

Study Paper No.1/2006



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. The Telecom Regulatory Authority of India had carried out a comparative study in 2005 on the status of telecom service sector of India and China. The comparison of performance indicators between two fastest growing telecom markets help to draw strategies for new investment and expansion of telecom networks, tariff and pricing of retail and wholesale services, usage pattern and related capacity requirement etc. The paper earlier published by the Authority was extensively used by policy makers, academicians, investors and service providers etc. The paper had also drawn interest of the media and was also reproduced in reputed journals. The Authority in continuation of its endeavor to provide such benchmark studies is publishing this revised and more extensive comparative study of performance indicators of Indian and Chinese Telecom service sectors.
2. In this study paper financial/ economic indicators and regulatory indicators in China have been compared with the Indian Telecom sector. The inputs for this paper on Chinese telecom companies are taken from Annual reports/ articles.

Section I

Overview of Chinese Telecom Industry

3. China is now the world's largest telecom market. China has six key telecom service providers VIZ. China Mobile Group, China Unicom group, China Telecom group, China Netcom group, China Railcom and China Satcom. All Chinese telecom companies are state owned. Performance of individual companies is summarized in a table placed at Annexure I.
4. The total Chinese telecom revenues during 2005 were \$72.70 billion, representing an increase of 11.8% over the previous year. During 2005, 100 million new subscribers were added- 38.68 million new fixed line users and 58.60 mobile users.

5. At the end of 2005, there were 740 million phone users- 350 million fixed line users and 390 million mobile users.
6. At the end of 2005, the teledensity for fixed line services was 27% and 30% for mobile services. The total teledensity was 57%.
7. At the end of 2005, there were 37.5 million broadband internet users. Net addition during 2005 was 12.63 million users.
8. Short message Services (SMS) remained a major contributor to telecom growth. About 304.65 billion messages were sent, an increase of 40% over the previous year. The total revenue from SMS surpassed 30 billion Yuan (US\$ 3.72 billion). Usage of other value- added services (VAS) like multi message services (MMS), ring tone downloads also increased.

Section II

Comparison of Indian and Chinese Telecom industry

Subscriber base

9. The Growth of mobile services in India over the past few years has been phenomenal. Mobile subscribers are growing at a CAGR of around 85% since 1999 but fixed line subscribers are not growing at a similar pace. Now over 4 million mobile subscribers are added every month. On the other hand China has registered a growth of 16% in the mobile subscriber base in the year 2005 with monthly addition of 5 million subscribers every month.
10. The Chinese fixed line services registered 12% growth during 2005. The expansion was mainly on the wireless platform and now over 23% of fixed line subscribers are connected through wireless local loop. Indian on the other hand registered an annual growth of 2%.

11. Summary of subscriber base of China and India is given below.

Table No 1

Comparison of subscriber base of China and India				
	Fixed Line (Mn)		Cellular Line (Mn)	
Year	China ¹	India ²	China ¹	India ²
1997	70	14.54	15	0.34
1998	90	17.8	20	0.88
1999	110	21.59	40	1.2
2000	130	26.51	85	1.88
2001	180	32.44	145	3.58
2002	210	37.94	210	6.43
2003	263	40.62	269	12.69
2004	312	42.58	335	33.6
2005	350	45.91	390	52.21
2006	359#	46.78	410#	93.04

Source: National Bureau of statistics of China, MII and TRAI

Broadband Subscriber

12. The monthly addition of broadband users in China is around 8.5 Lakhs per month against 1.3 lakh in India.
13. Total broadband users in China and India are given in the following table 2:

Table No 2

Particulars	Unit	China ³	India ⁴
Broadband Connection	Mn	10.16 ⁵	1.31
Average Addition per month	Mn	0.85	0.13 ⁶

Source: Annual reports of Chinese Telecom companies and TRAI

¹ Year ended 31st December

² Year ended 31st March

March 2006

³ At the year ending 31st December 2005

⁴ At the year ending 31st March 2006

⁵ Total of China Telecom and China Netcom

⁶ Average of last three month

Coverage of Telephone services in Villages

14. Telephone service is available in 97% of villages of China against 89% in India. Comparisons table is given below.

Table No3

No of Villages with telephone services			
Particulars	Unit	China	India
Total No of Village in the Country	No	701031	607491
No of Villages with telephone services	No	680000 ⁷	539572 ⁸
Percentage of Coverage	%	97%	89%

Source: China Daily Dated 14/03/2006 and Department of Telecommunication of India

Telecom Revenue

15. Total telecom revenue of Chinese telecom companies increased from \$ 65 billion to \$ 72.70 billion during the calendar year 2005. Telecom revenue in India during 2005-06 was \$19.50 billion. The comparative statement of growth of telecom revenues is given in the following table:

Table No 4

Year	China	India
		(In Billion)
2004-05	65	17
2005-06	72.7	19.5 ⁹
Growth	11.8%	14.7%

Average Revenue Per User (ARPU)

16. ARPU in India and Chinese is comparable in GSM pre-paid segment but ARPU for post segment in China is much higher.
17. ARPU for CDMA services are also higher in China in comparison to India.

⁷ End of November 2005.

⁸ End of December 2005.

⁹ Based on estimated and un audited reports

18. ARPU for Basic Telephone Services is higher in India when compared to ARPU for Basic Telephone in China. A comparison of ARPUs is summarized in the following table:

Table No 5

Average Revenue Per User (ARPU)				
Particulars	China		India	
	US\$			
	2004-05	2005-06 ¹⁰	2004-05	2005-06 ¹¹
ARPU -Basic	9.14	8.54 ¹²	15	14.5
ARPU Mobile -CDMA	10.31	9.31 ¹³	5.74	5.56
ARPU Mobile -GSM	9.62	9.43 ¹⁴	8.89	8
ARPU Mobile -GSM- Post paid	20.18	19.98	20.34	14
ARPU Mobile -GSM-Pre paid	6.77	5.94	5.25	6

Source: Annual Reports of Chinese Telecom Companies 2005, TRAI

Minutes of Usages per Subscriber of Mobile (MOU)

19. The comparison of usage pattern of mobile cellular services in India and China is in the table below. Usages of cell services are much higher in India compared to China.
20. Minutes of Usage of GSM and CDMA based cell services in India are 32% and 70% respectively higher when compared to Chinese services.
21. In spite of higher MOU the ARPU in India is lower than China for the reason that tariffs in India are lower.

¹⁰ For the year ending 31st December 2005.

¹¹ For the year ending 31st March 2006

¹² Based on China Telecom and China Netcom

¹³ Based on China Unicom

¹⁴ Based on China Mobile and China Unicom

Table No.6

Minutes of Usage per subscriber (MOU)					
Particulars	Unit	China		India	
Year		2004	2005	2004-05	2005-06
MOU-GSM Total	Minutes	297 ¹⁵	300 ¹⁶	330	393 ¹⁷
MOU-GSM Pre-paid	Minutes	194	214	233	308
MOU-GSM Post-paid	Minutes	517	524	599	675
MOU-CDMA Total	Minutes	292	277 ¹⁸	N.A.	470

Source: Annual Reports, TRAI

Average Short Message Service (SMS) Per Subscriber per month

22. A comparison of average number of SMS sent per month per subscriber is given in the following table:

Table No 7

Average Number of SMS per subscriber per Month		
Particulars	China	India
Year	Dec-05	Dec-05.
Average SMS per subscriber per Month	37 ¹⁹	40 ²⁰

Source: Annual Reports, TRAI

OPEX²¹ per Subscriber

23. The operating expenditure of Basic and Mobile services is compared in the following tables. The Opex in the both segments is higher for Indian telecom companies. The operating expenditure of Basic segment of Chinese companies is almost half of the Indian Basic service providers. Economies of scale achieved for basic telephone segment could be one of the reasons for lower OPEX for Chinese companies.

Table No 8

Opex per subscriber (\$)				
Particulars	China		India	
	2004	2005	2004-05	2005-06
Basic	4.24	4.23	8.38	8.52
Mobile	4.87	4.73	5.99	5.49

¹⁵ China Mobile's MOU

¹⁶ Based on China Mobile and China Unicom GSM's MOU

¹⁷ Average of all mobile Operators

¹⁸ China Unicom CDMA's MOU

¹⁹ Weighted Average of all network services for the year ending 2005.

²⁰ Average SMS in respect of GSM Cellular service providers for the quarter ending December 2005.

²¹ Operating expenditure includes salary cost, network running & operating, cost Interconnect usage charges, sales & marketing cost, administrative cost and other regulatory cost etc.

Termination Charges

24. The termination charges of China have been regulated by MII (Govt. of China) , in India these charges have been regulated by the TRAI (Telecom regulator). The Indian Whole sale network-services/products (termination charges) are one of most competitive and lowest in the world. The comparison of termination charges of fixed network services of both countries are given below

Table No 9

Termination charges			
Particulars	Unit	China	India
Fixed Termination Changes	US\$	0.007 ²²	0.007
Mobile Termination charges	US\$	N.A. ²³	0.007

Source: Annual Reports of China Telecom, TRAI

EBITDA Margin

25. A comparison of EBITDA margins of India and China show that the Chinese companies are able to generate higher rate of EBITDA. The comparison table is given below:

Table No 10

EBITDA Margin				
Particulars	China		India	
	Dec-04	Dec-05	Mar-05	Mar-06
Basic service Providers	53.59%	50.48%	44.13%	41.36% ²⁴
Mobile Service Providers	49.41%	49.85%	32.60%	31.33%

Capital Employed²⁵ Per Subscriber

26. The capital employed per subscriber for the Basic Service is much lower when compared to India. However, capital employed for the cellular segment is lower in India. Higher capacity utilization in the mobile sector could be the reason for lower capital employed in the mobile segment. Details are summarized in the following table:

²² The terminating access network shall be entitled to receive from the telephone operator from which the telephone call originated a fee as prescribed by the MII from time to time, which is currently RMB0.06 per minutes.

²³ China does not have CPP regime like India and hence mobile termination charges are not indicated for China

²⁴ Based on BSNL and MTNL

²⁵ The Capital Employed is fund deployed to operate the business. It is sum of depreciated value of capital assets /fixed assets, capital work in progress and working capital.

Table No 11

Capital Employed per subscriber (US \$)				
Particulars	China		India	
	Dec-04	Dec-05	Mar-04	Mar-05
Capital Employed per subscriber - Basic Service	169	153 ²⁶	362 ²⁷	370
Capital Employed per subscriber - Mobile Service	163	152 ²⁸	167 ²⁹	147

Return on Capital Employed (RoCE)

27. Chinese Companies earn higher rate of return on the capital employed than Indian companies. The returns on the capital employed for the previous financial year has declined for both countries. Details have been summarized in the following table:

Table No 12

Return on Capital Employed (RoCE)					
Particulars	Unit	China		India	
		Dec-04	Dec-05	Mar-05	Mar-06
Basic service Providers	%	14.79%	13.25% ³⁰	10.92%	8.10% ³¹
Mobile Service Providers	%	22.87%	21.90%	7.83%	7.42%

Capital Expenditure

- 21 The capital investment for expansion/up gradation of telecom networks during 2005-06 by Indian and Chinese companies is given in the following table. The Chinese companies have projected to make investment to the tune of \$ 23 billion during 2006. It is expected that investment by Indian companies will also increase by at least 15%.

Table No 13

Projected Capital expenditure			
Particulars	Unit	China	India
		2005	2005-06
Capital expenditure	US\$ (Bn)	20	6
% Of Revenue	%	28%	31%

²⁶ China Telecom 's capital employed per subscriber at the year ending.

²⁷ BSNL 's Capital employed per subscriber at the year ending

²⁸ China Mobile, s Capital employed per subscriber at the year ending.

²⁹ Average of all mobile operators as per accounting separation reports.

³⁰ China Telecom 's RoCE

³¹ Based on BSNL and MTNL

Competition Position

28. Indian mobile market is much more competitive when compared to the Chinese mobile market. Higher competition is also reflective in the lower Indian ARPU's in spite of higher usage of telecom services. The competition level has been compared using HHI³² Index of China and India is given below

Table No 14

Particulars	China	India		
		2004	2005	2004-05
Fiscal Year	2004	2005	2004-05	2005-06
HHI Index in Basic service	0.58	0.55	0.67	0.58
HHI Index in Mobile Service	0.40	0.36	0.16	0.15

Networked Readiness Index (NRI) ranking ³³

29. The world information technology Report-2005 of World Economic Forum has ranked India at 40th position, China at 50th position in Networked Readiness Index Rankings 2005 in term of Network Readiness. As this indicates availability of opportunities that could result in greater inflow in the telecom sector in India .

Table No 15

The Networked Readiness Index Rankings 2005		
Country	Score	Rank
India	0.23	40
China	-0.01	50
Source: www.weforum.org		

Direct Employment in Telecom sector

30. Chinese Telecom companies have employed about 6 Lacs direct employee where as their Indian counterparts have employed about 4.30 Lacs direct employee. Comparison of direct employment is given below.

Table No 16

Direct employment in Telecom sector			
Particulars	Unit	China	India
Year		Dec-05	March-06
Direct employment	No	596002	429400
Source: Annual Reports, Operators Data			

³² HHI Index 1=monopoly, 0= pure competitions and >.50=moving towards competitions.

³³ Networked Readiness Index (NRI) measures the propensity for countries to exploit the opportunities offered by information and communications technology

Corporate Tax

31. China's corporate tax is 33% against 30% in India. The effective tax rates for telecom companies in China was also estimated using actual payout of tax and found that it lies between 18% to 32%. The results are summarized in the following table:

Table No 17

Particulars	China	India
Corporate Tax Rate	33%	30% ³⁴
Effective Tax Rate	18%~32%	11.22%~33.66% ³⁵

Turnover Tax on Telecom Services

32. In China a 3% Business tax on telecom revenues is payable against 12.24% payable as service tax in India :

Table No18

Particulars	Business Tax	Service Tax
	China	India
Turnover TAX	3%	12.24%

Summary of Analysis

33. Important performance indicators of Indian and Chinese telecom sector are summarized in a table placed at annexure II

³⁴ Plus surcharge and education cess.

³⁵ Effective tax rate means tax payable by the companies under Minimum Alternative Tax (MAT) under section 115JB of the Income Tax Act, 1961 or tax payable after taking in to account the benefit of section 80IA of the Income Tax Act, 1961 (applicability of provisions of "Tax Holidays")

Annexure I

Performance Indicators of Major Chinese Telecom operators

Particulars	China Mobile Group	China Unicom Group	China Telecom Group	China Netcom Group
Currency	RMB	RMB	RMB	RMB
Fiscal Year	Dec-05	Dec-05	Dec-05	Dec-05
Profit and loss (billion)				
Sales	243.041	87.049	169.31	87.232
EBITDA	135.978	28.57	83.773	45.74
EBIT	79.61	8.202	34.121	20.691
PBT	78.264	7.103	34.114	17.317
PAT	53.589	4.933	27.954	13.888
Cash Flow				
EBIT	79.61	8.202	34.121	20.691
Depreciation and amortization	56.368	20.368	49.652	25.049
Cash Flow from operating activities	131.709	30.80369	68.359	33.557
Capital expenditure	66.027	17.21976	52.083	27.562
Cash Flow from Investing activities	-87.116	-16.7483	-51.894	-24.608
Cash Flow from financing activities	-25.173	-13.2133	-14.809	-14.656
Balance Sheet³⁶				
Gross Block	364.125	190.88	578	327.121
Net Block	223.748	116.06	328	168.663
CWIP	34.201	0.00	24	6.822
Working Capital	11.122	-30.44	-106	-80.228
Capital Employed	304.371	96.58	258	105
Equity	272.824	76.28	182	63.01
Debts	36.545	17.13	65	32.829
Profitability				
EBITDA	135.978	28.57	83.773	45.74
EBITDA Margin	55.95%	32.82%	49.48%	52.43%
Net profit Margin	22.05%	5.67%	16.51%	15.92%
EBIT RoCE	26.16%	8.49%	13.25%	19.77%
PAT Net worth	19.64%	6.47%	15.40%	22.04%
Productivity				
Labour % sales	5.84%	6.45%	14.74%	14.14%
Depreciation % sales	23.19%	23.40%	29.33%	28.72%
Capex % sales	27.17%	19.78%	30.76%	31.60%
Working capital% of Sales	4.58%	-34.97%	-62.74%	-91.97%
Capital turnover	79.85%	90.13%	65.75%	83.37%
Tax Rate	31.53%	30.55%	18.06%	19.80%
Debt-equity Ratio	0.13	0.22	0.36	0.52
Momentum (2004-05 CAGR)				
Revenue Growth	26.33%	9.73%	5.02%	4.48%
EBIT Growth	26.60%	0.58%	-11.61%	228.12%
PAT Growth	27.58%	12.45%	-0.43%	414.56%
No of employee of the company	99104	53070	244867	198961
Projected Capital expenditure 2006-Bn	83.3	22	51	27.3

³⁶ Balance Sheet has been regrouped as per schedule VI of the Indian Companies Act, 1956.

Annexure II

Performance Indicators of Indian and Chinese Telecom Service Sector

Particulars		China	India
Fiscal Year		Dec-05	Mar-06
Population ³⁷	Mn	1313	1095
GDP (Purchasing power parity) – (2005 est.)**	\$Trillion	8.859	3.611
GDP – real growth rate – (2005 est.)**	%	9.9%	7.6%
GDP-per capita (PPP) – (2005 est.)**	\$	6800	3300
Total Revenue	\$ in bn	73	20
Total Subscriber at the end of March 06	Mn	769	140
Fixed Line	Mn	359	47
Mobile	Mn	410	93
Broadband Subscribers	Mn	10.16	1.31
ARPU Mobile –Basic	US\$	8.54	14.5
ARPU Mobile –CDMA	US\$	9.31	5.56
ARPU Mobile –GSM	US\$	9.43	8
ARPU Mobile –GSM- Post paid	US\$	19.98	14
ARPU Mobile –GSM- Pre paid	US\$	5.94	6
MOU-GSM Total	Minutes	300	393
MOU-GSM Pre-paid	Minutes	214	308
MOU-GSM Post-paid	Minutes	524	675
MOU-CDMA Total	Minutes	277	470
Opex per subscriber per month –Basic	US\$	4.23	8.52
Opex per subscriber per month –Mobile	US\$	4.73	5.49
Fixed termination Charges(FTC)	US\$	0.007	0.007
Mobile termination charges (MTC)	US\$	N.A.	0.007
EBITDA Margin- Basic	%	50.48%	41.36%
EBITDA Margin- Mobile	%	49.85%	31.33%
Capital Employed per subscriber-Basic Service	US\$	153	370
Capital Employed per subscriber-Mobile Service	US\$	152	147
RoCE-Basic	%	13.25%	8.10%
RoCE-Mobile	%	21.90%	7.42%
Service Tax/Business Tax	%	3%	12.24%
New Investment	\$ in bn	20.00	6.00
Direct Employment in Telecom services	No	596002	429400
Subscriber Growth in Basic	YOY	12%	2%
Subscriber Growth in Mobile	YOY	17%	78%

³⁷ Source -www.cia.gov/cia/publications/factbook/geos/in.html

** Source -www.cia.gov/cia/publications/factbook/geos/in.html