

**Study Paper No.1/2005**



**Telecom Regulatory Authority of India**

**Study Paper**

**On**

**Financial Analysis of Telecom Industry of China and India**

**New Delhi**

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## Background

1. India is one of the fastest growing telecom markets of the world. To analyse and compare the trends of Indian telecom sector with the other developing countries, a study of the telecom sector of China was conducted. This information paper brings out some of the highlights of this study. The report is based on analysis of financial and non-financial results Chinese telecom companies available in their Annual reports and material available on net.

### Section I

2. China is one of the largest telecom markets in the world. The subscriber base of China as on March 2005 was 674.5 million, 349.1 of these subscribers were subscribing to mobile services and 325.40 million fixed line services. The mobile and fixed line subscribers account for a tele-density of 25.90% and 24.9% respectively.

3. China has four telecom operators viz. China Mobile Group, China Unicom Group, China Telecom Group and China Netcom Group.

**China Mobile** – It is largest telecom operator in China. This company was created from China Telecom in April 2000 to create a competitive environment in China. China Mobile competes with China Unicom in mobile services and, to a lesser degree, with China Telecom and China Netcom, which provide limited mobility services. China Mobile provides GSM Services and operates their services in 31 provinces of China with roaming facility in 240 cities. In addition to above services china mobile offers data services, VoIP calling cards and Internet access.

**China Unicom-** China Unicom Telecommunications Co Ltd was established in 1994 and is the only Chinese operator that has a license to provide full range of services, including mobile, long distance (domestic and international), VoIP, data, internet and broadband. Unicom is first Chinese telecom company to launch GSM service in 1994. In 2002, Unicom also launched CDMA service. In 2003, Unicom launched CDMA higher speed for data services. In August 2004, Unicom launched the dual- mode service<sup>1</sup>.

**China Telecom** - China Telecom group is first operator for fixed line service. The company operates mainly in 21 provinces in south China as the result of industry restructuring in 2002. China Telecom is the second largest operator after China Mobile in term of revenue. China Telecom operates 26 international undersea cables connecting Southeast Asia, the Middle East, Europe, Russia and North America. It is often seen as a stable and most experienced operator in China. China telecom also provides limited fixed services in north China.

**China Netcom-** China Network Communications (China Netcom) was created in 2002 in an effort to break monopoly by China Telecom in the fixed line service market. Netcom is composed of three entities: China Telecom's operations in North China, Jitong Communications, a former data service operator, and the original Netcom, a broadband developer and wholesaler. Most of Netcom's operations are in 10 provinces in North China. It also provides services in South China and for international customers. Netcom is the third largest operator in China and competes

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<sup>1</sup> The dual-mode service denotes a mobile user can roam in CDMA and GSM networks with the same handset.

with China Telecom in fixed and broadband services and, to a lesser degree, with mobile operators through Limited Mobility Services.

4. All Chinese telecom companies are government owned. China Mobile earns around 35.6% and China telecom 31.6% of the total revenues of the telecom service industry. Chinese mobile market has some competition but fixed service is still uncompetitive. In the mobile segment, China Mobile is the incumbent operator with 55% market. In the basic segment China Telecom is the incumbent operator holding about 69% of the market. The telecom network statistics as on 31<sup>st</sup> December, 2004 are as under:

Switching Capacity	825 million
Network utilisation	80%
Total revenue	\$ 65.30 billion (Rs.2938.50 billion)

## Section II

### Comparison of Indian and Chinese Telecom Industry

#### Subscriber Base

5. In the past few years, fantastic growth has taken place in the mobile segment in India but basic service is not growing at a similar pace. In China a remarkable growth took place in both basic and cellular market. In 2001 the growth rate of mobile service in India surpassed growth rate of China however in fixed line segment India continues to show a much lower growth than Chinese growth rate. One of the reasons for slow growth of fixed line service could be late introduction of broadband services over DSL. Summary of results of Indian and Chinese market is given in the following table.

**Table No 1**

Comparison of Subscriber growth of Basic and Cellular Service in China and India

	Fixed Line (Mn)		Cellular Line (Mn)	
	China <sup>2</sup>	India <sup>3</sup>	China	India
1997	70.00	14.54	15.00	0.34
1998	90.00	17.80	20.00	0.88
1999	110.00	21.59	40.00	1.20
2000	130.00	26.51	85.00	1.88
2001	180.00	32.44	145.00	3.58
2002	210.00	37.94	210.00	6.43
2003	263.00	40.62	269.00	12.69
2004	312.00	42.58	335.00	33.60
2005	325.40 <sup>#</sup>	45.91	349.10 <sup>#</sup>	52.21

Sources: Ministry of Information Industry of China (MII) and TRAI

<sup>2</sup> Year ended 31<sup>st</sup> December

<sup>3</sup> Year ended 31<sup>st</sup> March

<sup>#</sup> As on 31<sup>st</sup> March 2005

## Telecom Revenue

6. Total telecom revenue of Chinese Telecom companies was about 65.30 billion US\$ at the year ending 31<sup>st</sup> December 2004 and estimated total telecom revenue of Indian companies was about 17.78 billion US\$ at the year ending 31<sup>st</sup> March 2005. The comparison of distribution of telecom revenues of Chinese and Indian market is given in the following table.

**Table No 2**  
**Distribution of revenues**

	China	India
Service	% Of Contribution to Total Revenue <sup>4</sup>	% Of Contribution to Total Revenue <sup>5</sup>
Mobile	42.69%	23%
Basic	31.31%	68%
Long distance	19.46%	6% <sup>6</sup>
Data Internet	6.26%	2%
Paging	.20	-
Satellite	.08%	0.35%
Others	-	0.65%
Total	100%	100%

## Average Revenue per User (ARPU)

7. ARPUs in Indian and Chinese market are comparable in mobile sector but ARPUs for basic service are much higher in India. Results for various sectors are summarised below:

**Table No 3**

Particulars		China	India
Fiscal Year		Dec-04	Mar-05
ARPU –Basic	US\$	9.14 <sup>7</sup>	15 <sup>8</sup>
ARPU Mobile (GSM+CDMA)	US\$	9.69	9.04
ARPU Mobile –CDMA	US\$	10.31	5.74 <sup>9</sup>
ARPU Mobile –GSM	US\$	9.62	8.89
ARPU Mobile -GSM- Post paid	US\$	20.18	20.34 <sup>10</sup>
ARPU Mobile -GSM- Pre paid	US\$	6.77	5.25 <sup>11</sup>

<sup>4</sup> At the year ending 31<sup>st</sup> December 2004.

<sup>5</sup> On the basis of Accounting Separation Reports Year ending 31<sup>st</sup> March 2004.

<sup>6</sup> Long distance does not included intra-circle- long distance revenue

<sup>7</sup> Average ARPU of China Telecom and China Netcom

<sup>8</sup> Average ARPU of BSNL and MTNL for the year ending 31<sup>st</sup> March 04.

<sup>9</sup> The Average ARPU of Reliance and TATA have been considered

<sup>10</sup> Average of all mobile services as per Accounting Separation Reports Compilations- 2004.

<sup>11</sup> Average of all mobile services as per Accounting Separation Reports Compilations-2004

### Minutes of Usages per subscriber of Mobile -GSM (MOU)

8. A comparison of usage pattern of GSM services shows that Indians use their cell phones more than their Chinese counterparts. In spite of higher usage, ARPUs in India are lower than China. This shows existence of fierce competition in India and tariffs, which are much lower than Chinese tariffs. The results of usage pattern of GSM services are summarised in the following table.

**Table No 4**

Particulars		China	India
Fiscal Year		Dec-04	Dec-04
MOU –GSM- Total	Minutes	297	330
MOU –GSM- Pre-paid	Minutes	194	233
MOU –GSM- Post-paid	Minutes	517	599

### Competition position

9. China has limited competition. The India mobile market is fiercely competitive. HHI Index <sup>12</sup>of china and India are given below.

**Table No 5**

Particulars	China	India
Fiscal Year	Dec-04	Dec-04
HHI Index in Basic Service	.58	.67
HHI Index in Mobile Service	.40	.16

### OPEX<sup>13</sup> per subscriber

10. Operating expenditures of Basic and Mobile services are compared in the following table. The OPEX in both segments is higher for Indian companies. High salaries, expenses on advertisement, license fee etc are some of the reasons for higher opex for Indian companies.

**Table No 6**

Particulars		China	India
Opex per subscriber per month-Basic	US\$	4.30 <sup>14</sup>	5.92 <sup>15</sup>
Opex per subscriber per month-Mobile	US\$	2.41 <sup>16</sup>	4.18 <sup>17</sup>

<sup>12</sup> HHI Index, 1=monopoly, 0= pure competition and >.50=moving towards competition.

<sup>13</sup> Operating expenditure (Opex) includes personnel cost, network running & operating cost, interconnect charges, sales and marketing cost and administrative & others costs

<sup>14</sup> China Telecom's opex for the Accounting year ended 31<sup>st</sup> December 2004 has been considered

<sup>15</sup> BSNL's OPEX for the F/Y 2003-04 has been considered

<sup>16</sup> China Mobile 's OPEX

<sup>17</sup> All India average opex for the financial year 2003-04

### Capital Employed cost per subscriber

11. The capital employed in China for basic segment is almost half of what has been employed in the Indian market but for mobile segment is almost similar. Higher capacity utilisation is one of the reasons for it.

**Table No 7**

Particulars		China	India
Fiscal Year		Dec-04	Mar-04
Capital Employed per subscribers-Basic service	US\$	169 <sup>18</sup>	362 <sup>19</sup>
Capital Employed per subscribers-Mobile service	US\$	163 <sup>20</sup>	167 <sup>21</sup>

### Return on Capital Employed (RoCE)

12. Chinese companies have much higher returns on capital employed than Indian companies. Lower Opex and higher ARPUs are reasons for higher RoCE. Comparison is given in the following table.

**Table No 8**

Particulars		China	India
Fiscal Year		Dec-04	Mar-04
RoCE- Basic	%	14.79%	10.92%
RoCE-Mobile	%	22.87%	7.83%

### Regulatory Levies

13. Regulatory levies are much lower in china. The following table shows that there is almost no license fee and spectrum fee. This is one of the reasons for lower Opex for Chinese companies.

**Table No 9**

Particulars	China	India
License Fee inclusive USO <sup>&amp;</sup>	Nil	0~15%
Spectrum Charges <sup>&amp;</sup>	.5%	2~6%

### Corporate Tax Rates

14. China's corporate tax is based on a statutory rate of 33% of assessable profit of the company, as determined in accordance with the relevant income tax rules and regulations. Chinese telecom companies get a tax benefit on account of use of indigenous equipments and special economic zone locations. Effective tax rate in China ranges from 16% to 32% per annum.

**TableNo10**

Particulars	China	India
Corporate Tax	33%	30% <sup>22</sup>
Effective Tax Rate	16%~32%	7.5%~30% <sup>23</sup>

<sup>18</sup> China Telecom's CAPEX

<sup>19</sup> BSNL's CAPEX

<sup>20</sup> China Mobile 's CAPEX

<sup>21</sup> Average of all mobile operators as per Accounting Separation Reports

<sup>&</sup> From page no145 of Spectrum Recommendations of TRAI

<sup>22</sup> Effective from 1-4-2005 onward, previously it was 35% plus surcharges and education cess.

## Summary of Results

15. Some of the important parameters of Chinese and Indian telecom companies, including total telecom revenue, subscriber base, ARPU, subscriber growth and competition position in the form of HHI Index are summarized below in table.

**Table No 11**  
**Comparison of Chinese and Indian Telecom Market**

<b>Particulars</b>		<b>China</b>	<b>India</b>
Fiscal Year		Dec-04	Mar-05
Total Revenue from Telecom services	US\$ in bn	65.3	17.78
Total Subscriber at the end of March 05	Mn	674.5	98.08
Fixed Line	Mn	325.4	45.9
Mobile	Mn	349.1	52.17
ARPU –Basic	US\$	9.14	15
ARPU Mobile (GSM+CDMA)	US\$	9.69	9.04
ARPU Mobile –CDMA	US\$	10.31	5.74
ARPU Mobile –GSM	US\$	9.62	8.89
ARPU Mobile -GSM- Post paid	US\$	20.18	20.34
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MOU –GSM- Total	Minutes	297	330
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MOU –GSM- Post-paid	Minutes	517	599
Capital Employed per subscribers-Basic service	US\$	169	362
Capital Employed per subscribers-Mobile service	US\$	163	167
Opex per subscriber-Basic	US\$	4.30	5.92
Opex per subscriber-Mobile	US\$	2.41	4.18
RoCE- Basic	%	14.79%	10.92%
RoCE-Mobile	%	22.87%	7.83%
Subscriber Growth in Basic	YOY	15.50%	8%
Subscriber Growth in Mobile	YOY	23%	55%
Rental –Rural per month	US\$	1.20	1.11
HHI Index in Basic Service		.58	.67
HHI Index in Mobile Service		.40	.16

## Section III

16. The key statistics of the Chinese Telecom Industry including company-wise revenue, subscribers, ARPU, profitability, capital cost and productivity are summarised in the following Tables.

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<sup>23</sup> Effective tax rate means tax payable by the companies under Minimum Alternative Tax under section 115 JB of the Income Tax Act, 1961 or tax payable after taking in to account the benefit of section 80IA of the Income Tax, 1961(**Applicability of provision of “Tax Holidays”**).

**Table No12**  
**Key statistic of china telecom market for the year ending December 2004**

<b>Particulars</b>	<b>Unit</b>	<b>China Mobile</b>	<b>China Unicom</b>	<b>China Telecom</b>	<b>China Netcom</b>
Fiscal Year		Dec-2004	Dec -2004	Dec -2004	Dec -2004
Revenue	US\$-(billion)	23.24	9.58	19.48	7.84
	INR (billion)	1045.80	431.10	876.60	352.80
No of subscribers (Million)	Cell phone	204.3	112.08	-	-
	Xiao Ling Tong <sup>24</sup> (XLT)	-	-	42.167	15.073
	Fixed Line	-	-	144.481	65.31
<b>Profitability</b>					
EBITDA	US \$ (billion)	12.95	3.26	10.51	4.13
EBITDA Margin	%	55.73 %	34.06%	53.97%	52.66%
Net Profit Margin	%	21.83%	5.53%	17.42%	14.24%
RoCE	%	22.87%	7.38%	14.79%	16.35%
<b>Capital cost</b>					
Capital cost per subscriber (GB/ No of subscriber)	US \$	203	163	347	N.A.
Net Capital cost per subscriber (NB/ No of subscriber)	US \$	129	103	207	189
Capital Employed per subscriber (CE/ No of subscriber)	US \$	163	119	169	142
<b>Productivity</b>					
Opex as % of sales	%	45.91%	65.94%	46.03%	47.35%
Interconnection charges as% of sales	%	6.28%	9.48%	2.54%	2.38%
Labour % sales	%	5.05%	5.71%	14.41%	12.39%
Depreciation % sales	%	23.04%	24.03%	29.26%	28.87%
Capex % sales	%	30.74%	24.15%	35.01%	32.65%

<sup>24</sup> Xiao Ling Tong (a quasi-mobile) Service began in China in 1997, and grew rapidly during 2002-03. XLT (Little Smart) is based on PHS technology invented in Japan in the early 1990s.it is defined by the MII as a supplement to, and extension of, PSTN with limited mobility.



**Table No 13**  
**Company –wise ARPU**

<b>Particulars</b>	<b>China Mobile</b>	<b>China Unicom</b>	<b>China Telecom</b>	<b>China Netcom</b>
Fiscal Year	Dec -04	Dec -04	Dec -04	Dec -04
Unit in	US\$	US\$	US\$	US\$
Company ARPU	11.12	7.84	9.34	8.72
Post paid subscriber – ARPU	20.18	N.A.	-	-
Pre paid subscriber – ARPU	6.77	N.A.	-	-
GSM –ARPU	N.A.	5.97	-	-
CDMA-ARPU	N.A.	10.31	-	-

**Table No 14**  
**Company-wise MOU of Mobile Segment**

<b>Particulars</b>	<b>China Mobile</b>	<b>China Unicom</b>
Fiscal Year	Dec -04	Dec -04
Unit in	Minutes	Minutes
Company total Usages in Billion	660.90	N.A.
Over all MOU	297	N.A.
Post paid subscriber – MOU	517	N.A.
Pre paid subscriber – MOU	194	N.A.
GSM –MOU	N.A.	188.90
CDMA-MOU	N.A.	292.30

**Table No 15**  
**Company –wise total usages of basic segment**

<b>Particulars</b>	<b>Unit</b>	<b>China Telecom</b>	<b>China Netcom</b>
Fiscal Year		Dec -04	Dec -04
Local Voice Usage (Pulses)	Millions	429150	176000
Domestic Long distance (Minutes)	Millions	81960	23000
International Long distance (Minutes)	Millions	1654	436

**Table No 16**  
**Summary of key financial statistic for accounting year ending 31<sup>st</sup> Dec 2004**

<b>Particulars</b>	<b>China Mobile Group</b>	<b>China Unicom Group</b>	<b>China Telecom Group</b>	<b>China Netcom Group</b>
Currency	RMB	RMB	RMB	RMB
Fiscal Year	Dec-04	Dec-04	Dec-04	Dec-04
<b>Profit and loss (billion)</b>				
Sales	192.381	79.331	161.212	64.922
EBITDA	107.221	27.019	87	34.19
EBIT	62.885	8.155	38.603	15.528
PBT	61.206	6.467	33.263	12.596
PAT	42.004	4.387	28.076	9.248
<b>Cash Flow</b>				
EBIT	62.885	8.155	38.603	15.528
Depreciation and amortisation	44.336	19.063	47.17	18.744
Cash Flow from operating activities	103.779	23.82	66.078	26.87
Capital expenditure	59.143	19.16	56.446	21.2
Cash Flow from Investing activities	-73.302	-18.96	-56.353	-21.707
Cash Flow from financing activities	-24.457	-9.4	-8.981	-1.413
<b>Balance Sheet<sup>25</sup></b>				
Gross Block	343.929	150.666	536	N.A
Net Block	218.063	95.224	320	126
CWIP	31.239	23.68	29	8
Working Capital	-9.577	-17.232	-101	-46
Capital Employed	275.025	110.545	261	95
Equity	233.161	72.81	159	55
Debts	44.813	37.781	84	29
<b>Profitability</b>				
EBITDA	107.221	27.019	87	34.19
EBITDA Margin	55.73%	34.06%	53.97%	52.66%
Net profit Margin	21.83%	5.53%	17.42%	14.24%
EBIT RoCE	22.87%	7.38%	14.79%	16.35%
PAT Net worth	18.02%	6.03%	17.66%	16.81%
<b>Productivity</b>				
Opex as % of sales	45.91%	65.94%	46.03%	47.35%
Interconnection charges as% of sales	6.28%	9.48%	2.54%	2.38%
Labour % sales	5.05%	5.71%	14.41%	12.39%
Depreciation % sales	23.04%	24.03%	29.26%	28.87%
Capex % sales	30.74%	24.15%	35.01%	32.65%
Capital turnover	69.95%	71.76%	61.77%	68.34%
Tax Rate	31.37%	32.16%	15.59%	26.58%
Debt-equity Ratio	0.19	0.52	0.53	0.53
<b>Momentum (2003-04 CAGR)</b>				
Revenue Growth	21.30%	17.30%	6.40%	8.53%
EBIT Growth	16.20%	8.51%	114.25%	N.A
PAT Growth	18.23%	4.15%	101.43%	N.A

<sup>25</sup> Balance sheet has been regrouped as per schedule VI of the Indian companies Act 1956