, that is, to ensure availability of telephone on demand as early as possible
- To achieve universal service covering all villages, that is, enable all people to access certain basic telecom services at affordable and reasonable prices
- To ensure world-class telecom services. Remove consumer complaints, resolve disputes and encourage public interface and provide a wide permissible range of services to meet the demand at reasonable prices
- To ensure that India emerges as a major manufacturing base and major exporter of telecom equipment
- To protect the defence and security interests of the nation.

Thus, to meet the telecom needs of the nation and to achieve internationally comparable standards, the telecom equipment manufacturing sector had been progressively delicensed even from mid eighties and the sub-sector for value-added services was opened up to private investment (July 1992) for e-mail, voice mail, data services, audio text services, video conferencing, video text services, radio paging and cellular mobile telephone services (CMTS). In mobile segment duopoly private investment was allowed in four metros-Delhi, Kolkata, Mumbai and Chennai. Initially, the private sector was

granted licence only in the value added services (VAS), and thereafter, it was allowed in the fixed telephone services. Later, VSAT services were liberalized for private sector participation to provide data services to closed user groups. Meanwhile, a phased private entry both regions by region and also on the number of private companies in a region (duopoly to oligopoly and to competition) were allowed.

The ongoing Uruguay Rounds and the compulsions of the international agencies were factors that compelled India to go ahead with telecom liberalization. NTP 1994 was declared³ as result of the policy gap and the non-materialization of the 1992 liberalization efforts due to litigations. With signing of GATS and agreeing to discuss further liberalization of telecommunication services, the participating countries agreed to make telecommunication services a multilateral subject from the level of bilateralism. NTP 1994 clearly laid down the foundations for this metamorphosis as far as India is concerned. Change from bilateral agreement regime to the multilateral regime was an area of concern for most countries including India as telecommunication services were monopolies under state control and now they are going to be monitored internationally. Before the appointed time for the implementation (1997) of the GATS agreement after its signing (in 1994), the member countries desired to prepare a safe ground for transition to multilateralism. NTP 1994 was a policy declaration in that direction as well as an attempt to bring out a separate and distinct policy for the telecom sector in India apart from the general IPR 1956.

India and GATS Commitments on Basic Telecommunications Services

India was part of the negotiations of WTO formation from its inception. During Uruguay Rounds discussions on services and telecommunication services sector, India submitted its commitments in the services sector⁴. This showed the first set of commitments India made to the 1994 GATS in the Uruguay Rounds, with respect to the telecommunication services sector. India was among the first few countries that signed the WTO GATS in 1994.

India, just like several other developing countries, was suspicious and therefore, sceptical about the negotiations on service sector and saw it as an evasive tactics by the developed countries to escape from making commitments on areas (eg: textiles and agriculture) they desired to avoid (Low and mattoo, 1997)⁵. In fact, even at the end of the Uruguay Rounds, when ministers decided to further negotiations on trade in basic telecommunications, India was not ready to be part of the NGBT⁶. This led to India adopting a gradual approach to telecom sector reforms through selective privatization and prudently regulated- competition in different segments of the telecom market⁷. The cautious approach India adopted can be understood from the fact that out of the fourteen sub sectors within the telecommunication services sector India made its commitments only in five Value Added Services sectors namely, E-mail, Voicemail, online data base retrieval, Enhanced facsimile services and On-line information and data processing. Thus, the sector specific schedule of commitments⁸ India submitted was part of a goodwill gesture without any radical offer as such. India did not make any commitments on basic or mobile telecommunication services including leased line etc. Further the schedule clearly shows that India abstained from making any additional commitments⁹, besides even under the above five sub sectors India continued to be unbound for certain areas. But, it has to be specifically pointed out here that India had decided to allow mobile telecommunication services in India in 1992 itself to a limited extent geographically and only duopoly was experimented as already discussed in detail in Chapter 2. Thus, it becomes clear that even the existing policies vis-a-vis the Indian telecom services sector in 1994 was not given as commitment by India. It is in fact a non-enthusiastic and defensive approach, but severely criticized by the developed countries and advocates of free trade. In spite of the several unilateral measures implemented, the same approach of defensive positioning is continued by the country even now. India has on its own liberalized the telecommunication subsectors on various counts and levels permitting FDI, but has not given them as commitment to

the international forum (GATS of WTO) as signed documents. This is because of the fact that, even though GATS commitments are reversible and so can be modified, suspended or even withdrawn, it can be done so only after it has been in force for three years. Further, 'compensation' may have to be negotiated with Members whose trade is affected. Compensation need not be monetary compensation; instead it may be a replacement of the commitment withdrawn by another of equivalent value. It seems that the country is ready to open up cautiously but desires to avoid the fall out of commitments to the world community. The following discussion may throw further light on the matter.

India joined and participated in the negotiations because it desired liberalization by the developed countries in Mode 4 (presence of natural persons across service sectors) for its professionals¹⁰ under the request offer (RO) approach. India's interest was also heightened by the importance of the telecommunications sector to its then nascent software services sector and its decision to join the Information Technology Agreement at the Singapore Ministerial Conference in 1996. As India was also autonomously proceeding with liberalization of its own telecommunications sectors¹¹, India obviously had everything to gain by joining the negotiations and getting some credit for commitments on liberalization measures, the benefit of which would anyway extend to other members under its GATS MFN obligations. Accordingly, India did become a signatory to the Fourth Protocol and made its commitments effective in February 1998 like most of the other original signatories of the Agreement on Basic Telecommunications¹². Most independent assessments of India's commitments in telecommunications services agree that India's approach was primarily defensive and that it did not even commit to the status quo that obtained in reality in India¹³. For voice telephone services, India has not taken any commitments in Modes 1 and 2, i.e., cross border supply and consumption abroad categories, which remain

“unbound”. In Mode 3, India has taken some commitments in various sub-sectors including VAS.

The definition of telecommunication services¹⁴ that the Government of India had adopted shows that the mobile communication services fell under the concept of value added services. It was required to keep so, for pacifying the union activities in the telecom department in the country. Thus, the Government of India positioned itself in the domestic front that it opened up only the value added services and not the Basic Telecommunication services. But it could take a varying position during negotiations at GATS because of the difference in definition until the difference was removed. The WTO GATS definition and the approach of the developed countries show that access provision (i.e. Communication) whether through wired mode or wireless mode, it is basic telecommunication service. At the time of introduction of the mobile services in India, it was not predicted that mobile communication would change the history of telecommunication access, teledensity and tele-penetration levels of the country.

Developments Post GATS Subscription

In a series of measures, declaring that there would be no turning back from the reforms initiated and that progressive liberalization would continue, the government took several steps (See Box). Some of the important developments that have affected the market structure of the Indian Telecommunication Services sector are detailed below:

**Table 4. 1 Milestones – Indian Telecommunication Services - post
Liberalization**

Year	Major Events
1994	Declaration of National Telecom Policy
1997	Formation of TRAI as regulator for the sector
1999	Declaration of New Telecom Policy
2000	Establishment of Bharat Sanchar Nigam Ltd (BSNL)
2000	Opening up of National Long Distance (NLD)
2001	Wireless Local Loop (WLL (M)) using CDMA technology, under basic service license
2002	Privatization of VSNL
2002	Termination of monopoly of VSNL in International Long Distance
2002	Spectrum policy
2003	Universal Service Obligation Fund (USOF)
2003	Introduction of Unified Access Licensing (UASL) regime
2003	Implementation of calling party pays (CPP)
2003	Interconnection Usage Charges Regime
2004	Broadband Policy
2004	Guidelines for Intra Circle Mergers and Acquisitions
2005	Increase in FDI limits from 49% to 74%
2006	Mobile number portability
2013	Increase in FDI limits to 100 %

Formation of TRAI¹⁵ and Indian Telecommunication Services Market

Formation of TRAI is linked to the demands of WTO - GATS commitments. Installation of a precompetitive regulatory regime by every participating country made India think of establishing TRAI. “Signatories to the ABT, as well as countries wishing to join the WTO, must bring their regulatory and licensing practices into compliance with WTO trade rules (Markova, 2009)”. In chapter 2, it was already seen that in India, DoT wielded all powers and absolute power over all telecom infrastructure and telecom activities including provisioning of telecommunication services. An all India service called Indian telecommunication Service (ITS) was also established for the purpose and a well established bureaucracy assisted the Government of India. Formulation of policy and its implementation, setting up infrastructure and maintenance, licensor of service providers, service provisioning and tariff fixation were all under the control and supervision of DoT. There was conflict of interests and private players cried foul and international agreements demanded separation of these conflicting interests.

A precompetitive regime had to be in place before India moved into the GATS framework in full swing. Every country that had its monopoly telecommunication entity in place wanted to find the optimum positioning between multilateral liberalization and a feasible independent domestic regulatory authority. India, in order to have such a regulatory authority in place, formed TRAI through an ordinance in 1997. TRAI as a regulatory body functioned judiciously and conflict arose between the DoT and the TRAI over various issues, basically the issues of mandate and scope of authority/power. As per the WTO GATS, the regulatory body must be separate from and not accountable to any supplier of telecommunications services. India did not bow to the rule for some time¹⁶ as Department of Telecommunications (DOT) continued to be the licensor and wanted to enjoy the regulatory functions and to have the power to give directions to Telecommunications Regulatory Authority of India (TRAI). Thus, DoT

played the role of a super regulator and TRAI could not be as independent as GATS wanted it to be. Thus, there arose disputes between the DoT and the TRAI over the attempt of the latter to establish its turf and independence¹⁷. It led to the formation of TDSAT as an appellate body. These developments can be viewed as the conflict between the implementation of a global network governance system under the GATS and protecting existing domestic governance of its national telecommunication network governance system. In this tussle for the protection of the turf and terrain of the national powers against the encroachment of the liberalisation views of GATS, the wings of TRAI were clipped and TDSAT was formed as a quasi-judicial body, with powers to adjudicate upon disputes. Rather than asserting the independence of TRAI as a regulator, after the courts had interpreted the TRAI Act as limiting the powers of the regulator (DoT), the Government through an amendment to the TRAI Act established the Telecom Disputes Settlement and Appellate Tribunal¹⁸ (TDSAT), which was vested with the TRAI's powers to adjudicate disputes between the licensor, licensees, telecom service operators and consumers¹⁹. TDSAT is mandated to adjudicate any dispute between a licensor and a licensee; between two or more service providers; between a service provider and a group of consumers. TDSAT is also empowered to hear and dispose of appeals against any direction, decision or order of the Telecom Regulatory Authority of India (TRAI). The Tribunal, therefore, exercise both original and appellate jurisdiction. The aggrieved party can go in appeal against the final order of the Appellate Tribunal to the Supreme Court under Section 18 of the Act. But, there is no appeal against the interlocutory orders of the Appellate Tribunal to the Supreme Court. Section 14-B (1) of the TRAI Act, 1997, lays down that the Appellate Tribunal shall consist of a Chairperson and not more than two members to be appointed by Central Government by Notification. But, competition issues are not subject to adjudication by the TDSAT but rather by the Monopolies and Restrictive Trade Commission²⁰. As Competition Act has replaced the MRTP Act, the functions of the MRTP

Commission are taken over by Competition Commission of India (CCI). After the amendment in 2000, functions of TRAI have been better defined and in certain instances like powers relating to interconnection conditions, have increased. In fact, establishment of TRAI as an independent regulator was in keeping with the pro-competitive principles envisaged in the reference paper to telecommunication protocol. Therefore, it may be considered that the amendment to the TRAI Act and creation of TDSAT as an appellate body diluting the role of the pro-competitive TRAI was an attempt of nationalist minds, effectively diluting the direct and sunrise impact of GATS.

TRAI conducted expert studies of sector and recommendations were made to the Government. In 1998 itself, the powers of TRAI had faced another deadly blow when the Court ordered that the recommendations made by TRAI were not binding on the Government²¹. TRAI always stood for increasing competition in the industry but again conflict arose with Competition Commission of India (CCI) on the matter of mandate. TRAI had recommended removal of cap on the maximum number of operators in a Circle and from January 2008 the Government of India issued several licenses and there were almost 10-14 operators in most Circles, which led to intense competition. Such fierce Competition made the people aware of communication technologies, tariff etc. and teledensity improved greatly in the country. Implementation of MNP was another successful milestone for TRAI. Reference tariff orders issued by TRAI were binding on all operators. The regulatory body stood always for enhancement of competition and level playing field for all operators (National treatment). TRAI as a regulatory agency stood strong and realistic seeing its role as facilitating the growth of the telecom business it was regulating, rather than stifling it with rules and restrictions (Taroor, 1997). TRAI tremendously influenced the shift in the market structure of telecommunication services sector from Duopoly to Oligopoly and Oligopoly to Competition. TRAI with its reports backed by

expert studies keeps the industry, the government and the public aware of all changes and helps in policy making and in maintaining adequate level of competition.

‘The greatest impact of the WTO was in regulatory agencies. Whereas in the early 1990s there were ten regulators, by the late 1990s, there were more than eighty....Despite U.S bilateral pressure on some such as Japan and Taiwan; most Asian Countries retained the traditional locus of regulatory power within their ministries’ (Hills, 2007). The entry of private players necessitated independent regulation in the sector, because DoT, the administrator, itself was a pan India service operator. TRAI was established to regulate telecom services, tariffs, and to fulfil the commitments made by India on joining the World Trade Organization in 1995²². The establishment of TRAI²³ was a positive step as it separated the telecom regulatory functions from policy-formulation and operation, which continued to be under the purview of the DoT.

Conflict between TRAI Act, 1997 and Competition Act, 2002

Preamble and section 18 of the Competition Act bestows the principal duty of sustaining competition in the whole economy of India with the CCI. Section 60 of the Competition Act states that the provisions of the Act will be accorded primacy in the event of inconsistency with provisions of any other legislation in force. At the same time section 62 of the Competition Act states that the provisions of the Act will be read in conjunction with other statutes and shall not be in derogation of the same.

A sector specific regulator – TRAI - was established for the telecommunication sector in 1997 for complying with the WTO mandates and there were telegraphy laws in India.

- i) The Indian Telegraph Act, 1885
- ii) Telecom Regulatory Authority of India Act, 1997
- iii) Wireless Telegraphy Act, 1933

License is granted under the Telegraph Act, 1885, to private operators for providing telecom services in India. Spectrum²⁴ is auctioned by the government to the operators for use for a specified duration. Telecom Regulatory Authority of India (TRAI) is the regulator and Telecom Dispute Settlement Appellate Tribunal (TDSAT) is the appellate tribunal with quasi-judicial powers. Section 11 (1) (a) (iv) of the TRAI Act, empowers TRAI to “facilitate competition and promote efficiency in the operation of telecommunication services so as to facilitate growth in such services”. Section 14 of the TRAI Act specifically excludes all ‘matters related to monopolistic, restrictive or unfair trade practices’. This has reference to the MRTP Act, 1969 and this exclusion was when the MRTP Act was in force. Thus, the conflict is clear. When the MRTP Act was in force, the areas of that Act were specifically excluded under section 14. Now that the MRTP Act is repealed section 14 has become redundant. Under section 11 of the TRAI Act, TRAI is mandated to facilitate competition and promote efficiency, which is exactly the realm of Competition Commission. Section 60 and section 62 of the Competition Act comes directly in conflict with section 11 of the TRAI Act. In order to eliminate such sectoral conflict in the banking sector, the Central Government by law, exempted Merger and acquisitions in the banking sector from the purview of CCI²⁵. Such a measure is not so far adopted for full/partial exemption for telecommunication services sector from the CCI. The legal maxim ‘Generalia Specialibus Non Derogant’ means that the provisions of a general statute must yield to those of a special one. It refers to the rule that subsequent general legislation is deemed not to derogate from a prior special Act. In the conflict between Competition Act and TRAI Act, TRAI Act is specific for a sector and Competition Act is general act for the Indian industry. Further, TRAI Act was in place in 1997 and the Competition Act, came into being in 2002 only. In all these, TRAI Act has supreme jurisdiction over telecommunication industry even in matters of competition, but the situations in India seem different and there lies the conflict.

In the *Consumer Online Foundation v. Tata Sky Ltd. & Other Parties*, Dish TV submitted that the CCI could not claim jurisdiction over this matter as TRAI and TDSAT were already vested with the “jurisdiction and responsibility to govern and regulate the telecommunication industry covering telecom, broadcasting and cable TV services”. Above all, the composition of TDSAT and the stated purpose for its establishment, stand out testimonials to protect the terrain of domestic governance. Thus, when WTO GATS aim at obtaining a free global telecommunication network under its jurisdiction with the support of regulatory bodies independently taking decisions furthering competition, the domestic governance sphere hitherto administering the terrain became restless and found ways to dilute the unrestricted liberalization spirit of GATS.

New Telecom Policy (NTP) 1999

Even though private entry was envisaged in NTP1994, it did not produce adequate result as expected in the field of investment. Added to this, the existing private players in the market alleged that the government was extorting money from them in various ways as license fee etc. which was heavily burdensome for them due to non realization of targeted revenues. Hence, the government came up with New Telecom Policy in 1999²⁶ (NTP 1999). Further, convergence of the changing market equations and new technologies required realignment of the industry.

Indian telecommunication services industry had already come to a selective duopoly before the declaration of NTP 1999. During the GATS negotiations, the Government of India had offered this market status as commitment. NTP 1999 paved way for the third operator-the PSU- and thereafter for the fourth operator. Thus, the telecommunication market in India reached Oligopoly and thereafter to competition.

Establishment of BSNL

The year 2000 was an epoch making year in the telecom history of India, as DoT divested itself from service provisioning and reduced itself to the status of policy maker and that of being custodian of spectrum. Services provided under governmental authority were not brought under GATS agreement. Therefore, only those services which were provided under commercial competition came under GATS purview. In many countries including India, telecommunications were under governmental authority and had a monopoly situation. With the acceptance of GATS and Telecommunication Protocol in 1998, it became imperative that they be brought under commercial competition, so as to provide a level playing field to the private and foreign entities vis-a-vis Indian telecommunication entity. 'The decision to convert the governmental department into a corporate entity was prompted by the government's commitment to the international forum to liberalize its economy. The process of liberalization had begun in 1991 and by 2000, it had become an unshakeable article of faith' (Saxena, 2009). These words of an insider to the story are sufficient to understand the events leading, to corporatisation of DoT-DTS. Corporatisation DoT to BSNL was the result of such international commitments for providing a level playing field²⁷ to new operators including the foreign operators. Formation of BSNL as a corporate entity provided the much needed boost to the level of competition in India and the benefit of it was for the industry and the society. With NTP 1999 the duopoly telecom market of India became an Oligopoly market as the PSUs (BSNL/MTNL) became the third operator in the telecom circles.

Universal Service Obligation Fund (USOF)²⁸

Rural areas and rural population deal a challenge to the telecom operators. Apart from the higher capital cost of providing access to telecom services in such areas, these areas generate lower revenue due to lower population density, poorer education access, low income and lack of commercial activity. Thus normal market forces alone would not direct the telecom

operators to adequately serve backward and rural areas. Most of countries in the world have initiated, policies to provide Universal Access and Universal Service because of the inadequacy of the market mechanism to serve rural and inaccessible areas, taking into account, the importance of providing vital telecom connectivity to such places.

The New Telecom Policy - 1999 (NTP 1999) provided that the resources for meeting the Universal Service Obligation (USO) would be raised through a 'Universal Access Levy (UAL)', which would be a percentage of the revenue earned by the operators under various licenses. Universal Service Support Policy came into effect from 1st April 2002. In India, USOF is given statutory status by the Indian Telegraph (Amendment) Act, 2003. The Fund is to be utilized exclusively for meeting the Universal Service Obligation. The fund is used to subsidize the developments in the telecom sector in the rural areas. It is used to provide support for increasing wireless network in rural and remote areas. Required infrastructure for mobile and broadband services in rural and remote areas is to be created utilizing this fund so as to increase rural teledensity. The Indian Telegraph Act (1885) has been amended and mobile services have been included under basic telephony in rural areas to further help the cellular operators to access the USOF, which will help them to finance telecom infrastructure in rural areas. Even though, the Government of India had initially included mobile services under the category of Value Added Services (VAS) for reasons which were already discussed, the anomaly with GATS definition was removed and USO fund was made available to mobile communication also by bringing mobile access under basic telecom access. Maintaining USO is in keeping with GATS spirit of competition and market forces, just because it is allowed within the reference paper. Further, GATS does not define Universal Service Obligation, allowing each country to decide its own definition subject only to transparency rule. The GATS allowed it so as to increase the acceptance of

GATS in countries. USOF was an impetus to the operators to auction spectrum even in circles where telecom operations were not developed.

Unified Access Service Licensing (UASL) Regime

In 2001, Government of India permitted basic service operators in the country to provide limited mobility services over wireless local loop (WLL (M)) using CDMA technology in their licensed areas.²⁹ They were able to provide all-India mobility with the CDMA WLL (M) technology. Further, as the popularity of these services increased, prices came down compared to GSM cellular mobile services. This created a potential disadvantage for the GSM cellular operators as they had paid substantial amounts to obtain their licenses and WLL (M) services were increasingly seen as largely substitutable for GSM services. Therefore, the government moved towards a Unified Access Services Licensing (UASL) regime for basic and cellular services, which was introduced in October 2003. It was inevitable for the penetration of technology development and utilization for improvement in the life style of the masses. Under the new UAS licensing regime, both basic service operators and cellular carriers became free to offer basic and/or cellular mobile services using any technology, ensuring a fair competitive market for all the service providers. Thus, the telecommunication market in India became technology neutral.

Interconnection Usage Charges Regime (2003)

Interconnection is an important concern for both the service providers and the subscribers. Access networks, whether, fixed and mobile, national long distance(NLD) network and international long distance(ILD) networks have to interconnect with each other to make local, national and international connectivity a reality. For obtaining seamless end-to-end service, it becomes imperative to place an effective interconnection usage charges (IUC) regime in operation.

In India, TRAI implemented the Interconnection Usage Charges (IUC) Regulation during 2003 to fix the terms and conditions of interconnectivity

between service providers aiming to ensure interconnection between various service providers and to regulate arrangements among them for sharing their revenue derived from providing telecommunication services. Later, in 2009, TRAI brought out revised regulations for telecommunication interconnection usage charges,³⁰ which came into effect from April 1, 2009. TRAI has done away with landline IUC and reduced substantially, the wireless IUC, by 2015. It is already seen and discussed in detail that Reference Paper of GATS Telecommunication agreement makes compulsory provisions for ensuring interconnection. Without interconnection, each operator network would be like an island network, communication would be possible only within the network and among those people subscribed to that network operator. The interconnection rules in India have helped the orderly development of the telecommunication market in India, because even those operators with less than thousand subscribers became an integral part of the international telecommunication market through interconnection.

Foreign Direct Investment (FDI)

FDI has been an important source of the substantial financial investment required for the growth of telecom infrastructure in India. After much deliberation, the government permitted 74% foreign investment in telecom companies from the earlier limit of 49%, in 2005. This led to an unprecedented entry of foreign investment in the sector. It was further revised in 2013 allowing FDI up to hundred percent and the current position is given below:

Table 4.2 – FDI in India

Sr. No.	Sector/Activity	FDI Cap/ Equity	Entry route	Other Conditions
1.	<p>Telecom Services (including Telecom Infrastructure Providers Category – I)</p> <p>All telecom services including Telecom Infrastructure Providers Category-I, viz. Basic, Cellular, Unified Access Services, Unified license(Access services),Unified License, National/ International Long Distance, Commercial V-Sat, Public Mobile Radio Trunked Services (PMRTS), Global Mobile Personal Communications Services (GMPCS), All types of ISP licences, Voice Mail/Audiotex/UMS, Resale of IPLC, Mobile Number Portability services, Infrastructure Provider Category – I (providing dark fibre, right of way, duct space, tower) except Other Service Providers.</p>	100 %	<p>Automatic upto 49%.</p> <p>FIPB beyond 49%.</p>	<p>subject to observance of licensing and security conditions by licensee as well as investors as notified by the Department of Telecommunications (DoT) from time to time: Press Note No. 6 (2013 Series) dated 22.08.2013</p>

Source: <http://www.dot.gov.in/investment-promotion/fdi-policy-telecom>

Recent changes in the FDI regime permitting hundred percent FDI in the telecommunication sector, has increased the confidence of the private joint ventures in the sector. It would help mitigate their funds insufficiency as telecommunications is capital intensive and technology changes, license requirements and spectrum fees are at the higher end.

Spectrum Policy

Spectrum is a natural resource and a national asset. The Principle of Public Trust applies to the use of spectrum especially when it comes to authorizing private parties to use it.³¹ With growing demand for wireless telecommunication services and the spread of new access technologies, demand for additional spectrum increased substantially. Growth of wireless services depends on the

availability of adequate spectrum. If adequate spectrum is not available it would adversely affect the growth and quality of services.

WTO advocates open market and freedom of market access to operators. But WTO GATS telecommunication annexes have adequately recognized licensing as a permissible restrictive condition on service providers. A license is cancellable and there would be a duration after which it would expire. As MNP is already implemented change of operator would not affect the consumer from the point of continuity of service.

The Government has developed a view of managing its budget deficit requirements utilizing various possibilities available from the telecommunication industry. Auction of spectrum, its refarming etc are such possibilities. Further, recently Government has decided to initiate talks on sale of free spectrum by one company to another. Thus, efficient utilization of the available spectrum would be possible. TRAI has advocated transfer of spectrum between the operators during their license period, but the telecom commission has not yet cleared the proposal. The supporters of the view say that it would enhance the quality of service and optimum utilization of spectrum. It would bring down the possibility of spectrum- a natural resource - remaining idle in the hands of an operator who acquired it.

Still, there are several ambiguities and opportunities for liberalization in the spectrum licensing policy of the country. Areas like spectrum policy in case of Merger and Acquisitions, spectrum on demand due to huge number of subscribers, unused spectrum in the hands of the operators, spectrum trade by the licensees and so on are areas that require further clarity.

Internet Service Provider (ISP) Policy

Telecommunication today does not end with voice transfer. It has moved to data transfer in a great way. Internet services through the telecom infrastructure may be wireless or wired. TRAI being the regulator of telecommunication services, it is mandated to view and direct the growth of

internet services in the country. Penetration of broadband and internet services in India was at a very poor level as in December 2003, it is marked as 0.02% and 0.4%, respectively. Improving teledensity as such is a priority but in the modern world importance of internet services cannot be undermined. Therefore, the government issued a Broadband Policy in 2004 on the basis of TRAI recommendations to facilitate improved levels of high speed internet penetration. According to the policy estimates the internet subscribers were expected to grow to 40 mn and broadband subscribers to grow to 20 mn by 2010, taking into account all access technologies –wireless and wired. Improvement in the number of broadband and internet connections, the government expected a transition of the society as a whole. It would promote the creation of a knowledge-based society with e-governance, e-banking, e-marketing, online education, telemedicine networks and connectivity for rural knowledge centres, greater integration into the world economy through international voice and video-conferencing, lower prices for NLD and ILD etc.

The Ministry of Information and Technology is working on a mega project for establishing a National Optical Fibre Network for the promotion of high speed internet services in the country, without any rural bias. It aims to connect all universities, institutes of higher learning, schools etc. Access to internet facility has become easy with the presence of internet cafes/kiosks. As there is no restriction on the number of internet companies, spread of internet facility even to semi-urban and rural areas is taking place fast. The business field is utilizing internet technology greatly for the promotion of their business. However, the industry still faces several bottlenecks in terms of regulatory treatment of ISPs, high bandwidth prices, high cost of telephone access, low PC penetration etc³². Broadband speed is redefined and a minimum speed of 512 kbps is required for broadband connection. From October 1, 2015, it is expected that it would be redefined as 2 mbps.

International Long Distance Services (ILD)

The sector has been opened to competition from April 2002 breaking the 10 year guaranteed monopoly the Government had offered VSNL for the ILD sector up to 2004³³. But due to international pressures and as part of the national agenda of showing that progressive liberalization was in track, the Government opened up ILD earlier by 2 years. Due to the highly skewed monopolistic pricing followed by the State operator – VSNL- ILD traffic and accounting rate finalisation was a contentious area with the developed countries. The call termination charges in India demanded by the Indian operator from the operators of other countries were exorbitant and due to the skewed traffic net settlement was favourable to the Indian operator. Still it is to be remembered here that India has asked for permanent MFN exemption in the ILD services scenario. Subscriptions to GATS and consequent progressive liberalization efforts have effectively brought down the accounting rate and thereby the ILD call rates. The ILD prices have fallen sharply, leading to a decrease in the grey market traffic.

Out of the two GATS specific cases came to the dispute settlement body of WTO, the most discussed about one was that of the telecommunication case between US and Mexico. The US alleged that the US telecommunications industry, in particular AT&T, considering that its access to the Mexican telecommunications market for, e.g. international calls originating in the United States and terminating in Mexico, was unduly restricted, contrary to Mexico's obligations under the GATS. The United States made three claims before the Panel, as follows: (i) failure by Mexico to ensure that its major telecommunications supplier provides interconnection on reasonable terms and conditions and cost-oriented rates, under section 2 of the Reference Paper; (ii) failure by Mexico to maintain appropriate measures to prevent Telmex, a major supplier and former government monopoly, from anticompetitive practices, under Section 1 of the Reference Paper; and (iii) failure by Mexico to ensure access to and use of its public

telecommunications transport networks and services, including private leased circuits, on reasonable and non-discriminatory terms and conditions, under section 5 of the Annex on Telecommunications.

National Long Distance Services (NLD)

In August 2000, the NLD service was opened to competition. Due to the initial lack of clarity on critical issues like equal access, interconnectivity and last mile access, operators were not interested. But as basic services and ILD were also opened up, companies geared up to provide integrated service³⁴. The NLD market thus saw significant competition in 2002-03, resulting in more choices and lower prices for consumers. Competition in the NLD sector led to tariff reduction. Availability of a close substitute for wired technology made mobile NLD a superior choice for the subscribers.

WTO - GATS and Telecommunication Market Structure in India

The changes in the telecommunication services market structure was analysed in detail in previous chapters. The WTO discussions and the liberalization needs of the country influenced the process greatly. From pure monopoly of the government the telecommunication services sector moved to partial duopoly initially. Thereafter, the market structures varied from region to region as India had organised its telecommunication services sector circle wise.

Gradually, Oligopoly got established with a few operators providing services in each circle in the country. In 2008, with the introduction of 'no cap policy', the DoT decided to issue any numbers of licenses as there are applicants in each circle. But in 2012, the judicial intervention brought the telecommunication sector back to pre 2008 stage. Thus, the oligopoly status of the Indian telecommunication market returned. But, remarkably, even during subsequent auction of additional spectrum or during refarming, no new entrant came to the market. Instead, it is seen that some of the operators have exited their operations in certain circles due to non-viability. Such events show that the market structure is getting consolidated to Oligopoly with a few operators in

the service area. Even though competition and freedom are the hallmarks of WTO GATS, the nature of the telecommunication services industry – being capital intensive and technology intensive - has made the Indian telecommunication industry consolidate itself to oligopoly.

Subscription to telecommunication protocol of GATS has ensured that India follows the GATS principle of national treatment. Further, FDI is allowed in the sector to hundred percent. The incoming of new operators – Indian and foreign to the services sector in Joint Venture or otherwise – has brought in competition of an elevated level to the market. It necessitated an independent regulator and TRAI was formed for the regulation of market. Enactment of Competition Act has established CCI which would look into mergers & acquisitions leading to the formation of dominant undertakings. Enactment of TRAI Act and Competition Act are in keeping with the spirit of WTO and GATS.

Indian Telecommunication Services: Share of Public vs. Private Sector Post GATS

So far the telecommunication scenario of the country was analyzed in detail and the effect of liberalization on market structure; tariff, telepenetration etc. were seen. The following data shows the share of public sector in the total phone connections in the country.

Table 4.3**Share of Public/ Private Sectors in Indian Telecommunication Services Sector**

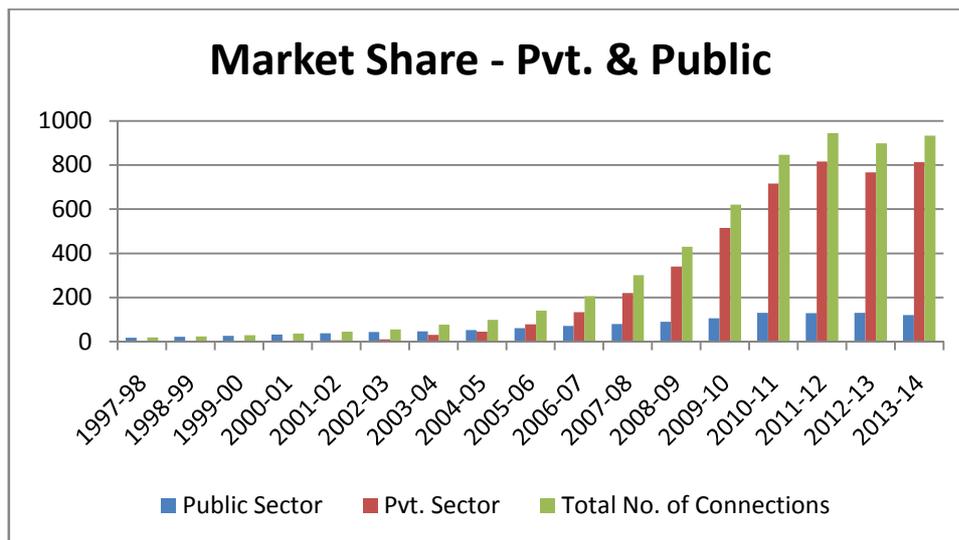
Year	Public Sector	Pvt. Sector	Total No. of Connections	% Share of Public	% Share of pvt
1997-98	17.8	0.88	18.68	95.29	4.71
1998-99	21.59	1.22	22.81	94.65	5.35
1999-00	26.51	2.02	28.53	92.92	7.08
2000-01	32.44	3.85	36.29	89.39	10.61
2001-02	38.16	6.81	44.97	84.86	15.14
2002-03	43.17	11.45	54.62	79.04	20.96
2003-04	46.48	30.66	77.14	60.25	39.75
2004-05	52.1	46.3	98.4	52.95	47.05
2005-06	61.1	79.24	140.34	43.54	56.46
2006-07	71.39	134.47	205.86	34.68	65.32
2007-08	79.55	220.94	300.49	26.47	73.53
2008-09	89.54	340.18	429.72	20.84	79.16
2009-10	105.86	515.42	621.28	17.04	82.96
2010-11	130.33	715.99	846.32	15.41	84.61
2011-12	129.39	815.72	945.1	13.69	86.31
2012-13	130.12	767.89	898.01	14.49	85.51
2013-14	120.08	812.94	933.02	12.87	87.13

Source: Compiled from Annual Reports Published by DOT

The data given and the chart below show the evolving importance of the private sector and the dwindling share of the public sector in the telecommunication services market. In 1997-98, the share of public sector was more than 95 per cent. In 2012-13, it became 14.49 only. During the corresponding period, share of the private sector was leapfrogging. It increased from 4.71 percent in 1997-98 to 85.51 percent in 2012-13. Contribution of the private sector to the overall development of telecommunication services sector in India is great. It is because of the

contribution of the private sector that competition heated up and these coupled with a well managed regulatory environment directed the faster development of the telecom services sector and telepenetration in the country.

Figure 4.1: Market Share - Indian Telecommunication Services sector



Source: Compiled

The chart shows the increasing presence of private operators. The speed with which the share of private sector is growing is note worthy. As the Government alone was the service provider, it was unable to meet the communication demands of the people.

Operator Market Share³⁵ in the Indian Market

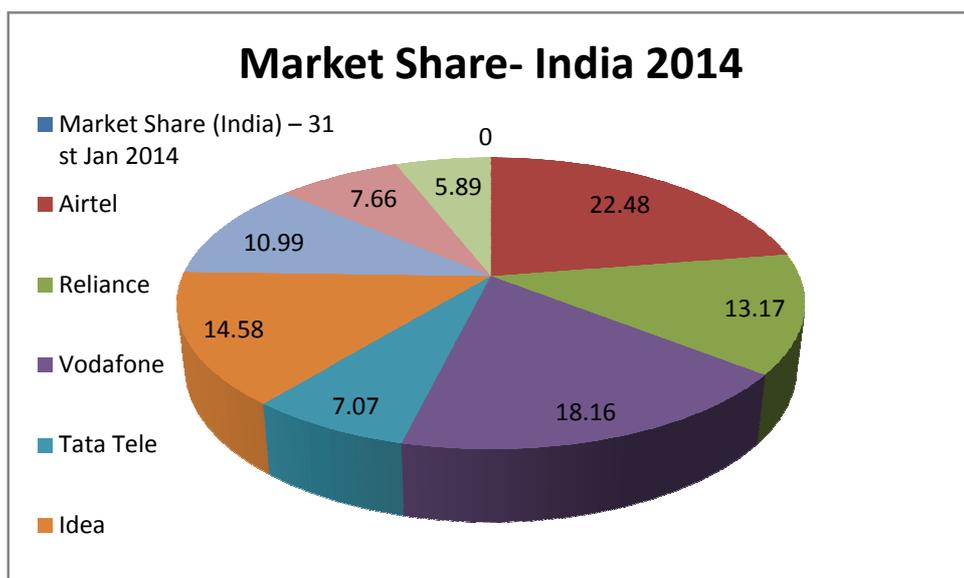
Operator market share is another parameter of analysis, taking the Indian market as a whole. The following table, shows the contribution of private sector to be 89 percent. MTNL and BSNL combined holds only 11 percent of the telecommunication market. Contribution of the private sector in improving the telecommunication facilities in India and also to improve teledensity is immensely great.

Table 4.4 - Operator wise Market Share in Indian telecommunication Services sector

Market Share (India) –31 st Jan 2014	
Airtel	22.48
Reliance	13.17
Vodafone	18.16
Tata Tele	07.07
Idea	14.58
BSNL/MTNL	10.99
Aircel	07.66
Others	05.89
	100

Source: TRAI Press release, 13/2014

Figure 4.2 - Market Share of Tele Operators in India



Source: Compiled

The telecommunication sector before the introduction of liberalization and competition was under the DoT/PSU. But, teledensity remained below one per cent. The government and its functionaries viewed it as an avoidable

luxury. But, the persistent demands of the ITU and its writings, the compulsions of changes in the economic policy etc. forced the government to open up the sector and as the GATS demand progressively liberalize. Thus, the following took place:

- (a) Introduction and promotion of forms of telecommunication services and new technologies
- (b) Withdrawal of unviable forms services by the respective commercial concerns – Pager, Telegraph - Commercial decision making
- (c) Competitive bidding for spectrum
- (d) Change in the market structure of telecommunication services market.

Thus, the share of Public Sector in Indian telecommunication sector dwindled to near 11 percent, with concentration on mobile services. Telecommunication was once a government monopoly in the country but teledensity was only below 0.88 percent in 1994. As teledensity increased share of private sector increased. It shows that contribution of the private sector has improved teledensity. Private sector was brought to the sector as part of ‘progressive liberalization’ as envisaged by ITU and GATS. Introduction of private sector and competition, permission for FDI, changes in the market structure, competitive tariff and improved telepenetration in the country were all direct results of GATS, ITU and other international organizations.

To conclude, liberalization, globalisation, deregulation, privatization and competition are forces that necessitate deeper critical insights, as there involve the business interests of other nations. Telecommunication is the backbone of India's future economy and the international competitiveness of India's economy increasingly depends on a telecommunications infrastructure that meets international standards. It is already seen that for any economy, efficient and diversified telecommunications networks are

imperative, and Indian economy is no exception to the fact. The information oriented industries are expanding rapidly in India. These industries depend on fast and reliable information transmission facility for its growth. With improved infrastructure and competitive environment, the cost of availing telecommunications services would drop. It would become more reliable and become competitive to meet the varied needs of end-users³⁶. If developed countries also rise to the challenge of effectively eliminating the trade barriers they maintain to exports from developing countries, it may bring about a virtuous cycle of mutually beneficial – ‘a win-win situation for all’ – liberalization (Matsushita, Schoenbaum & Mavroidis, 2003)³⁷. India considered telecommunication as a luxury for the masses due to the rampant poverty, but now cheaper telecommunication has become a tool for poverty alleviation.

The existing Indian commitments to the GATS were very modest and continued to be subject to a complicated and non-transparent licensing regime, with repeated and unhelpful interventions by the incumbent operators. The European Community indicated its "disappointment with India's offers on trade in services and hopes this country would improve it"³⁸. According to Trade Commissioner Pascal Lamy, "India's offers fails to redress the current low level of Indian GATS commitments, and in some areas does not even reflect the current level of openness in the Indian market". The areas the EC would have liked to see more movement are included the telecom, distribution, or environmental services sectors. In a Review report on telecom trade agreements around the world, US Trade Representative Robert Zoellick said that market access barriers existed in the form of “restrictions” in countries, including India. The report further charged that VSNL has no incentive to allow competitors (with cable terminating at VSNL’s landing station) to freely activate and market that capacity in India when it could keep prices (and market share) for its own services higher by limiting competitors’ access to additional capacity.

The adoption of the full range of commitments in telecommunications would be a trigger to reform and thus to expansion of the telecommunications sector in India. The irony is that on the ground India has gone far ahead in liberalization efforts, but even what is achieved is not offered as commitment to the international forum. It is due to the defensive approach India is adopting. Further, countries like India are apprehensive of the fall out in the event of a situation arising to backtrack from the commitment. In case a country backtracks from the commitment on the basis of which a member country had acted in good faith, the country that revises commitment will have to adequately compensate the other. Another, reason for the lower level of offers is that India a self respecting country was against the inclusion of services in the trade talks. Even though the developing countries including India were demanding more from the already industrialized developed block regarding agriculture and subsidies, they were unrelenting. Hence, there is effectively a lack of trust among these groups of nations. Regardless of all these, India takes the stand that, unilateral liberalization of telecommunication services continues without commitment to the international forum.

¹ In 1986, the Government of India had as part of initiating liberalization of the telecommunication services sector formed VSNL – a monopoly for ILD services- and MTNL- a monopoly for Delhi and Mumbai. Besides in the equipment manufacturing segment C-DoT was also formed by the Government in the mid eighties. But thereafter the efforts to liberalize was not seen until 1992.

² Universal Service refers to commitment of the Government to provide telecommunication service universally in the country (Urban and rural areas without discrimination) for balanced regional development. Further, emphasis on universal service was inevitable as the private operators were takers of the urban centres rather than the uncovered rural villages, as provisioning the access of telecom in the rural area would lead to cost escalation coupled with minimal subscription and usage revenue. Besides, the communication needs of the rural population were limited compared to the urban people. Adding to these, it was found that the purchasing power of the rural people was lower compared to the urban, and so the revenue realization from them would also be lower.

- ³ Report of joint parliamentary committee (jpc) to examine matters relating to allocation and pricing of telecom licences and spectrum (fifteenth loksabha), Loksabha secretariat New Delhi, October 2013
- ⁴ See GATS/SC/42 dated 15 April 1994, available at www.wto.org, visited on 29 Aug. 2012
- ⁵ Low,P and A. Mattoo (1997):Reform in basic telecommunications and the WTO negotiations: The Asian Experience, Working paper India and Indonesia, for example, bound at less than the *status quo* with respect to foreign equity participation. Other Asian tigers such as Malaysia and Thailand have also made commitments below their *status quo*., p.22
- ⁶ India: Schedule of Specific Commitments, derestricted by the WTO April 11, 1997 WTO Document.
- ⁷ Background Paper submitted to the Committee on India: Vision 2020 Telecom Sector in India: Vision 2020, Manas Bhattacharya*, IES, (Deputy Director General (Finance), Department of Telecommunications, Ministry of Communications & IT, Government of India).
- ⁸ Sector specific commitments set out the levels of liberalisation a Member has undertaken in a scheduled sector or sub-sector. Commitments made by a member in a Member's Schedule set out the levels of liberalisation that have been undertaken in a given sector. A schedule has two parts:
- i. The horizontal section and
 - ii. The sector specific section.
- Both parts of a schedule are organised in the same manner. There will always be four columns that list the commitments, in a schedule. Like the horizontal section, the sectoral section of a schedule is organised in four columns.
- (i) The first column specifies the sector or sub-sector concerned;
 - (ii) The second column sets out any limitations under 4modes of supply on market access falling within the six types listed under Article XVI:2;
 - (iii) The third column contains any limitations on national treatment; and
 - (iv) Provides the opportunity to undertake additional commitments.
- With regard to the description of the sectors included in the schedule, most Members have used the WTO Services Sectoral Classification list, which is commonly known by its document symbol, W/120. It is based on the United Nations Provisional Central Product Classification list, referred to as CPC or UNCPC. Some Members have also made use of ad-hoc classifications, such as those found in the Annex on Financial Services.
- ⁹ In the standard layout of a Schedule, Additional Commitments are listed in the third column and gives the undertakings made by the Member. Generally, additional

commitments relate to qualifications, technical standards, licensing requirements or procedures and/or other domestic regulations required to be followed by the aspirants. The number and type of possible undertakings is open-ended and is scheduled under the Additional Commitments column. They can be unique to a particular Member, or a group of Members can agree to a common set of additional commitments as WTO follows the Request - Offer approach (RO) for its GATS commitments.

¹⁰ Rajesh Chadha (2000): *GATS and Developing Countries: A Case Study of India*, World Bank Capacity Building Project http://www1.worldbank.org/wbiep/trade/WTO2000/workshops/Chadha_11.pdf.

¹¹ Footer, Mary E., "The International Regulation of Trade in Services Following Completion of the Uruguay Round", available at <http://www.abanet.org/intlaw/publications/til292.html>, visited on 14th December 2013..

¹² Information Highways and Telecommunications in Asia - Volume 1: Asia Telecommunications Market Overview June 2003 Published by

BuddeComm<http://www.mindbranch.com/catalog/product.jsp?code=R170-0165>

¹³ Mushtaq Ahmad (2000): *Pakistan and the GATS: An Assessment of Policies and Future Prospects*, available at, <http://www1.worldbank.org/wbiep/trade/services/Ahmad.pdf>

¹⁴ India included the mobile segment under Value Added Services, even though as per WTO definition Basic Telecommunication Services included all access provisioning including mobile communication.

¹⁵ Sectoral regulatory governance is an experiment in the modern governance. TRAI was exclusively formed for the telecommunication sector as a regulatory body for separating the policy framer from independent regulation of the sector, just as there are other regulators for other sectors.

¹⁶ Until the formation of BSNL on 1st October 2000, DoT was service provider also. During the time DoT was the licensor, policy maker, regulator, overseeing policy implementation/execution and a service provider with PAN India operations(except for Mumbai and Delhi).

¹⁷ Union of India vs. Telecom Regulatory on 16 July, 1998; 1998 VAD Delhi 209, 74 (1998) DLT 282, 1998 (46) DRJ 557, Justice Usha Mehra held that "the authority (TRAI) fell in error in concluding that the power of the government to grant or amend the licence is subject to the recommendations of the TRAI or that these recommendations are mandatory in nature." Justice Mehra ruled that "Having held that the question of grant or amendment of licence by the licensor does not come within the jurisdiction of TRAI, I have no hesitation to hold that the impugned order (*of TRAI*) suffers from legal infirmities."

¹⁸ The main objective of the Telecom Regulatory Authority of India Act, 1997 (TRAI Act) was to establish the Telecom Regulatory Authority of India (TRAI) and Telecom

Dispute Settlement Appellate Tribunal (TDSAT). The main purpose of these two institutions established under the TRAI Act is to regulate telecommunication services, adjudicate disputes, dispose appeals and protect the interest of the service providers as well as the consumers. The Act also aims at promoting and ensuring orderly growth of the telecom sector.

¹⁹ The Telecom Dispute Settlement and Appellate Tribunal (Tribunal) is established under section 14 of the TRAI Act. It can adjudicate upon any dispute between:

- (i) Licensor (Central Government) and a licensee.
- (ii) Two or more service providers.
- (iii) Between a service provider and a group of consumers.

²⁰ The Tribunal (TDSAT) does not have any jurisdiction to try any matter which deals with anti-competitive trade practices or any consumer complaint. Competition issues fall within the jurisdiction of Competition Commission of India (CCI), under the Competition Act.

²¹ *Union of India vs. Telecom Regulatory Authority of India*, 1998 VAD Delhi 209, 74 (1998) DLT 282, 1998 (46) DRJ 557

²² Available at, Shodhganga.inflibnet.ac.in/bitstream/10603/16006/9/09_chapter1.pdf, visited on 11th March 2012.

²³ The functions allotted to the TRAI included:

- a. To recommend the need and timing for introduction of new service provider
- b. To protect the interest of customers of telecom services
- c. To settle disputes between service providers
- d. To recommend the terms and conditions of license to a service provider
- e. To render advice to the Central government on matters relating to the development of telecommunication technology and any other matter applicable to the telecommunication industry in general.

²⁴ Telecommunication systems require a certain amount of electromagnetic bandwidth to operate. Spectrum is allotted for various purposes like Analog TV broadcasts, FM radio, AM radio, Cellular mobile communications etc. which require slots of spectrum for operation. As the world is increasingly becoming wireless (with cordless phones, cell phones (GSM/CDMA/TDMA), wireless internet, GPS devices and so on), allocation of the available spectrum to each user group / technology becomes contentious. Government of India is the custodian of spectrum. It is considered as a scarce natural resource.

²⁵ Banking (Laws) Amendment Act, 2012, Ministry of Law and Justice, New Delhi.

²⁶ NTP 1999 was framed with the following objectives and targets:

- (i) Availability of affordable and effective communication for citizens was at the core of the vision and goal of the new telecom policy
- (ii) Provide a balance between provision of universal service to all uncovered areas, including rural areas, and the provision of high-level services capable of meeting the needs of the economy
- (iii) Encourage development of telecommunication facilities in remote, hilly and tribal areas of the nation
- (iv) To facilitate India's journey to becoming an IT superpower by creating a modern and efficient telecommunication infrastructure taking into account the convergence of IT, media, telecom and consumer electronics
- (v) Convert PCOs, wherever justified, into public telephone information centres having multimedia capability such as ISDN services, remote database access, government and community information systems etc
- (vi) To bring about a competitive environment in both urban and rural areas by providing equal opportunities and level playing field for all players
- (vii) Providing a thrust to build world-class manufacturing capabilities and also strengthen research and development efforts in the country
- (viii) Achieve efficiency and transparency in spectrum management
- (ix) Protect the defense and security interests of the country
- (x) Enable Indian telecom companies to become global players.

In line with the above objectives, certain specific targets were fixed by NTP 1999:

- (i) Make available, telephone on demand by 2002 and achieve a teledensity of 7% by 2005 and 15% by 2010
- (ii) Encourage development of telecom in rural areas by developing a suitable tariff structure so that it becomes more affordable and by also making rural communication mandatory for all fixed service players and thus Achieve a rural teledensity of 4% by 2010 and provide reliable transmission media in all rural areas.

²⁷ Level playing field with respect to telecom liberalization refers to the demand of the private operators that they were ready to commercially compete with a company and not with a Government arm (DoT) providing telecommunication services in the same territory.

²⁸ The third commitment in the Reference Paper provides that any Member has the right to define the kind of Universal Service Obligation (USO) it wishes to maintain, and such obligations will not be regarded as anticompetitive *per se*.

²⁹ The country is divided into 23 Service Areas consisting of 19 Telecom Circle Service and 4 Metro Service Areas for providing Unified Access Services (UAS). Unified Access Services operators are free to provide, within their area of operation, services which cover collection, carriage, transmission and delivery of voice and/or non-voice

messages over Licensee's network by deploying circuit and/or packet switched equipment. Further, the Licensee can also provide Voice Mail, Audiotex services, Video Conferencing, Videotex, E-Mail, Closed User Group (CUG) as Value Added Services over its network to the subscribers falling within its service area on non-discriminatory basis. The Licensee cannot provide any service except as mentioned above, which require a separate license. However, intimation before providing any other value added service has to be sent to the Licensor and TRAI.

A Unified Access Services (UAS) licensee can provide basic communication access either through wire line or wireless services in a service area. Wireless services include Full Mobile, Limited Mobile and Fixed Wireless services. The licensee can also provide various Value Added Services. A restriction for authentication of subscriber terminal has been placed. In case of Limited Mobility facility based on Short Distance Charging Area Linked Numbering Scheme. However, same facility without any restriction can be availed by adopting numbering plan for Cellular Mobile Services and using Home Zone Tariff Schemes. Basic and Cellular Services Licensees are permitted to migrate to Unified Access Services Licence regime. The service providers migrating to Unified Access Services Licence will continue to provide wireless services in already allocated/contracted spectrum and no additional spectrum will be allotted under the migration process for Unified Access Services Licence. Guidelines for such migration were announced on 11.11.2003. The Licence Fee shall be 10%, 8% & 6% of Adjusted Gross Revenue (AGR) for Metro and Category 'A', Category 'B' and Category 'C' Service Areas respectively w.e.f. 1st April, 2004. The spectrum charges are levied separately.) For wireless operations in SUBSCRIBER access network, the frequencies shall be assigned by WPC wing of the Department of Telecom from the frequency bands earmarked in the applicable National Frequency Allocation Plan and in coordination with various users. Initially a cumulative maximum of upto 4.4 MHz + 4.4 MHz shall be allocated in the case of TDMA based systems @ 200 KHz per carrier or 30 KHz per carrier or a maximum of 2.5 MHz + 2.5 MHz shall be allocated in the case of CDMA based systems @ 1.25 MHz per carrier, on case by case basis subject to availability. While efforts would be made to make available larger chunks to the extent feasible, the frequencies assigned may not be contiguous and may not be the same in all cases or within the whole Service Area. For making available appropriate frequency spectrum for roll out of services under the licence, the type(s) of Systems to be deployed are to be indicated. Additional spectrum beyond the above stipulation may also be considered for allocation after ensuring optimal and efficient utilization of the already allocated spectrum taking into account all types of traffic and guidelines / criteria prescribed from time to time. However, spectrum not more than 5 + 5 MHz in respect of CDMA

system or 6.2 + 6.2 MHz in respect of TDMA based system shall be allocated to any new Unified Access Services Licensee. The spectrum shall be allocated in 824-844 MHz paired with 869 - 889 MHz, 890 - 915 MHz paired with 935 - 960 MHz, 1710 1785 MHz paired with 1805 1880 MHz. The status of total licensees as on 31st March 2008(Total-281)

Basic Licensees-2,CMTS Licensees - 39,UAS Licensees – 240.

Dialling procedures have been simplified in respect of Mumbai Metro and Maharashtra, Chennai Metro and Tamilnadu, Kolkata Metro and West Bengal and UP West & UP East Circle. Also amendment has been issued in respect of merger of Tamilnadu Telecom Circle and Chennai Metro.

National Telecom Policy - 2012 recognizes that the evolution from analog to digital technology has facilitated the conversion of voice, data and video to the digital form. Increasingly, these are now being rendered through single networks bringing about a convergence in networks, services and also devices. Hence, it is now imperative to move towards convergence between various services, networks, platforms, technologies and overcome the existing segregation of licensing, registration and regulatory mechanisms in these areas to enhance affordability, increase access, delivery of multiple services and reduce cost. Further, it envisages providing secure, reliable, affordable and high quality converged telecommunication services anytime, anywhere for an accelerated inclusive socio-economic development. One of the objectives of the National Telecom policy-2012 is “Strive to create *One Nation - One License*” across services and service areas.

2. After considering the recommendations of TRAI for Unified Licenses, the Government has decided to grant Unified License (UL). The basic features of UL are as follows:-

- (i) The allocation of spectrum is delinked from the licenses and has to be obtained separately as per prescribed procedure. At present, spectrum in 800/900/1800/2100/2300/2500 MHz band is allocated through bidding process. For all other services and usages like Public Mobile Radio Trunking Service (PMRTS), the allocation of spectrum and charges thereof shall be as prescribed by Wireless and Planning and Co-ordination wing of Department of Telecommunications from time to time.

- (ii) Authorisation under Unified License comprises for any one or more services listed below:

- a. Unified License (All Services)
- b. Access Service (Service Area-wise)
- c. Internet Service (Category-A with All India jurisdiction)
- d. Internet Service (Category-B with jurisdiction in a Service Area)

- e. Internet Service (Category-C with jurisdiction in a Secondary Switching Area)
- f. National Long Distance (NLD) Service
- g. International Long Distance (ILD) Service
- h. Global Mobile Personal Communication by Satellite (GMPCS) Service
- i. Public Mobile Radio Trunking Service (PMRTS) Service
- j. Very Small Aperture Terminal (VSAT) Closed User Group (CUG) Service
- k. INSAT MSS-Reporting (MSS-R) Service
- l. Resale of International private Leased Circuit (IPLC) Service

Authorisation for Unified License (All Services) would however cover all services listed at para 2(ii) (b) in all service areas, 2 (ii) (c), 2(ii) (f) to 2(ii) (l) above.

³⁰ The key features of the regulations are given below:

- (i) Termination charge for all types of domestic calls: fixed to fixed, fixed to mobile, mobile to fixed and mobile to mobile has been reduced to 20 paise per minute from 30 paise per minute
- (ii) Termination charge for incoming international calls will be 40 paise per minute against the existing charge of 30 paise per minute. The authority expects that the service providers will pass on this benefit in the form of lower tariff for outgoing international calls
- (iii) Ceiling on carriage of domestic long distance calls retained at 65 paise per inute. Non-reduction of this ceiling will encourage NLD operators to expand into rural areas
- (iv) Origination charge has not been specified as it will be residual from tariff after payment of other charges. This will provide service providers flexibility of introducing innovative tariff plans
- (v) Transit/carriage charge from Level-II Trunk Automatic Exchange to Short Distance Charging Area (SDCA) to be 15 paise per minute as against existing charge of 20 paise per minute
- (vi) Intra SDCA transit charge to be less than 15 paise per minute down from less than 20 paise per minute
- (vii) Termination charge for 3G voice calls shall be same as 2G voice calls.

³¹ Recognising the importance of spectrum in the growth of wireless services, the Indian government has set up two committees - Spectrum Management Committee 1999 and a Steering Group on Spectrum Pricing 1999. The TRAI also issued recommendations on spectrum-related issues in May 2005. Even the Twenty-eighth Report of the Standing Committee of the Parliament on Spectrum Management 2005 has highlighted issues regarding spectrum management. Assignment of Spectrum in India is governed by the National Frequency Allocation Plan (NFAP) 2002 and the international radio regulations of the International Telecommunications Union (ITU).The National

Frequency Allocation Plan (NFAP) was developed in 1981 on the basis of the international frequency allocations and after taking into account the national spectrum requirements as well as technologies available during that time. Pursuant to the New Telecom Policy 1999 (NTP 1999), the NFAP was reviewed in a transparent manner with participation of all stakeholders and a revised NFAP was formulated known as NFAP 2000. Further, the NFAP 2000 was reviewed in view of changes in the International Radio Regulations and after taking into account the fast-growing national spectrum requirements in a transparent manner and the NFAP 2002 was also published. The NFAP has been reviewed periodically, considering changes in international allocations, national spectrum requirements and emerging technologies. As the trend in the telecommunication sector is moving towards mobility, the government has recognised and implemented automated spectrum management system in January 2005. This system will address bottlenecks in spectrum availability as radio frequency spectrum is one of the necessary ingredients of mobility. Electromagnetic spectrum is considered as a scarce natural resource and needs to be properly utilised to introduce new radio communication technologies. Further, during November 2007, the government constituted a committee to recommend revised subscriber-based spectrum allocation criteria. The committee in its report has recommended allocation of additional spectrum in steps of 1 MHz. The criteria for spectrum allotment will be based on the active subscribers, peak traffic of the operator's network and demographic features of the service area. These criteria will be reviewed from time to time wherein relevant factors and technological developments will be taken into account.

³² Sawhney, A. and Rupa Chanda, "Globalization of Services: India's Opportunities and Constraints", Working Paper No.102, ICRIER, New Delhi, June 2003.

³³ Vide a letter dated 23rd February, 1994 issued by the Chairman, Telecom Commission, Government of India in respect of "VSNL's euro issue – policy regarding paging services and monopoly of VSNL" it was decided that VSNL would have a monopoly for 10 years in basic services (voice telephony) starting from 1st April, 1994. It (The assurance of guaranteed monopoly status for a period till 31st March, 2004 for VSNL in International Long Distance (ILD) Services) was also confirmed that the Union Cabinet had decided upon maintaining status quo as regards VSNL's monopoly status. On 26th March, 1999 the Government of India approved and announced the New Telecom Policy 1999 (NTP). The NTP explicitly stated that "*The subject of opening of International Telephony Service to competition will be reviewed by the year 2004.*"

³⁴ Chanda, R. (2003): "Liberalizing Professional Services under the GATS: The Indian Perspective", presented at FIEO workshop on Trade in Services, Bangalore, June 23, 2003.

- ³⁵ <http://www.telecomcircle.com/2009/06/india-telecom/> , visited on 20th April 2014
- ³⁶ Braga, Carlos Primo A.: *Liberalizing Telecommunications and the Role of the World Trade Organization*, Public Policy for the Private Sector, Note No. 120, The World Bank, June 1997. <http://rru.worldbank.org/PublicPolicyJournal/Summary.aspx?id=120>
- ³⁷ Matsushita, Schoenbaum & Mavroidis (2003):*The World Trade Organization, Law, Practice & Policy*, Oxford: Oxford University Press, p.254, available at http://www.lawedu.com/The_World_Trade_Organization_Law_Practice_and_Policy_International_Economic_Law_Series_0198764723.html
- ³⁸ Available at, www.ibimapublishing.com/journals/CIBIMA/volume4/v4n4.pdf, retrieved on 19th June 2014.