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Do new operators have a business case?

■ **Do greenfield mobile operators have a business case in India?**

Greenfield operators such as Telenor-Unitech and Swan-Etisalat plan to enter the India mobile market in 2009. In this report, we examine whether these operators have a business case in light of passive infrastructure sharing, intra-circle roaming, and lower interconnect charges.

■ **Proprietary survey and new entrant financial model provide some answers**

We conducted a proprietary survey of 30 mobile industry participants with an average industry experience of over 10 years in India. Based on the survey, we built a proprietary financial and valuation model for a greenfield operator.

■ **UBS view: greenfield operators do not have a business case**

We believe new entrants face several challenges—brand building, distribution, spectrum availability, organisation building, negative free cash flow, and scale. We conclude it will take four to five years for EBITDA to breakeven and seven to eight years for net profit to breakeven. We arrive at a negative NPV (US$25m) for a new operator. Of the new operators, Telenor-Unitech has the best chance of success, in our view.

■ **New entrants unlikely to impact competitive intensity**

The mobile sector is very competitive in India and we do not expect new entrants to impact competitive intensity, although they will try to create value. We have factored in higher competitive intensity to account for Reliance Communication's (RCOM) recent GSM launch and Tata Tele's potential GSM launch in H209. We maintain our Buy ratings on Bharti Airtel, RCOM and Idea Cellular. We maintain our Short-term Sell rating on Bharti, as we expect more consensus earnings downgrades.

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We would like to thank Varun Ahuja for his contribution.

Executive summary

We believe new (greenfield) operators in India do not have a business case because of the following reasons:

Our proprietary survey of 30 Indian mobile industry participants indicates new operators unlikely to succeed

- Our proprietary survey of 30 participants (average experience of over 10 years) in the mobile industry in India indicates new operators' businesses are unlikely to succeed. Of our respondents, 77% think new operators do not have a business case.

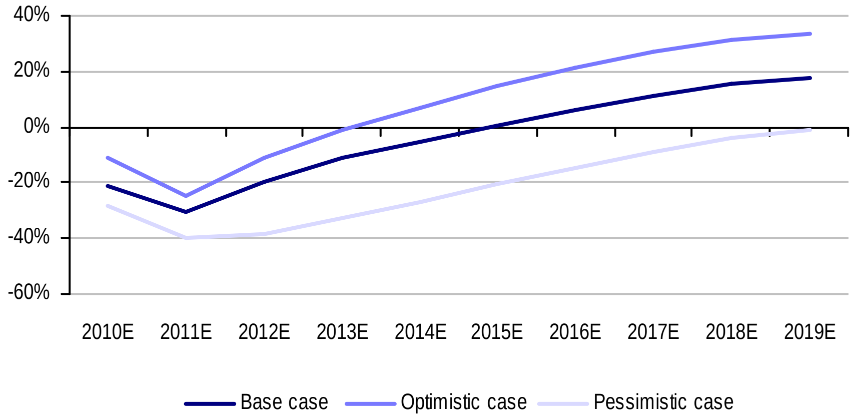
Table 1: Summary of survey results

Q1. Do you think new entrants have a business case in India?			
A: Yes (23%)	B: No (77%)		
Q2. What challenges are the new operators likely to face?			
A: Expensive 1800 MHz spectrum (50%)	B: Lack brand presence (47%)	C: Late entrants in all circles (43%)	D: Get low ARPU customers (40%)
E: Need to build a distribution network (33%)	F: Negative EBITDA for ~5 years (30%)	G: Lack own passive infrastructure (17%)	
Q3. Do you think 2 x 4.4 MHz spectrum will be good enough for the new operators to roll-out a nationwide network?			
A: Insufficient (54%)	B: Sufficient (46%)		
Q4. What role, in your view, will the tower companies play in the launch?			
A: Reduces time to market (63%)	B: Lowers capex requirement (53%)		
Q5. What will be the role of active infrastructure sharing?			
A: Reduces time to market (7%)	B: Lowers capex requirement (7%)	C: Not practical, as spectrum pooling is not allowed (60%)	
Q6. Do you think there is any other way new operators can innovate?			
A: Yes (40%)	B: No (33%)	C: No comments (27%)	
Q7. Who in your view is likely to launch in CY09?			
A: Tata Tele GSM (90%)	B: Telenor-Unitech (73%)	C: Swan-Etisalat (70%)	D: Sistema Shyam Telelink (27%)
E: Datacom Solutions (7%)	F: Loop Telecom (3%)	G: S-Tel (3%)	
Q8. Who in your view is likely to have higher chances of success?			
A: Tata Tele GSM (50%)	B: Telenor-Unitech (30%)	C: Swan-Etisalat (20%)	D: Loop Telecom (0%)
E: Sistema Shyam Telelink (0%)	F: Datacom Solutions (0%)	G: S-Tel (0%)	
Q9. What in your view is likely to be the cost of a nationwide launch, with passive infrastructure sharing?			
A: Less than US$1bn (25%)	B: US$1-2bn (50%)	C: More than US$2bn (25%)	
Q10. What in your view is likely to be the cost of a nationwide launch, without passive infrastructure sharing?			
A: Less than US$2bn (6%)	B: US$2-3bn (31%)	C: More than US$3bn (63%)	

Source: UBS

- Based on our discussions with mobile industry participants, we built a proprietary financial and valuation model for a hypothetical new operator. Based on our model, we conclude a new operator in India:
  - would require four to five years for EBITDA to break even;
  - would require seven to eight years for net profit to break even;
  - would have negative NPV (based on a DCF analysis with 10 years explicit forecasts); and
  - would have sub-optimal returns, based on our base-case scenario ROIC (see Chart 1).

Chart 1: ROIC analysis



Source: UBS estimates

What is new/non-consensus about our report?

Proprietary survey of industry experts with average experience of over 10 years; proprietary in-depth analysis of a new operator's financials

- To gain a 360 degree view of the potential business case for a new entrant, we surveyed a cross-section of mobile industry experts including:
  - CEOs/CFOs of mobile operators;
  - CTOs of mobile operators;
  - India's telecom regulator, TRAI;
  - leading equipment vendors;
  - independent tower companies; and
  - the Department of Telecom.
- We believe this is the first survey to examine the viability of new mobile operators in India. We also think the timing is critical as we expect new operators such as Telenor-Unitech to launch their services in H209.
- Our proprietary detailed analysis of the income statement, balance sheet, discounted cash flow and returns on invested capital for our hypothetical greenfield operator is also, to the best our knowledge, a first in the industry. As these are greenfield operations, there is no historical financial data available for new entrants. We developed our proprietary financial model partly on discussions with industry experts, including equipment providers and technology experts.
- The industry view, including new operators, on the business viability of new operators ranged from a "no" from existing operators to a "successful mobile business is possible" from independent tower companies.

Based on our detailed analysis, we conclude that the business of greenfield operators might not be financially viable.

Challenges faced by new operators

New entrants could significant challenges: late entry disadvantage, low tariffs, and the lack of brand, distribution and adequate spectrum

We believe the major challenges new operators are likely to face include:

(1) **Late-entrant disadvantage** in terms of customer mindshare.

(2) **Low tariffs** in India, which would make it harder to compete, given the new entrants' smaller scale than of the incumbents.

(3) **Lack of brand pull,** unlike some incumbents such as Bharti Airtel, Idea and Vodafone's strong brands.

(4) **Lack of access to quality distributors**. New entrants would need to find alternative ways to distribute their product, in our view.

(5) **Quality and quantity of spectrum:** We believe 2 x 4.4MHz in 1800MHz frequency is likely to result in much higher capex and opex requirements than 2 x 4.4MHz in the 900MHz frequency band. We estimate, all else remaining the same, an operator will require almost 2x the number of towers to cover a service area in 1800MHz relative to 900MHz.

Under what circumstances will new operators be successful?

1. Potential M&A after a three-year lock-in period

We believe the endgame for new operators revolves around potential M&A opportunities once the three-year lock-in expires. According to TRAI regulations, the promoter's (founder) equity stake is subject to a three-year lock-in period, effective from the date of the grant of the Unified Access Service Licence (UASL). A new operator company is allowed to issue additional equity capital by way of private placement or public issue, only if the promoter's stake does not fall below 10% during the three-year lock-in period.

Based on our discussions with CTOs and network equipment vendors, we estimate 2 x 4.4MHz spectrum (on 1800MHz band) should be able to support a maximum of 500 subscribers per BTS. This limits the revenue potential for new operators (please refer *Economics of a BTS* in this report for detailed discussion). Hence, for a successful nationwide rollout, we estimate an operator would need at least 2 x 6.2MHz spectrum as this would increase the BTS capacity significantly to accommodate more subscribers.

M&A is an optimum way to gain spectrum, in our view

Given the limitation of the spectrum available in India, we believe M&A will be an optimum way to gain additional spectrum. Existing mobile operators are likely to find the prospects of obtaining an additional 2 x 4.4MHz attractive at the time.

An emerging operator such as Telenor-Unitech might also plan to consolidate some of struggling new entrants. In this case, the combined frequency spectrum would prove to be an advantage which could lead to a new operator having a positive business case, in our view.

Also, we believe consolidation is inevitable in the mobile sector in India and we expect the industry to consolidate over the next two to four years.

2. Higher market share and EBITDA margin than UBS base case

Table 2: Base case assumptions for a new operator

	FY10E	FY1E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	FY19E
Subscriber market share, %	0.9%	2.6%	3.5%	3.9%	4.3%	4.5%	4.7%	4.8%	4.9%	5.0%
Revenue market share, %	0.8%	1.5%	2.5%	3.0%	3.4%	3.6%	3.9%	4.1%	4.3%	4.3%
Voice revenue per min. realisation, Rs	0.45	0.41	0.37	0.35	0.34	0.33	0.33	0.33	0.33	0.33
EBITDA margin, %	-44.7%	-55.5%	-17.0%	-2.8%	4.7%	10.9%	14.8%	17.7%	19.8%	20.2%

Source: UBS estimates

Our sensitivity analysis suggests new operators would need to meet the following conditions to become a positive NPV investment.

- market share improvement of over 1% from our base-case assumptions outlined above
- a 2.5% higher EBITDA margin than our base-case assumption.

Table 3: EV sensitivity analysis: change in EBITDA margin & subscriber market share

		Change in market share from our base-case assumptions				
	(25)	-2.0%	-1.0%	0.0%	1.0%	2.0%
Change in EBITDA margin from base case assumptions	-5.0%	(1,272)	(972)	(827)	(683)	(539)
	-2.5%	(1,050)	(663)	(426)	(189)	48
	0.0%	(829)	(355)	(25)	305	635
	2.5%	(607)	(47)	376	799	1,222
	5.0%	(385)	262	778	1,294	1,810

Source: UBS estimates

Of the new entrants, Telenor-Unitech has the best chance of success

Telenor-Unitech to have the best chance of success given its experience in other emerging markets

- Telenor's experience in running mobile businesses in Thailand (DTAC, the No.2 mobile operator), Malaysia (DiGi, the No.3 mobile operator), Pakistan (No.2 operator) and Bangladesh (Grameenphone, the No.1 operator) should come in handy.
- Telenor-Unitech is likely to be one of the first greenfield entrants, as it has signed a passive infrastructure deal with Quippo.

Implications for incumbents

Entry of new operators unlikely to intensify competition significantly

Although we believe new operators do not have a business case in India, they are likely to try to run a successful business. We think the entry of new operators is unlikely to intensify competition significantly. India is a very competitive mobile market and we have factored in higher competitive intensity following RCOM's GSM launch. In other words, our estimates take into account lower revenue per minute realisations leading to lower margins and returns. We maintain our 12-month Buy rating on Bharti, RCOM and Idea.

In our 15 January 2009 note, *Fundamentals likely to deteriorate,* we introduced Short-term Sell ratings on Bharti, Idea and RCOM, as we expected: 1) negative newsflow on pricing following RCOM's GSM launch; and 2) consensus earnings downgrades. Consensus estimates for FY10 net profit have declined 20% for Idea and 24% for RCOM since January 2009. Therefore, on 13 March we removed our Short-term ratings on Idea and RCOM. Since consensus earnings estimates for Bharti's FY10 net profit declined only 4%, we expect more downgrades and hence maintain our Short-term Sell rating on this stock.

Table 4: Valuation comparison

		Share	Price	Potential	PE (x)		EPS growth		EV/EBITDA (x)		EBITDA growth	
	Rating	price	target	upside	FY10E	FY11E	FY10E	FY11E	FY10E	FY11E	FY10E	FY11E
Bharti	Buy-ST Sell	593	800	35%	13.5	12.6	3%	7%	7.5	6.7	9%	12%
Idea	Buy	50	65	31%	17.2	15.5	16%	11%	5.7	4.7	35%	21%
RCOM	Buy	168	275	64%	7.5	6.3	-18%	20%	5.8	4.9	28%	18%

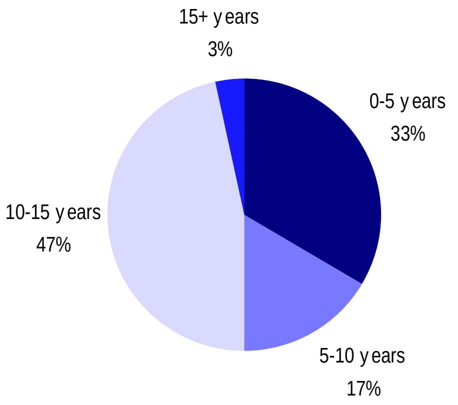
Note: Above data as at 23 March 2009.
Source: Bloomberg, UBS estimates

UBS proprietary survey

Survey overview

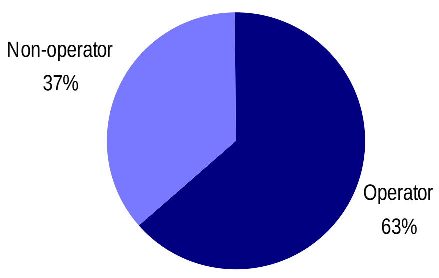
- **Objective:** gather the views of mobile operators and industry experts on the key issue on whether new operators have a business case in India.
- **Methodology:** a combination of multiple choice questions, written comments, and telephonic and face-to-face interviews.
- **Content:** The survey focuses on four broad areas; namely, 1) challenges faced by new operators; 2) the role of passive infrastructure companies; 3) new operators likely to launch and/or likely to succeed; and 4) the cost of nationwide network rollout.
- **Respondents:** we interviewed 30 key individuals, averaging of over 10 years experience in the industry. Respondents included top and middle management of existing operators, independent tower companies, regulators, industry associations and telecom consultants.

Chart 2: Average telecom experience of the respondents



Source: UBS

Chart 3: Profile of respondents



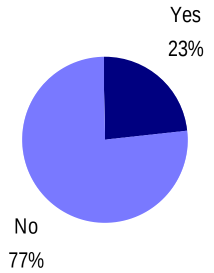
Source: UBS

Some key points from our survey

Q1. Do you think new entrants have a business case in India?

- Yes (23%)
  - "1-2 new operators might be successful; however, there can be only 4-5 operators in a steady state."
  - "But they need an 8-10% subscriber market share to be successful."
  - "New operators need to develop capabilities for the future."
  - "Tower sharing can be leveraged; VAS and data services are unexploited in India. There is still scope to add 400m subs in India."
- No (77%)
  - "Profitable growth is difficult."
  - "They are asset-light and may sell out once they get a 5% subscriber share."

Chart 4: New operators do not have a business case in India



Source: UBS

UBS view

New operator likely to turn FCF positive in the seventh year of its operations; DCF valuation yields a negative EV of US$25m

We believe new operators do not have a business case in India. We developed a detailed financial model for a new operator and based on which we estimate the new operator is likely to turn free cash flow positive only in the seventh year of operations. Our DCF valuation yields a negative EV of US$25m for a new operator.

However, we believe Telenor-Unitech might succeed as Telenor has experience in other emerging markets.

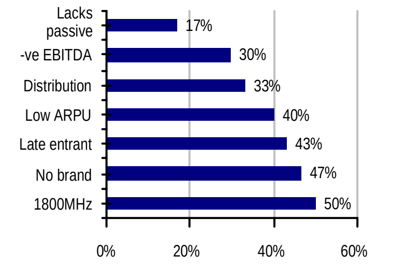
We chose to not include the new operators in our survey as we believe they would be biased. However, we did include CEOs, CFOs and CTOs of existing operators as we believed they would add significant value given their experience in running a mobile business in India, despite their inherent bias against new entrants. Of the 30 respondents in our survey, 19 are from existing mobile operators and 11 from others in the industry. Four of the 11 believe new operators do not have a business case in India and the remaining seven think only one or two of the new operators have a chance of succeeding, as new entrants will likely face significant challenges. Most industry experts also believe the new operators could be potential M&A candidates, once the three-year lock-in period expires.

Our view on the new operators is supported by not only our survey but also by a detailed analysis of a hypothetical new operator's potential revenue, cost structures and capex requirements.

Q2. What challenges are the new operators likely to face?

- Expensive 1800 MHz spectrum (50%)
- Lack of a brand presence (47%)
- Late entrants in all circles (43%)
- Get low ARPU customers (40%)
- Need to build a distribution network (33%)
- Negative EBITDA for ~5 years (30%)
- Lack own passive infrastructure (17%)
- Other views
  - "New operators have no experience in India."
  - "They need to compete in a low tariff environment."
  - "Funding could be an issue."
  - "They start with a high opex model; higher end of the market is already gone."
  - "They need to set up an organisation with the right talent and execution capabilities, which is very difficult."
  - "How can the new operators differentiate themselves, given they have a high cost structure, they can't compete on pricing."

Chart 5: Challenges new operators are likely to face



Source: UBS

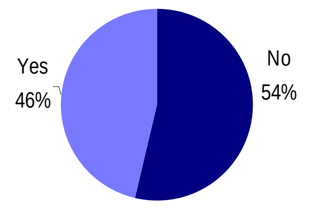
UBS view

We believe new entrants will face the following challenges—brand building, distribution, organisation building, spectrum availability, a prolonged period of losses, negative free cash flow, and scale.

Q3. Do you think 2 x 4.4MHz spectrum will be good enough for the new operators to roll-out a nationwide network?

- Insufficient (54%)
  - "2 x 4.4MHz spectrum is insufficient in larger towns."
  - "It is not a good proposition from capex point of view."
  - "There is still a lot of spectrum with defence, consolidation should help improve the spectrum issue, 12-18MHz spectrum is ideal."
  - "2 x 4.4MHz requires more cell cites and hence more opex for the new operators."
- Sufficient (46%)
  - "Spectrum is sufficient, but 1800MHz is a challenge for in building"
  - "Spectrum allocation criteria are linked to the subscriber base; however, new operators are unlikely to get additional spectrum ahead of RCOM, Idea and Vodafone."
  - "2 x 4.4 MHz is sufficient as they may not be able to reach more than 60% capacity."
  - "Given spectrum is limited, new operators may not be able to grow beyond 5-6% market share."

Chart 6: 2 x 4.4 MHz spectrum—is this sufficient for nationwide rollout



Source: UBS

UBS view

We believe 2 x 4.4MHz spectrum is insufficient for a nationwide GSM launch in the 1800MHz frequency band as it can support a maximum of only 500 subscribers, assuming 40 mili-erlangs per subscriber. While 2 x 4.4MHz spectrum would be sufficient initially in small towns, we think it might not be so in the medium term.

We estimate for a successful nationwide rollout, an operator would need at least 2 x 6.2MHz spectrum as it increases the BTS capacity significantly to accommodate more subscribers. However, given the limited spectrum remaining, we believe this might be a challenge. See Table 5 for the amount of spectrum that has been allotted to existing and new operators and the spectrum remaining in each service area. Also, we have assumed RCOM will get 6.2MHz spectrum in all GSM service areas given its recent impressive incremental subscriber market share in all service areas where it has launched GSM services.

Table 5: Spectrum utilisation and availability in 1800 MHz frequency

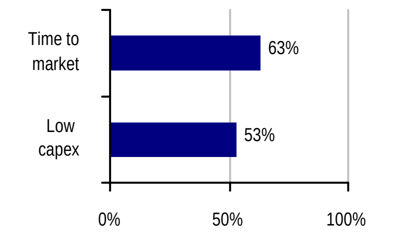
Service Area	Category	Spectrum Available	Spectrum allocated to mobile operators	Spectrum Remaining
Delhi	Metro	75.0	49.0	26.0
Mumbai	Metro	75.0	54.8	20.2
Kolkata	Metro	75.0	46.2	28.8
Maharashtra	Service area A	75.0	51.8	23.2
Gujarat	Service area A	75.0	47.0	28.0
AP	Service area A	75.0	50.6	24.4
Karnataka	Service area A	75.0	50.8	24.2
TN	Service area A	75.0	51.0	24.0
Kerala	Service area B	75.0	48.8	26.2
Punjab	Service area B	75.0	43.2	31.8
Haryana	Service area B	75.0	47.0	28.0
UP (W)	Service area B	75.0	48.8	26.2
UP (E)	Service area B	75.0	48.8	26.2
Rajasthan	Service area B	75.0	45.0	30.0
MP	Service area B	75.0	42.6	32.4
WB	Service area B	75.0	38.2	36.8
HP	Service area C	75.0	45.2	29.8
Bihar	Service area C	75.0	51.6	23.4
Orissa	Service area C	75.0	45.2	29.8
Assam	Service area C	75.0	42.6	32.4
NE	Service area C	75.0	40.8	34.2
J&K	Service area C	75.0	45.0	30.0

Source: Company data, TRAI, UBS estimates

Q4. What role, in your view, will the tower companies play in the launch?

- Reduces time to market (63%)
- Lowers capex requirement (53%)
- Other responses
  - “Tower sharing seems to be the only way new operators can roll-out.
  - “It will increase opex for the new operators.”
  - “Tower cos can help in pockets as no tower company has a nationwide presence.”
  - “New guys get a head start, though infrastructure availability will not be an issue, network quality will be an issue.”

Chart 7: Role of tower companies



Source: UBS

UBS view

We believe tower companies play a significant role in terms of speed to market and in lowering capex requirements in a market where funding could be an issue. We analyse the economics of owning a tower (both ground based and on roof tops) versus leasing it from tower companies in the tables below. The net annual opex savings, coupled with savings on passive infrastructure capex, make leasing an attractive proposition for a new mobile operator compared with owning the tower, in our view.

Table 6: GBT economics: owned versus leased

Rs per annum	Owned	Leased
Tower opex	150,000	420,000
Depreciation, assuming depreciable life of 12.5 years	220,000	-
Net interest expense, assuming 12% rate of interest	330,000	-
Tax impact, assuming 33% tax rate	231,000	138,600
P&L impact	469,000	281,400
Net annual cost savings		187,600
Balance sheet impact (cost of tower)	2,750,000	-

Source: UBS estimates

Table 7: RTT economics: owned versus leased

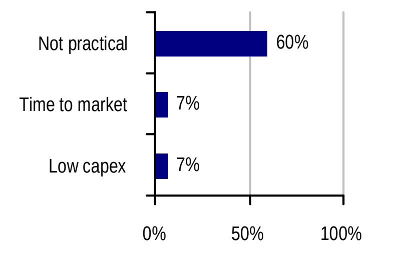
Rs per annum	Owned	Leased
Tower opex	150,000	276,000
Depreciation, assuming depreciable life of 12.5 years	120,000	-
Net interest expense, assuming 12% rate of interest	180,000	-
Tax impact, assuming 33% tax rate	148,500	91,080
P&L impact	301,500	184,920
Net annual cost savings		116,580
Balance sheet impact (cost of tower)	1,500,000	-

Source: UBS estimates

Q5. What will be the role of active infrastructure sharing?

- Lowers capex requirement (7%)
- Reduces time to market (7%)
- Not practical as spectrum pooling is not allowed (60%)
  - "Limited active infrastructure sharing is likely, BTS sharing is unlikely."
  - "Active infrastructure sharing can't be done in a full way as spectrum sharing is not allowed; the regulator will need to do something about it."
  - "The bundling of passive and active infrastructure sharing and their relationship with the operators is important."
  - "Infrastructure sharing up to backhaul is possible, the connectivity from BTS to BSC is critical and is allowed to share."
  - "It is practically yet to be proven."

Chart 8: Role of active infra sharing



Source: UBS

UBS view

The Department of Telecom (DoT) has allowed sharing of active infrastructure in India; however, this has been limited to antenna, feeder cable, Node B, radio access network, and transmission systems. DoT also permits sharing of backhaul connectivity from the base trans-receiver station (BTS) to the base station controller (BSC) on optical fibre as well as radio medium at certain nodes. Spectrum sharing is not yet permitted in India.

Minimal active infrastructure sharing likely, given spectrum pooling is not allowed

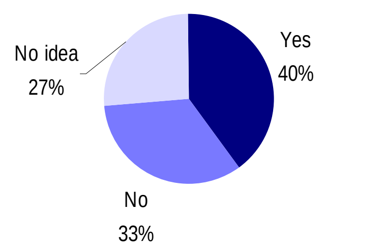
We believe there will be minimal active infrastructure sharing as it might not be practically possible as spectrum pooling is not allowed.

We believe new operators are likely to choose intra-circle roaming as an alternative to this. DoT allowed private operators to enter into commercial agreements for intra service area roaming in June 2008.

Q6. Do you think there is any other way new operators can innovate?

- Yes (40%)
  - "New operators can target a niche segment."
  - "They can leverage intra circle roaming."
  - "Value-creation through M&A."
  - "Roll-out followed by sell out."
  - "Focus on understanding the rural market, exploit VAS and data offerings."
  - "Leverage/outsource parts of the value chain; IBS site."
- No (33%)
- No comment (27%).

Chart 9: Any other way new operators can innovate



Source: UBS

UBS view

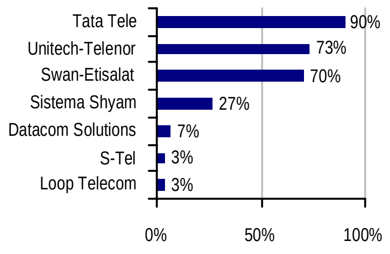
We believe new operators will use intra-circle roaming extensively to improve coverage. We believe two new operators should be able cover non-overlapping parts of service areas and enter into intra-circle roaming arrangements with each other, such that there is minimum impact on costs and revenue as these might balance out.

Minimal active infrastructure sharing likely, given spectrum pooling is not allowed

Q7. Who in your view is likely to launch in CY09?

- Tata Tele GSM (90%)
- Telenor-Unitech (73%)
- Swan-Etisalat (70%)
- Sistema Shyam Telelink (27%)
- Datacom Solutions (7%)
- Loop Telecom (3%)
- S-Tel (3%)

Chart 10: Who is likely to launch?



Source: UBS

UBS view

Tata Tele GSM, Telenor-Unitech and Swan-Etisalat are the most likely to launch selected service areas in 2009, in our view. In February 2009, DoT relaxed certain provisions of rollout obligations. It now specifies using the date of grant of spectrum as the base for calculating rollout targets compared with the previous practice of using the date of licence as the base date. In-building coverage can no longer be a part of the rollout obligation.

Tata Tele GSM, Telenor-Unitech and Swan-Etisalat most likely to launch selected service areas in 2009, in our view

Table 8: Recent amendments in rollout obligations

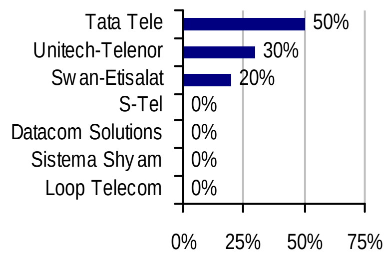
Service Area	Earlier norms	Amended norms
Metros	The 90% of metro service area of Delhi, Mumbai, Kolkata and Chennai are covered within one year of effective date of licence.	The metro service area of Delhi, Mumbai, Kolkata and Chennai are covered within one year of date of allocation of start-up spectrum
Non-metros	At least 10% of the district headquarters (DHQs) will be covered in the first year and 50% of the DHQs will be covered within three years of effective date of licence.	At least 10% of the DHQs will be covered in the first year and 50% of the DHQs will be covered within three years of date of allocation of start-up spectrum
All	The obligation for coverage of service area will include both the required street and in-building coverage.	In-building coverage will not be considered for roll-out obligations.

Source: DoT

Q8. Who in your view is likely to have higher chances of success?

- Tata Tele GSM (50%)
- Telenor-Unitech (30%)
- Swan-Etisalat (20%)
- Loop Telecom (0%)
- Sistema Shyam Telelink (0%)
- Datacom Solutions (0%)
- S-Tel (0%)

Chart 11: Who is likely to succeed?



Source: UBS

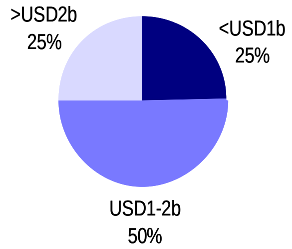
UBS view

We believe only one or two of the new operators will succeed in this challenging environment. Given Telenor's experience in other emerging markets and its ability to sustain losses for a long period, we think Telenor-Unitech has a higher chance of success than the other new entrants.

Q9. What in your view is likely to be the cost of a nationwide launch, with passive infrastructure sharing?

- Less than US$1bn (25%)
- US$1-2bn (50%)
- More than US$2bn (25%)

Chart 12: Cost of nationwide launch with passive infrastructure sharing



Source: UBS

UBS view

The major components of capex for a network rollout are:

- passive infrastructure: comprises ground based and rooftop towers.
- active infrastructure: comprises BTS, antenna, feeder cable, and transmission systems.
- other capex: comprises IT and billing systems.

We believe passive infrastructure constitutes about 60% of total capex, active infrastructure and equipment constitutes around 30%, and the remaining is other capex, including IT infrastructure and billing.

Of our respondents, 50% believe the cost of a nationwide rollout, assuming passive infrastructure sharing, would be US$1-2bn. We estimate a new operator's capex would of US$2.0bn over the next five years for a nationwide launch, assuming 100% passive infrastructure sharing.

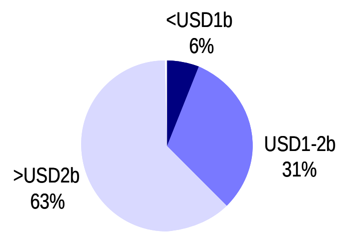
Q10. What in your view is likely to be the cost of a nationwide launch, without passive and active infrastructure sharing?

- Less than US$2bn (6%)
- US$2-3bn (31%)
- More than US$3bn (63%)

UBS view

We believe a greenfield operator will aim to cover 60% of the population for a nationwide launch, which implies approximately 40,000 towers. We assume a greenfield operator is likely to have a GBT:RTT ratio of 70:30 if it chooses to build passive infrastructure. This leads to an incremental passive infrastructure capex of US$2.0bn.

Chart 13: Cost of nationwide launch without passive infrastructure sharing



Source: UBS

Pro-forma new operator model

We have built a detailed proprietary financial model for a hypothetical new operator, based on our extensive discussions with experts in the telecom industry, largely because of the lack of historical financial information. Based on our analysis, we expect the new operator to breakeven on EBITDA in year five of operations and on net profit in year eight.

We expect the new operator to breakeven on EBITDA in year five of operations and on net profit in year eight

Key assumptions and financials

- We estimate a new operator could capture a maximum 10% incremental market share initially, as it will have limited churn. We expect this to decline to 8% as subscribers begin to churn.

8% incremental market share

- The mobile market in India is very competitive and the new operator will need to compete on pricing. Therefore, we have built in lower revenue per minute and hence lower ARPU for the new entrant.

Lower revenue per minute

- We believe the new entrant is likely to incur capex of US$2.0bn over the next five years for a nationwide rollout, assuming 100% passive infrastructure sharing.

Capex of US$2.0bn over the next five years

The table below lists our key assumptions in our financial model.

Table 9: Key assumptions in our new operator model

YE 31 March (Rs m)	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	FY19E
Total mobile subscribers (m)	547.4	675.5	779.0	868.4	946.4	1,014.8	1,073.6	1,121.6	1,158.8	1,186.4
New operator's mobile subscribers (m)	4.8	17.6	27.0	34.1	40.3	45.8	50.5	54.4	57.3	59.5
Subscriber market share (%)	0.9%	2.6%	3.5%	3.9%	4.3%	4.5%	4.7%	4.8%	4.9%	5.0%
Incremental subscriber market share (%)	3.0%	10.0%	9.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
New operator's mobile revenue (Rs b)	11.1	24.2	45.8	61.1	73.9	85.8	97.7	108.3	117.1	123.9
EBITDA margin (%)	-44.7%	-55.5%	-17.0%	-2.8%	4.7%	10.9%	14.8%	17.7%	19.8%	20.2%
Capex / Sales (%)	348.5%	80.1%	31.8%	19.8%	16.4%	10.0%	9.0%	8.0%	7.5%	7.0%
Blended ARPU (Rs/sub/month)	192	180	171	167	165	166	169	172	175	177
% change		-6.4%	-4.7%	-2.6%	-0.8%	0.3%	1.9%	1.8%	1.6%	1.1%
Voice ARPU (Rs/sub/month)	162	149	139	134	132	131	133	135	137	138
Average MOU (min/sub/month)	360	367	374	381	387	394	400	406	411	413
Voice revenue per min. realization (Rs)	0.45	0.41	0.37	0.35	0.34	0.33	0.33	0.33	0.33	0.33

Source: UBS estimates

We assume the new operator will share passive infrastructure as opposed to building it, as passive infrastructure decreases capex and helps faster network coverage. However, it would lead to higher opex, but lower deprecation expenses.

Table 10: Assumptions in determining passive infrastructure expenses

Passive infra expenses	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	FY19E
New operator's mobile subs (m)	4.8	17.6	27.0	34.1	40.3	45.8	50.5	54.4	57.3	59.5
Number of BTS	20,000	30,000	35,000	40,000	44,000	47,500	50,700	53,700	56,200	58,200
Rentals per tower per month (Rs)	(31,967)	(32,525)	(33,095)	(33,693)	(34,360)	(35,132)	(35,929)	(36,782)	(37,690)	(38,632)
Fuel and electricity costs per tower per month (Rs)	(23,321)	(24,106)	(24,588)	(25,080)	(25,582)	(26,093)	(26,615)	(27,148)	(27,691)	(28,383)
Backhaul costs per tower per month (Rs)	(15,000)	(13,500)	(12,150)	(10,935)	(9,842)	(8,857)	(7,972)	(7,174)	(6,457)	(5,811)
Total costs per tower per month (Rs)	(70,288)	(70,131)	(69,834)	(69,708)	(69,783)	(70,083)	(70,516)	(71,104)	(71,837)	(72,826)
Tower rental expenses (Rs m)	(8,435)	21,039)	(27,235)	(31,369)	(35,171)	(38,476)	(41,548)	(44,540)	(47,369)	(49,988)

Source: UBS estimates

We believe active infrastructure sharing is not a practical solution as spectrum sharing is not allowed. We believe new entrants will use intra-circle roaming extensively to enhance population coverage. We assume 20% of minutes used will be on intra-circle roaming in year one of operations (refer to the table below).

Table 11: Assumptions in determining intra-circle roaming and access charges

	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	FY19E
Number of minutes total (m mins)	20,879	49,519	100,132	139,576	173,103	203,594	231,159	255,358	275,150	289,612
% on intra circle roaming (%)	20.0%	17.0%	14.0%	11.0%	10.0%	9.0%	9.0%	9.0%	9.0%	9.0%
Number of minutes on intra circle roaming (m mins)	4,176	8,418	14,018	15,353	17,310	18,323	20,804	22,982	24,763	26,065
Cost per minute (Rs)	0.45	0.41	0.37	0.35	0.34	0.33	0.33	0.33	0.33	0.33
Intra circle roaming expenses (Rs m)	(1,879)	(3,409)	(5,223)	(5,400)	(5,884)	(6,103)	(6,929)	(7,655)	(8,248)	(8,681)
Number of minutes ex intra circle roaming (m mins)	16,703	41,101	86,113	124,223	155,793	185,271	210,355	232,376	250,386	263,547
% calls on net (%)	30.0%	32.0%	34.0%	36.0%	38.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Number of minutes ex intra-circle roaming off-net (m min)	11,692	27,949	56,835	79,503	96,591	111,162	126,213	139,425	150,232	158,128
Incoming minutes (%)	30.0%	32.0%	34.0%	36.0%	38.0%	40.0%	42.0%	44.0%	46.0%	46.0%
Outgoing minutes (%)	70.0%	68.0%	66.0%	64.0%	62.0%	60.0%	58.0%	56.0%	54.0%	54.0%
Net outgoing minutes (m mins)	4,677	10,061	18,187	22,261	23,182	22,232	20,194	16,731	12,019	12,650
% Local calls (%)	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%
% DLD + ILD calls (%)	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Domestic termination charges (Rs per min)	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Carriage charges (Rs per min)	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Access charges (Rs m)	(1,029)	(2,214)	(4,001)	(4,897)	(5,100)	(4,891)	(4,443)	(3,681)	(2,644)	(2,783)

Source: UBS estimates

Table 12: New operator's KPI

KPI for new operator	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	FY19E
Mobile revenue (Rs m)	11,135	24,222	45,826	61,105	73,925	85,791	97,699	108,271	117,114	123,912
Mobile subscribers (m)	4.8	17.6	27.0	34.1	40.3	45.8	50.5	54.4	57.3	59.5
Implied ARPU (Rs)	192	180	171	167	165	166	169	172	175	177
% Non-voice revenue	15.6%	17.2%	18.6%	19.7%	20.4%	21.0%	21.2%	21.4%	21.7%	22.2%
Voice ARPU (Rs)	162	149	139	134	132	131	133	135	137	138
Non-voice ARPU (Rs)	30	31	32	33	34	35	36	37	38	39
MoU per user per month	360	367	374	381	387	394	400	406	411	413
Voice rev. per min (Rs)	0.45	0.41	0.37	0.35	0.34	0.33	0.33	0.33	0.33	0.33
Cost per min (Rs)	0.65	0.63	0.44	0.36	0.32	0.30	0.28	0.27	0.27	0.27
Spread per min (Rs)	(0.20)	(0.22)	(0.06)	(0.01)	0.02	0.04	0.05	0.06	0.07	0.07
EBITDA margin %	-44.7%	-55.5%	-17.0%	-2.8%	4.7%	10.9%	14.8%	17.7%	19.8%	20.2%
Mobile minutes carried (m)	20,879	49,519	100,132	139,576	173,103	203,594	231,159	255,358	275,150	289,612
Capex per min (Rs)	1.78	1.07	0.62	0.49	0.42	0.36	0.32	0.28	0.26	0.24
Return on equity (LTM)	-17.1%	-33.4%	-37.1%	-44.0%	-55.3%	-54.0%	-18.4%	38.8%	54.9%	43.3%
Return on capital employed (LTM)	-78.5%	-23.9%	-15.1%	-9.5%	-5.0%	0.5%	5.8%	11.4%	17.1%	20.1%

Source: UBS estimates

Table 13: New operator's profit and loss statement

Yr Ended March 31 (Rs m)	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	FY19E
Service revenue	11,135	24,222	45,826	61,105	73,925	85,791	97,699	108,271	117,114	123,912
Total revenues	11,135	24,222	45,826	61,105	73,925	85,791	97,699	108,271	117,114	123,912
% growth		117.5%	89.2%	33.3%	21.0%	16.1%	13.9%	10.8%	8.2%	5.8%
Passive infrastructure sharing expenses	(8,435)	(21,039)	(27,235)	(31,369)	(35,171)	(38,476)	(41,548)	(44,540)	(47,369)	(49,988)
Licence fees	(1,336)	(2,907)	(5,499)	(7,333)	(8,871)	(10,295)	(11,724)	(12,993)	(14,054)	(14,869)
Access charges	(1,029)	(2,214)	(4,001)	(4,897)	(5,100)	(4,891)	(4,443)	(3,681)	(2,644)	(2,783)
Intra circle roaming charges	(1,879)	(3,409)	(5,223)	(5,400)	(5,884)	(6,103)	(6,929)	(7,655)	(8,248)	(8,681)
Network operating cost	(445)	(969)	(1,833)	(2,444)	(2,957)	(3,432)	(3,908)	(4,331)	(4,685)	(4,956)
SG&A	(1,782)	(3,633)	(6,416)	(7,944)	(8,871)	(9,437)	(10,747)	(11,910)	(12,883)	(13,630)
Subs acquisition costs	(1,208)	(3,492)	(3,387)	(3,405)	(3,607)	(3,789)	(3,925)	(3,992)	(4,006)	(3,993)
Operating expenses - ex-D&A	(16,114)	(37,664)	(53,595)	(62,792)	(70,461)	(76,422)	(83,224)	(89,100)	(93,888)	(98,901)
EBITDA	(4,979)	(13,441)	(7,769)	(1,687)	3,465	9,369	14,475	19,171	23,226	25,011
% Margin	-44.7%	-55.5%	-17.0%	-2.8%	4.7%	10.9%	14.8%	17.7%	19.8%	20.2%
Depreciation and amortisation	(2,382)	(4,710)	(6,068)	(7,136)	(8,106)	(8,934)	(9,629)	(10,327)	(11,025)	(11,723)
Interest and financing charges	792	(478)	(2,238)	(3,903)	(5,144)	(5,882)	(6,085)	(5,901)	(5,338)	(4,489)
Profit before tax	(6,568)	(18,629)	(16,075)	(12,725)	(9,784)	(5,447)	(1,239)	2,944	6,863	8,799
Income tax expense	-	-	-	-	-	-	-	-	-	-
Post X net profit	(6,568)	(18,629)	(16,075)	(12,725)	(9,784)	(5,447)	(1,239)	2,944	6,863	8,799

Source: UBS estimates

Table 14: New operator's balance sheet statement

Year ended 31 Mar (Rs m)	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	FY19E
Sundry debtors	915	1,991	3,767	5,022	6,076	7,051	8,030	8,899	9,626	10,185
Cash and bank balances	37,204	44,114	49,939	47,494	33,917	29,036	28,845	33,642	42,904	54,873
Total current assets	38,119	46,105	53,706	52,517	39,993	36,087	36,875	42,541	52,529	65,058
PPE - net	37,256	52,779	62,093	67,914	72,765	73,239	73,233	72,396	70,984	68,764
Licence fee	15,756	14,927	14,098	13,269	12,439	11,610	10,781	9,951	9,122	8,293
Total non-current assets	53,012	67,706	76,191	81,183	85,204	84,849	84,013	82,348	80,106	77,057
Total Assets	91,131	113,811	129,897	133,699	125,197	120,936	120,888	124,889	132,636	142,115
Current liability	1,114	2,422	4,583	6,111	7,393	8,579	9,770	10,827	11,711	12,391
Secured loans	30,000	60,000	90,000	105,000	105,000	105,000	105,000	105,000	105,000	105,000
Total liabilities	31,114	62,422	94,583	111,111	112,393	113,579	114,770	115,827	116,711	117,391
Equity share capital	66,586	76,586	76,586	76,586	76,586	76,586	76,586	76,586	76,586	76,586
Profit & loss account	(6,568)	(25,197)	(41,272)	(53,997)	(63,781)	(69,228)	(70,468)	(67,524)	(60,661)	(51,862)
Total shareholders' equity	60,018	51,389	35,314	22,589	12,804	7,357	6,118	9,062	15,924	24,723
Total liabilities + shareholders' equity	91,131	113,811	129,897	133,699	125,197	120,936	120,888	124,889	132,636	142,115

Source: UBS estimates

Table 15: EV calculation for new operator based a DCF methodology

DCF (in Rs m)	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	FY19E
EBIT	(7,360)	(18,151)	(13,837)	(8,823)	(4,641)	435	4,846	8,844	12,201	13,288
Cash tax rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
EBIT*(1-t)	(7,360)	(18,151)	(13,837)	(8,823)	(4,641)	435	4,846	8,844	12,201	13,288
D&A	2,382	4,710	6,068	7,136	8,106	8,934	9,629	10,327	11,025	11,723
Capex	(38,808)	(19,404)	(14,553)	(12,128)	(12,128)	(8,579)	(8,793)	(8,662)	(8,784)	(8,674)
Change in WC	(198)	(431)	(816)	(1,088)	(1,316)	(1,528)	(1,740)	(1,928)	(2,086)	(2,207)
FCFF	(43,985)	(33,277)	(23,138)	(14,903)	(9,979)	(738)	3,942	8,581	12,357	14,131
FCFF - Discounted	(43,985)	(29,585)	(18,288)	(10,472)	(6,234)	(410)	1,947	3,767	4,823	4,903
EV Calculation										
Cash flows FY11-19E	(49,549)	WACC Calculation								
Terminal value – (2%)	48,308	Risk free rate (Rf)		6.0%						
		Market risk premium		5.0%						
		Beta		1.5						
		Cost of equity (Ke)		13.5%						
		Cost of debt (Kd)		8.4%						
Enterprise value (Rs m)	(1,242)	Leverage		20.0%						
Enterprise value (US$ m)	(25)	WACC		12.5%						

Source: UBS estimates

Sensitivity analysis

Table 16: Change in EBITDA margin and subscriber market share

		Change in market share from our base case assumptions				
	(25)	-2.0%	-1.0%	0.0%	1.0%	2.0%
Change in EBITDA margin from base-case assumptions	-5.0%	(1,272)	(972)	(827)	(683)	(539)
	-2.5%	(1,050)	(663)	(426)	(189)	48
	0.0%	(829)	(355)	(25)	305	635
	2.5%	(607)	(47)	376	799	1,222
	5.0%	(385)	262	778	1,294	1,810

Source: UBS estimates

ROIC analysis

In this section, we highlight three scenarios wherein we estimate possible revenue, EBIT and returns based on the subscriber market share a new entrant might capture. Our analysis indicates that we need to make optimistic assumptions for market share and profitability to get ROIC that is higher than WACC (12.5%). The tables below highlight our ROIC analysis as well as our key subscriber market share assumptions in our scenario analysis:

Need optimistic assumptions for market share and profitability get ROIC that is higher than WACC

Table 17: Summary of ROIC analysis for three scenarios

Rs m	FY09E	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	FY19E
Base case											
EBITDA	0	(4,979)	(13,441)	(7,769)	(1,687)	3,465	9,369	14,475	19,171	23,226	25,011
Capex & licence fee	16,586	38,808	19,404	14,553	12,128	12,128	8,579	8,793	8,662	8,784	8,674
Net cash flow	(16,586)	(43,787)	(32,845)	(22,322)	(13,814)	(8,663)	790	5,682	10,510	14,442	16,337
EBIT	0	(7,360)	(18,151)	(13,837)	(8,823)	(4,641)	435	4,846	8,844	12,201	13,288
Invested capital	16,586	52,814	67,275	75,375	80,094	83,888	83,322	82,273	80,420	78,021	74,850
Return on invested capital (%)		-21.2%	-30.2%	-19.4%	-11.3%	-5.7%	0.5%	5.9%	10.9%	15.4%	17.4%
Optimistic case: Increase subs market share by 2% from our base case assumption											
EBITDA	0	(1,368)	(10,245)	(1,733)	6,418	13,831	21,932	28,881	35,059	40,471	43,118
Capex & licence fee	16,586	38,808	19,404	14,553	12,128	12,128	8,579	8,793	8,662	8,784	8,674
Net cash flow	(16,586)	(40,176)	(29,649)	(16,286)	(5,710)	1,704	13,353	20,088	26,397	31,687	34,445
EBIT	0	(3,750)	(14,955)	(7,801)	(718)	5,725	12,842	18,787	23,969	28,395	30,062
Invested capital	16,586	52,365	66,805	74,842	79,507	83,246	86,375	88,615	89,572	89,663	88,606
Return on invested capital (%)		-10.9%	-25.1%	-11.0%	-0.9%	7.0%	15.1%	21.5%	26.9%	31.7%	33.7%
Pessimistic case: Decrease subs market share by 2% from our base case assumption											
EBITDA	0	(7,456)	(19,098)	(21,346)	(18,156)	(14,019)	(7,820)	(2,301)	2,772	7,187	9,875
Capex & licence fee	16,586	38,808	19,404	14,553	12,128	12,128	8,579	8,793	8,662	8,784	8,674
Net cash flow	(16,586)	(46,264)	(38,502)	(35,899)	(30,284)	(26,147)	(16,399)	(11,094)	(5,890)	(1,596)	1,201
EBIT	0	(9,838)	(23,808)	(27,415)	(25,292)	(22,125)	(16,598)	(11,465)	(6,793)	(2,787)	(514)
Invested capital	16,586	52,956	67,600	75,907	80,681	84,530	80,268	75,932	71,268	66,378	61,095
Return on invested capital (%)		-28.3%	-39.5%	-38.2%	-32.3%	-26.8%	-20.1%	-14.7%	-9.2%	-4.0%	-0.8%

Source: UBS estimates

Table 18: Subscriber market share assumptions for scenario analysis

	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	FY19E
Base case	0.9%	2.6%	3.5%	3.9%	4.3%	4.5%	4.7%	4.8%	4.9%	5.0%
Optimistic case	2.9%	4.6%	5.5%	5.9%	6.3%	6.5%	6.7%	6.8%	6.9%	7.0%
Pessimistic case	0.3%	0.6%	1.5%	1.9%	2.3%	2.5%	2.7%	2.8%	2.9%	3.0%

Source: UBS estimates

Base case

Our base-case scenario assumes a new operator is able to capture a subscriber market share of 0.9% in the first year of operations, rising to 5% in the terminal year (FY19). Based on our proprietary financial model, we expect a new operator to turn EBITDA-positive in year five after launch and EBIT-positive in year six. We expect the new operator to generate marginally positive ROIC in year six and increase it to 17.4% in the terminal year (FY19).

Table 19: ROIC analysis—base-case scenario

ROIC analysis (Rs m)	2009E	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E
Total industry											
Industry subs (m)		547	675	779	868	946	1,015	1,074	1,122	1,159	1,186
Industry net adds (m)		161	128	104	89	78	68	59	48	37	28
Industry subs average (m)		467	611	727	824	907	981	1,044	1,098	1,140	1,173
Population (m)		1,205	1,223	1,242	1,261	1,281	1,301	1,321	1,341	1,362	1,382
Penetration (%)		45.4%	55.2%	62.7%	68.8%	73.9%	78.0%	81.3%	83.6%	85.1%	85.8%
Industry revenue (Rs b)		1,323	1,613	1,834	2,022	2,189	2,378	2,506	2,620	2,714	2,791
Base case: new operator P&L											
Market share (%)		0.9%	2.6%	3.5%	3.9%	4.3%	4.5%	4.7%	4.8%	4.9%	5.0%
Incremental market share (%)		3.0%	10.0%	9.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Operator subs (m)		4.8	17.6	27.0	34.1	40.3	45.8	50.5	54.4	57.3	59.5
Operator subs average (m)		4.8	11.2	22.3	30.5	37.2	43.1	48.2	52.4	55.9	58.4
ARPU (Rs)		192	180	171	167	165	166	169	172	175	177
Voice ARPU (Rs)		162	149	139	134	132	131	133	135	137	138
Data ARPU (Rs)		30	31	32	33	34	35	36	37	38	39
Operator revenue (Rs m)		11,135	24,222	45,826	61,105	73,925	85,791	97,699	108,271	117,114	123,912
EBITDA (Rs m)		(4,979)	(13,441)	(7,769)	(1,687)	3,465	9,369	14,475	19,171	23,226	25,011
EBITDA margin (%)		-44.7%	-55.5%	-17.0%	-2.8%	4.7%	10.9%	14.8%	17.7%	19.8%	20.2%
Depreciation & amortisation (Rs m)		(2,382)	(4,710)	(6,068)	(7,136)	(8,106)	(8,934)	(9,629)	(10,327)	(11,025)	(11,723)
D&A to revenue (%)		21.4%	19.4%	13.2%	11.7%	11.0%	10.4%	9.9%	9.5%	9.4%	9.5%
EBIT (Rs m)		(7,360)	(18,151)	(13,837)	(8,823)	(4,641)	435	4,846	8,844	12,201	13,288
New operator (CF & ROIC)											
Net cash flow: capex + licence (Rs m)	16,586	38,808	19,404	14,553	12,128	12,128	8,579	8,793	8,662	8,784	8,674
Capex (network)		38,808	19,404	14,553	12,128	12,128	8,579	8,793	8,662	8,784	8,674
Capex-to-sales (%)		349%	80.1%	31.8%	19.8%	16.4%	10.0%	9.0%	8.0%	7.5%	7.0%
Gross PP&E		38,808	58,212	72,765	84,893	97,020	105,599	114,392	123,054	131,837	140,511
Net PP&E		37,256	52,779	62,093	67,914	72,765	73,239	73,233	72,396	70,984	68,764
Depreciation		1,552	3,881	5,239	6,306	7,277	8,105	8,800	9,498	10,196	10,894
No. of years	12.5										
Licence fee payment	16,586	0	0	0	0	0	0	0	0	0	0
Net intangibles	16,586	15,756	14,927	14,098	13,269	12,439	11,610	10,781	9,951	9,122	8,293
Amortisation licence fee		829	829	829	829	829	829	829	829	829	829
No. of years	20.0										
Depreciation & amortisation		2,382	4,710	6,068	7,136	8,106	8,934	9,629	10,327	11,025	11,723
Invested capital (Rs m)	16,586	52,814	67,275	75,375	80,094	83,888	83,322	82,273	80,420	78,021	74,850
Return on invested capital (%)		-21.2%	-30.2%	-19.4%	-11.3%	-5.7%	0.5%	5.9%	10.9%	15.4%	17.4%

Source: UBS estimates

Optimistic case

For our optimistic-case analysis, we assume the new operator acquires an additional 2% subscriber market share from our base-case assumptions. In this case, the new operator reaches EBITDA breakeven in year four of launch and EBIT breakeven in year five. Based on our analysis, we expect the new operator's ROIC to increase from 7.0% in FY14 to 33.7% by FY19.

Table 20: ROIC analysis—optimistic scenario

ROIC analysis (Rs m)	FY09E	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	FY19E
Market share (%)		2.9%	4.6%	5.5%	5.9%	6.3%	6.5%	6.7%	6.8%	6.9%	7.0%
Incremental market share (%)		9.8%	12.0%	11.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Operator subs (m)	-	15.8	31.2	42.5	51.5	59.3	66.1	72.0	76.8	80.5	83.3
Operator subs average (m)		7.9	23.5	36.8	47.0	55.4	62.7	69.1	74.4	78.7	81.9
ARPU (Rs)		192	180	171	167	165	166	169	172	175	177
Voice ARPU (Rs)		162	149	139	134	132	131	133	135	137	138
Data ARPU (Rs)		30	31	32	33	34	35	36	37	38	39
Operator revenue (Rs m)		18,179	50,580	75,715	94,073	109,960	124,841	140,052	153,589	164,928	173,633
EBITDA (Rs m)		(1,368)	(10,245)	(1,733)	6,418	13,831	21,932	28,881	35,059	40,471	43,118
EBITDA margin (%)		-7.5%	-20.3%	-2.3%	6.8%	12.6%	17.6%	20.6%	22.8%	24.5%	24.8%
Depreciation & amortisation (Rs m)		(2,382)	(4,710)	(6,068)	(7,136)	(8,106)	(9,090)	(10,094)	(11,089)	(12,076)	(13,057)
D&A to revenue (%)		13.1%	9.3%	8.0%	7.6%	7.4%	7.3%	7.2%	7.2%	7.3%	7.5%
EBIT (Rs m)		(3,750)	(14,955)	(7,801)	(718)	5,725	12,842	18,787	23,969	28,395	30,062
Invested capital (Rs m)	16,586	52,365	66,805	74,842	79,507	83,246	86,375	88,615	89,572	89,663	88,606
Return on invested capital (%)	0	-10.9%	-25.1%	-11.0%	-0.9%	7.0%	15.1%	21.5%	26.9%	31.7%	33.7%

Source: UBS estimates

Pessimistic case

For our pessimistic-case analysis, we assume the new operator acquires lower subscriber market share, that is, 2% lower than our base-case assumption. In this case, the new operator reaches EBITDA breakeven only in year eight after launch and does not achieve EBIT breakeven in year 10; hence the negative ROIC (see Table 21).

Table 21: ROIC analysis—pessimistic scenario

ROIC analysis (Rs m)	FY09E	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E	FY\19E
Market share (%)		0.3%	0.6%	1.5%	1.9%	2.3%	2.5%	2.7%	2.8%	2.9%	3.0%
Incremental market share (%)		0.8%	2.2%	7.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Operator subs (m)	-	1.4	4.1	11.4	16.7	21.4	25.5	29.1	31.9	34.2	35.8
Operator subs average (m)		0.7	2.8	7.8	14.1	19.1	23.5	27.3	30.5	33.1	35.0
ARPU (Rs)		192	180	171	167	165	166	169	172	175	177
Voice ARPU (Rs)		162	149	139	134	132	131	133	135	137	138
Data ARPU (Rs)		30	31	32	33	34	35	36	37	38	39
Operator revenue (Rs m)		1,576	5,929	15,938	28,138	37,890	46,741	55,346	62,953	69,299	74,192
EBITDA (Rs m)		(7,456)	(19,098)	(21,346)	(18,156)	(14,019)	(7,820)	(2,301)	2,772	7,187	9,875
EBITDA margin (%)		-473.0%	-322.1%	-133.9%	-64.5%	-37.0%	-16.7%	-4.2%	4.4%	10.4%	13.3%
Depreciation & amortisation (Rs m)		(2,382)	(4,710)	(6,068)	(7,136)	(8,106)	(8,778)	(9,164)	(9,565)	(9,974)	(10,390)
D&A to revenue (%)		151.1%	79.4%	38.1%	25.4%	21.4%	18.8%	16.6%	15.2%	14.4%	14.0%
EBIT (Rs m)		(9,838)	(23,808)	(27,415)	(25,292)	(22,125)	(16,598)	(11,465)	(6,793)	(2,787)	(514)
Invested capital (Rs m)	16,586	52,956	67,600	75,907	80,681	84,530	80,268	75,932	71,268	66,378	61,095
Return on invested capital (%)	0	-28.3%	-39.5%	-38.2%	-32.3%	-26.8%	-20.1%	-14.7%	-9.2%	-4.0%	-0.8%

Source: UBS estimates

Economics of a BTS

In the tables below, we show the analyses of the economics of a BTS installed on a GBT and RTT assuming two scenarios: 1) new entrant remains at 2 x 4.4MHz spectrum and 2) new entrant receives additional spectrum of 2 x 1.8MHz.

Table 22: BTS economics on a GBT

	Year 1 2 x 4.4 MHz spectrum	Year 2 2 x 4.4 MHz spectrum	Year 3 Scenario 1: 2 x 4.4 MHz spectrum	Year 3 Scenario 2: 2 x 6.2 MHz spectrum
MOU, mins	360	367	374	374
Voice revenue per min, Rs	0.45	0.41	0.37	0.37
Voice ARPU, Rs	162	149	139	139
Non voice ARPU, Rs	30	31	32	32
Total ARPU, Rs	192	180	171	171
Subscriber capacity per BTS (40 milli-erlangs per sub)	500	500	500	900
% subs filled per BTS	40%	60%	90%	65%
Number of actual subs per BTS	200	300	450	585
Revenue per BTS per month, Rs	38,400	53,885	77,060	100,178
Rent per tower per month, Rs	(35,596)	(36,205)	(36,828)	(36,828)
Fuel costs per tower per month, Rs	(23,321)	(24,106)	(24,588)	(24,588)
Backhaul costs per tower per month, Rs	(15,000)	(13,500)	(12,150)	(12,150)
Licence fee per month (assuming 12% of revenue), Rs	(4,608)	(6,466)	(9,247)	(12,021)
Access charges	(3,548)	(4,924)	(6,728)	(8,747)
Total direct costs per BTS per month	(82,074)	(85,201)	(89,542)	(94,334)
Gross profit per BTS per month, Rs	(43,674)	(31,317)	(12,481)	5,844

Source: UBS estimates

We believe a BTS of 2 x 2 x 2 configuration is optimum for 2 x 4.4MHz spectrum, which can support up to 24 erlangs, of which we assume up to 20 erlangs are usable. Assuming 40 mili-erlangs per subscriber, 2 x 4.4MHz spectrum is capable of supporting no more than 500 subscribers on 1800MHz frequency.

Essential for new entrant to qualify and receive additional 2 x 1.8MHz spectrum as it increases BTS capacity to support more subscribers

Based on the above tables, for a BTS to generate sufficient gross profit, it is essential for the new entrant to qualify and receive additional 2 x 1.8MHz spectrum as this would increase the ability of the BTS to support more subscribers and hence higher revenues.

Table 23: BTS economics on a RTT

	Year 1 2 x 4.4MHz spectrum	Year 2 2 x 4.4MHz spectrum	Year 3 Scenario 1: 2 x 4.4MHz spectrum	Year 3 Scenario 2: 2 x 6.2MHz spectrum
MOU, mins	360	367	374	374
Voice revenue per min, Rs	0.45	0.41	0.37	0.37
Voice ARPU, Rs	162	149	139	139
Non voice ARPU, Rs	30	31	32	32
Total ARPU, Rs	192	180	171	171
Subscriber capacity per BTS (40 milli-erlangs per sub)	500	500	500	900
% subs filled per BTS	40%	60%	90%	65%
Number of actual subs per BTS	200	300	450	585
Revenue per BTS per month, Rs	38,400	53,885	77,060	100,178
Rent per tower per month, Rs	(23,497)	(23,938)	(24,386)	(24,386)
Fuel costs per tower per month, Rs	(23,321)	(24,106)	(24,588)	(24,588)
Backhaul costs per tower per month, Rs	(15,000)	(13,500)	(12,150)	(12,150)
Licence fee per month (assuming 12% of revenue), Rs	(4,608)	(6,466)	(9,247)	(12,021)
Access charges	(3,548)	(4,924)	(6,728)	(8,747)
Total direct costs per BTS per month	(69,975)	(72,935)	(77,100)	(81,893)
Gross profit per BTS per month, Rs	(31,575)	(19,050)	(40)	18,286

Source: UBS estimates

India market model

Table 24: Indian mobile market & subscriber market share forecasts

YE 31st March (in m)	FY06	FY07	FY08	FY09E	FY10E	FY11E	FY12E	FY13E	FY14F	FY15E	FY16E	FY17E	FY18E
Population	1,114	1,151	1,168	1,187	1,205	1,223	1,242	1,261	1,281	1,301	1,321	1,341	1,362
% growth	3.1%	3.3%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Penetration (%)	8.6%	14.1%	21.9%	32.6%	45.4%	55.2%	62.7%	68.8%	73.9%	78.0%	81.3%	83.6%	85.1%
Mobile users -total	96.2	162.3	256.2	386.3	547.4	675.5	779.0	868.4	946.4	1,014.8	1,073.6	1,121.6	1,158.8
Additions	41.0	66.1	93.9	130.1	161.1	128.1	103.5	89.4	78.0	68.4	58.8	48.0	37.2
Per month additions	3.4	5.5	7.8	10.8	13.4	10.7	8.6	7.4	6.5	5.7	4.9	4.0	3.1
Operator-wise break down													
Bharti	19.6	37.1	62.0	94.1	125.0	149.5	168.7	185.0	199.2	211.6	222.3	231.0	237.7
Vodafone	15.4	26.4	44.1	67.8	91.8	110.7	126.1	139.5	151.3	161.6	170.6	178.0	183.8
RCOM	20.2	29.0	45.8	73.4	107.9	133.7	153.7	170.4	184.7	197.1	207.7	216.3	223.0
Idea	9.3	16.7	28.2	43.7	61.8	75.7	86.9	96.6	105.0	112.2	118.3	123.2	126.9
New operators					12.5	30.4	46.4	60.7	72.4	82.7	91.4	98.1	103.3
Others	31.7	53.0	76.1	107.4	148.3	175.4	197.1	216.2	233.9	249.6	263.3	275.0	284.1
Subs mkt share													
Bharti	20.4%	22.9%	24.2%	24.4%	22.8%	22.1%	21.7%	21.3%	21.0%	20.9%	20.7%	20.6%	20.5%
Vodafone	16.0%	16.3%	17.2%	17.6%	16.8%	16.4%	16.2%	16.1%	16.0%	15.9%	15.9%	15.9%	15.9%
RCOM	21.0%	17.8%	17.9%	19.0%	19.7%	19.8%	19.7%	19.6%	19.5%	19.4%	19.3%	19.3%	19.2%
Idea	9.7%	10.3%	11.0%	11.3%	11.3%	11.2%	11.2%	11.1%	11.1%	11.1%	11.0%	11.0%	11.0%
New operators					2.3%	4.5%	6.0%	7.0%	7.7%	8.1%	8.5%	8.7%	8.9%
Others	32.9%	32.7%	29.7%	27.8%	27.1%	26.0%	25.3%	24.9%	24.7%	24.6%	24.5%	24.5%	24.5%
Subs mkt share - incremental													
Bharti	20.6%	26.5%	26.5%	24.7%	19.2%	19.2%	18.5%	18.3%	18.2%	18.2%	18.2%	18.0%	18.0%
Vodafone	15.2%	16.8%	18.8%	18.2%	14.9%	14.7%	14.9%	15.0%	15.0%	15.1%	15.3%	15.4%	15.6%
RCOM	20.8%	13.2%	17.9%	21.2%	21.5%	20.1%	19.3%	18.7%	18.4%	18.1%	18.0%	18.0%	18.0%
Idea	10.3%	11.2%	12.2%	11.9%	11.3%	10.8%	10.8%	10.8%	10.7%	10.6%	10.4%	10.2%	10.0%
New operators					7.7%	14.0%	15.5%	16.0%	15.0%	15.0%	14.8%	14.0%	14.0%
Others	36.7%	32.2%	24.6%	24.0%	25.4%	21.2%	21.0%	21.3%	22.7%	22.9%	23.4%	24.4%	24.4%

Source: TRAI, AUSPI, UBS estimates

Subscriber market share to become less relevant

Although there is substantial potential for subscriber growth in the telecom market in India, we think subscriber market share in the current scenario has lost its relevance as new subscribers might not generate significant revenue for operators. Rather, we think the challenges before the operators lie in translating subscriber growth to revenue growth. Therefore, we believe revenue market share will be a relevant metric to gauge competitive strength.

Subscriber market share in current scenario has lost its relevance as the new subscribers may not generate any significant revenue for operators

We have built a revenue-based market share model on Bharti, RCOM, Idea, Spice and Vodafone's mobile services revenue, based on their reported financial statements, while the revenue for the remaining telcos is based on TRAI's quarterly gross revenue report.

Table 25: Mobile gross revenue market share (%)

YE 31st March	FY08	FY09E	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E	FY18E
Gross revenue, Rs m											
Bharti Airtel	217,861	305,219	379,980	440,107	487,411	527,939	564,645	600,624	632,043	657,903	677,971
Vodafone	140,750	203,719	253,783	305,062	344,180	376,378	394,862	444,236	450,574	460,090	470,316
Idea (including Spice)	77,615	112,737	148,842	175,298	191,883	203,375	221,603	237,739	251,761	263,417	272,603
RCOM	152,135	172,373	216,056	260,517	290,740	318,891	344,635	370,550	392,853	411,490	426,379
New operators			9,624	46,212	77,230	105,346	129,512	150,966	170,653	187,985	203,082
Others	224,796	240,803	314,678	385,321	442,455	490,523	533,931	573,493	608,266	638,792	663,245
Industry revenue	813,157	1,034,851	1,322,962	1,612,516	1,833,899	2,022,451	2,189,189	2,377,608	2,506,150	2,619,676	2,713,597
Gross revenue share, %											
Bharti Airtel	26.8%	29.5%	28.7%	27.3%	26.6%	26.1%	25.8%	25.3%	25.2%	25.1%	25.0%
Vodafone	17.3%	19.7%	19.2%	18.9%	18.8%	18.6%	18.0%	18.7%	18.0%	17.6%	17.3%
Idea (including Spice)	9.5%	10.9%	11.3%	10.9%	10.5%	10.1%	10.1%	10.0%	10.0%	10.1%	10.0%
RCOM	18.7%	16.7%	16.3%	16.2%	15.9%	15.8%	15.7%	15.6%	15.7%	15.7%	15.7%
New operators			0.7%	2.9%	4.2%	5.2%	5.9%	6.3%	6.8%	7.2%	7.5%
Others	27.6%	23.3%	23.8%	23.9%	24.1%	24.3%	24.4%	24.1%	24.3%	24.4%	24.4%
Industry revenue	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
ARPU, Rs											
Bharti Airtel	366	326	289	267	255	249	245	244	243	242	241
Vodafone	332	303	265	251	242	236	226	237	226	220	217
Idea (including Spice)	340	296	245	212	197	185	183	182	182	182	182
RCOM	339	241	199	180	169	164	162	162	162	162	162
New operators	-	-	188	180	168	164	162	162	163	165	168
Others	332	303	265	251	242	236	226	237	226	220	217
Industry	324	268	236	220	210	205	201	202	200	199	198

Source: TRAI, UBS estimates

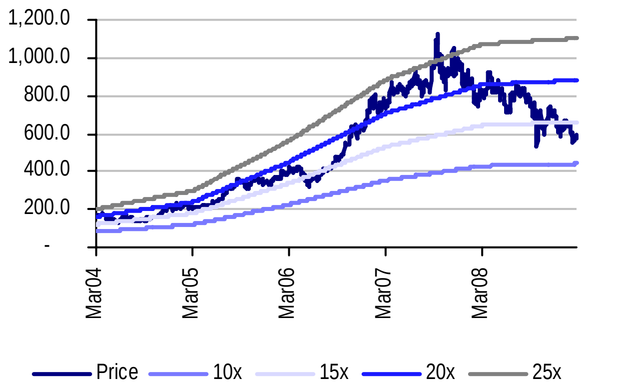
Valuations

Table 26: Valuation comparison

	Rating	Share price	Price target	Upside potential	PE (x) FY10E	PE (x) FY11E	EPS growth FY10E	EPS growth FY11E	EV/EBITDA 9x) FY10E	EV/EBITDA 9x) FY11E	EBITDA growth FY10E	EBITDA growth FY11E
Bharti	Buy-ST Sell	593	800	35%	13.5	12.6	3%	7%	7.5	6.7	9%	12%
Idea	Buy	50	65	31%	17.2	15.5	16%	11%	5.7	4.7	35%	21%
RCOM	Buy	168	275	64%	7.5	6.3	-18%	20%	5.8	4.9	28%	18%

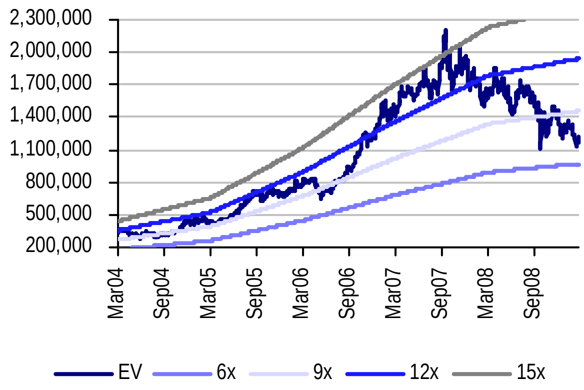
Note: Above data as at 23 March 2009. Source: Bloomberg, UBS estimates

Chart 14: Bharti: One year forward PE bands



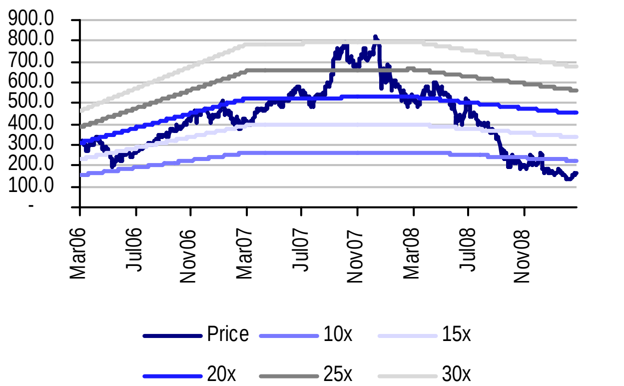
Source: Company data, Bloomberg, UBS estimates

Chart 15: Bharti: One year forward EV/EBITDA bands



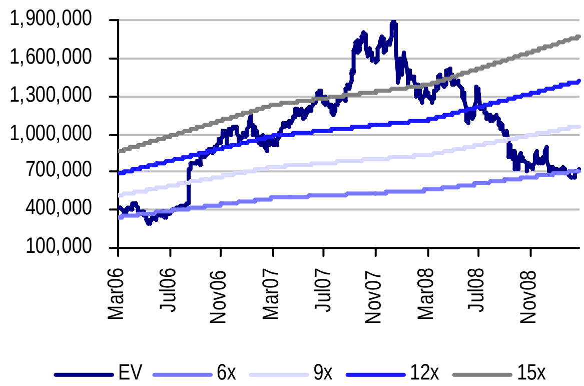
Source: Company data, Bloomberg, UBS estimates

Chart 16: RCOM: One year forward PE bands



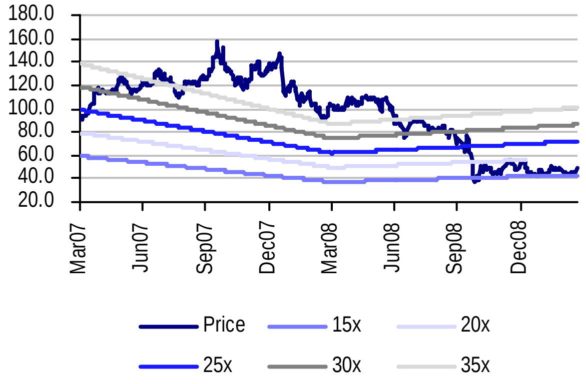
Source: Company data, Bloomberg, UBS estimates

Chart 17: RCOM: One year forward EV/EBITDA bands



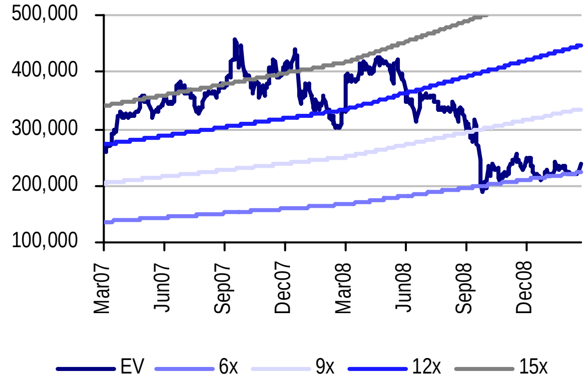
Source: Company data, Bloomberg, UBS estimates

Chart 18: Idea: One year forward PE bands



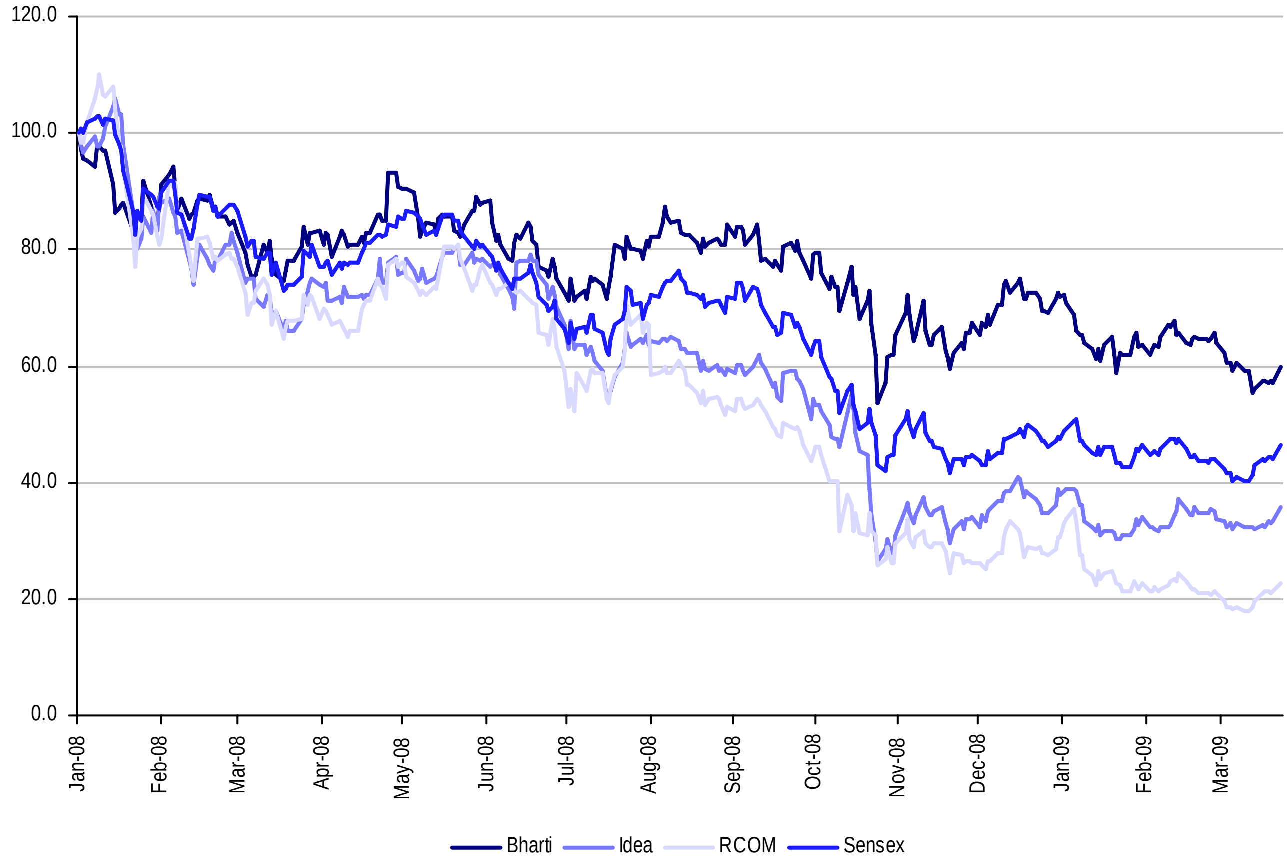
Source: Company data, Bloomberg, UBS estimates

Chart 19: Idea: One year forward EV/EBITDA bands



Source: Company data, Bloomberg, UBS estimates

Chart 20: Stock performance



Note: 1 January 2008 prices rebased to 100. Source: Bloomberg

Case study 1: HTIL in Indonesia

HTIL struggling to gain revenue market share in Indonesia, although it has managed to garner subscribers

We believe the experience of HTIL in Indonesia highlights the challenges faced by a new entrant in an emerging market. HTIL entered Indonesia in early 2006, launched operations in H107 and had captured over 1m subscribers by end-June 2007, with a distribution reach of over 52,000 outlets. It accelerated network rollout in 2008 through site-sharing initiatives. As at end-December 2008, HTIL had approximately 6,300 BTS with network coverage in Java and in major cities in Sumatra, Kalimantan and Sulawesi. HTIL's financials indicate the company is struggling to gain revenue market share, although it has managed to garner subscribers. We believe the initial years for greenfield entrants in India are likely to be similar.

Table 27: HTIL Indonesia key financials

	FY06	H1 FY07	H2 FY07	H1 FY08	H2 FY08
Revenue, HK$ m	-	-	117	150	165
Operating expenses, HK$ m	(123)	(138)	(454)	(498)	(820)
EBITDA, HK$ m	(123)	(138)	(337)	(348)	(655)
EBITDA margin, %	n/m	n/m	-288%	-232%	-397%
Capex, HK$ m	172	66	1,728	947	597
Capex to sales, %	n/m	n/m	1477%	631%	362%

Source: Company data

Table 28: HTIL Indonesia KPIs

	Q407	Q108	Q208	Q308	Q408
Subscribers (m)					
Total subscribers	2.04	2.33	3.20	3.60	4.50
Prepaid	2.04	2.33	3.20	3.60	4.49
Post-paid	0.00	0.00	0.01	0.01	0.01
ARPU (Rp)					
Blended	14,971	14,035	12,057	9,703	10,800
Prepaid	14,829	13,862	11,872	9,404	10,507
Post-paid	114,049	119,709	107,619	134,118	133,596
MOU (mins)					
Blended	83.0	94.0	82.0	56.2	55.2
Prepaid	83.0	94.0	82.0	55.8	54.8
Post-paid	59.0	104.0	117.0	209.0	224.7
Churn (%)					
Blended	17.7%	17.6%	15.6%	18.1%	24.2%
Prepaid	17.7%	17.6%	15.6%	18.1%	24.3%
Post-paid	16.3%	11.0%	7.9%	5.3%	4.1%

Source: Company data

Case study 2: Telenor Pakistan

Our Telenor analyst, Keval Khiroya, in *India is a FCF drain, downgrade to Neutral*, 3 November 2008, highlights that Telenor's experience in Pakistan provides a poor precedent for its greenfield ventures. Four years after its launch in Pakistan, Telenor has failed to prove that greenfield works, given the asset has not yet reached FCF breakeven, with Telenor having sustained NKr12bn of operating FCF losses.

Four years after the launch in Pakistan, Telenor has still not reached FCF breakeven

Table 29: Telenor in Pakistan—KPIs

Year ending Dec	Q205	Q305	Q405	Q106	Q206	Q306	Q406	Q107	Q207	Q307	Q407	Q108	Q208	Q308	Q408
Mobile rev (PKR m)	453	710	1,296	1,927	2,530	3,163	4,624	6,662	8,430	9,211	10,938	12,130	13,031	12,092	13,137
Mobile subs (m)	0.8	1.2	1.9	2.5	3.2	4.6	6.7	9.1	10.7	12.6	14.6	16.7	18.2	18.5	19.4
Implied ARPU (PKR)	256	230	274	287	293	267	270	280	281	261	265	256	244	216	228
% Non-voice revenue	3.0%	3.0%	3.0%	4.0%	4.0%	4.0%	4.0%	6.0%	4.5%	4.5%	4.5%	6.0%	6.0%	6.0%	6.0%
Voice ARPU (PKR)	248	223	265	275	281	256	260	263	268	249	253	241	230	203	215
Non voice ARPU	7.7	6.9	8.2	11.5	11.7	10.7	10.8	16.8	12.6	11.7	11.9	15.4	14.7	12.9	13.7
MoU mins/user/month	74	93	131	136	146	123	132	142	154	153	165	163	165	146	155
Voice rev/min (PKR)	3.4	2.4	2.0	2.0	1.9	2.1	2.0	1.9	1.7	1.6	1.5	1.5	1.4	1.4	1.4
Cost per min (PKR)	15.4	6.6	4.0	2.7	2.8	2.6	2.2	1.9	1.6	1.4	1.3	1.2	1.1	1.2	1.1
Spread per min (PKR)	(12.0)	(4.2)	(1.9)	(0.7)	(0.9)	(0.5)	(0.2)	(0.0)	0.1	0.3	0.3	0.3	0.3	0.2	0.3
EBITDA margin %	-358.3%	-176.3%	-95.0%	-35.8%	-44.2%	-26.1%	-9.7%	-0.4%	7.0%	16.9%	16.7%	17.2%	20.8%	11.4%	20.3%
Total mobile mins (m)	131	284	603	897	1,255	1,439	2,229	3,351	4,567	5,343	6,726	7,652	8,636	8,029	8,802
Capex per min (PKR)	23.2	11.8	6.4	4.7	3.9	3.9	2.9	2.2	1.8	1.7	1.6	1.5	1.4	1.5	1.5

Source: Company data

Table 30: Telenor subscriber market share in Pakistan since launch in Q105

	Q105	Q205	Q305	Q405	Q106	Q206	Q306	Q406	Q107	Q207	Q307	Q407	Q108	Q208	Q308	Q408
Total mobile subs, m	9.7	12.8	16.9	21.6	27.2	34.2	41.5	48.4	55.6	63.2	70.9	76.9	82.5	88.1	90.2	89.9
Penetration, %	6.1%	7.9%	10.5%	13.3%	16.7%	20.8%	25.1%	29.2%	33.4%	37.7%	42.1%	45.4%	48.5%	51.5%	52.5%	52.1%
Telenor subs, m	0.3	0.8	1.2	1.9	2.5	3.2	4.6	6.7	9.1	10.7	12.6	14.6	16.7	18.2	18.5	19.4
Market share, %	3.5%	6.5%	7.1%	8.6%	9.3%	9.4%	11.1%	13.8%	16.3%	16.9%	17.8%	19.0%	20.2%	20.7%	20.5%	21.6%
Incremental mkt sh, %		16.0%	8.8%	14.1%	11.8%	9.8%	19.1%	29.6%	33.6%	21.6%	24.4%	33.4%	37.6%	26.6%	13.3%	n/m

Source: Company data

Appendix

Profile of new operators

Datacom Solutions Private Limited

Datacom Solutions is a joint venture between Videocon and Nahatas of HFCL. Videocon has a 64% stake in the company while Nahatas holds 36%. Datacom has a pan-India UASL to offer mobile services. Initially, the company planned to launch its GSM services by 15 August 2008 but the launch was delayed due to the dispute between the promoter groups. The dispute is on management control of the company and the valuation of Datacom for a possible sale to a strategic investor. HFCL offers mobile services in the Punjab service area, based on CDMA technology.

Loop Telecom Private Limited

Loop Telecom is a majority-owned subsidiary of BPL Mobile, which operates GSM mobile services in Mumbai. The company received licences for the remaining 21 service areas in the recent allotment. There are concerns about its shareholding structure; DoT has asked the Ministry of Corporate Affairs (MCA) to investigate Loop's shareholding structure. Also, there is ongoing arbitration between Ruias of Essar group and Vodafone over the ownership of BPL Mobile.

Swan-Etisalat Private Limited

Swan-Etisalat is joint venture between the Mumbai-based Dynamix Balwas group and UAE-based Etisalat. Dynamix Balwas sold a 45% stake in the company to Etisalat for US$900m on 23 September, 2008, eight months after the company received the licence to operate services in 13 service areas. Swan-Etisalat has received spectrum for these service areas and plans to launch operations in FY10.

S-Tel Limited

S-Tel is a Chennai-based company promoted by Sky City Foundation and Telecom Investment (Mauritius) Limited. The company has licence to operate in six 'C' category service areas. It has also received spectrum in these service areas. Recently, S-Tel sold a 45% stake to Bahrain-based Batelco for US$225m.

Sistema Shyam Teleservices Limited

Sistema Shyam is a joint venture between Russia-based Sistema Corporation and the Shyam group of India. The shareholding structure of Sistema Shyam is Sistema (73.7%), Shyam group (23.8%) and public (2.5%). The company has operations in the Rajasthan service area and has licences to operate in the remaining 21 service areas in the January 2008 allotment. It plans to launch pan-India services based on CDMA technology.

Telenor-Unitech

Telenor-Unitech is a joint venture between Norway-based Telenor group and Delhi-based real estate firm Unitech. Telenor purchased a 67.5% stake in the company for US$1.07bn. Telenor-Unitech has the pan-India UASL to offer mobile services. It has also received spectrum in the 21 service areas except Delhi. It is one of a few companies to have an aggressive approach towards launching mobile services. The company has signed a tower-sharing agreement (approximately 40,000 towers) with Quippo Telecom Infrastructure Limited.

Cost of pan-India UASL

Table 31: Cost of pan-India UASL

Service area	Category	Rs m
West Bengal	B	10
Andhra Pradesh	A	1,030
Assam	C	50
Bihar	C	100
Gujarat	A	1,090
Haryana	B	215
Himachal Pradesh	C	11
Jammu & Kashmir	C	20
Karnataka	A	2,068
Kerala	B	405
Madhya Pradesh	B	175
Maharashtra	A	1,890
North East	C	20
Orissa	C	50
Punjab	B	1,518
Rajasthan	B	323
Tamil Nadu	A	2,330
Uttar Pradesh (West)	B	306
Uttar Pradesh (East)	B	453
Delhi	Metro	1,707
Kolkata	Metro	780
Mumbai	Metro	2,037
All India		16,586

Source: TRAI

■ Statement of Risk

Changes in the competitive and regulatory landscape and technology advances could have an impact on our estimates and valuations for operators. We believe irrational competition among existing operators presents the biggest risk to our forecasts, ratings, and price targets.

■ Analyst Certification

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UBS Investment Research: Global Equity Rating Allocations

UBS 12-Month Rating	Rating Category	Coverage[1]	IB Services[2]
Buy	**Buy**	53%	36%
Neutral	**Hold/Neutral**	36%	34%
Sell	**Sell**	10%	20%
UBS Short-Term Rating	**Rating Category**	**Coverage[3]**	**IB Services[4]**
Buy	**Buy**	less than 1%	43%
Sell	**Sell**	less than 1%	22%

1:Percentage of companies under coverage globally within the 12-month rating category.
2:Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.
3:Percentage of companies under coverage globally within the Short-Term rating category.
4:Percentage of companies within the Short-Term rating category for which investment banking (IB) services were provided within the past 12 months.

Source: UBS. Rating allocations are as of 31 December 2008.

UBS Investment Research: Global Equity Rating Definitions

UBS 12-Month Rating	Definition
Buy	FSR is > 6% above the MRA.
Neutral	FSR is between -6% and 6% of the MRA.
Sell	FSR is > 6% below the MRA.
UBS Short-Term Rating	**Definition**
Buy	Buy: Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.
Sell	Sell: Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.

KEY DEFINITIONS

Forecast Stock Return (FSR) is defined as expected percentage price appreciation plus gross dividend yield over the next 12 months.
Market Return Assumption (MRA) is defined as the one-year local market interest rate plus 5% (a proxy for, and not a forecast of, the equity risk premium).
Under Review (UR) Stocks may be flagged as UR by the analyst, indicating that the stock's price target and/or rating are subject to possible change in the near term, usually in response to an event that may affect the investment case or valuation.
Short-Term Ratings reflect the expected near-term (up to three months) performance of the stock and do not reflect any change in the fundamental view or investment case.

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Buy: Positive on factors such as structure, management, performance record, discount; Neutral: Neutral on factors such as structure, management, performance record, discount; Sell: Negative on factors such as structure, management, performance record, discount.
Core Banding Exceptions (CBE): Exceptions to the standard +/-6% bands may be granted by the Investment Review Committee (IRC). Factors considered by the IRC include the stock's volatility and the credit spread of the respective company's debt. As a result, stocks deemed to be very high or low risk may be subject to higher or lower bands as they relate to the rating. When such exceptions apply, they will be identified in the Company Disclosures table in the relevant research piece.

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UBS Securities India Private Ltd: Suresh A Mahadevan, CFA; Nupur Agarwal.

Company Disclosures

Company Name	Reuters	12-mo rating	Short-term rating	Price	Price date
Bharti Airtel Ltd.[2, 4, 6, 12]	BRTI.BO	Buy	Sell	Rs593.45	23 Mar 2009
Hutchison Telecommunications Int'l Ltd.[16]	2332.HK	Buy	N/A	HK$2.31	23 Mar 2009
Idea Cellular[2]	IDEA.BO	Buy	N/A	Rs49.75	23 Mar 2009
Reliance Communication Limited	RLCM.BO	Buy	N/A	Rs168.15	23 Mar 2009
Telenor[3, 16]	TEL.OL	Neutral	N/A	NKr37.65	23 Mar 2009

Source: UBS. All prices as of local market close.
Ratings in this table are the most current published ratings prior to this report. They may be more recent than the stock pricing date

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3. UBS Investment Bank is acting as sole financial advisor to Unitech on the induction of Telenor ASA as a strategic partner in its new telecom venture.
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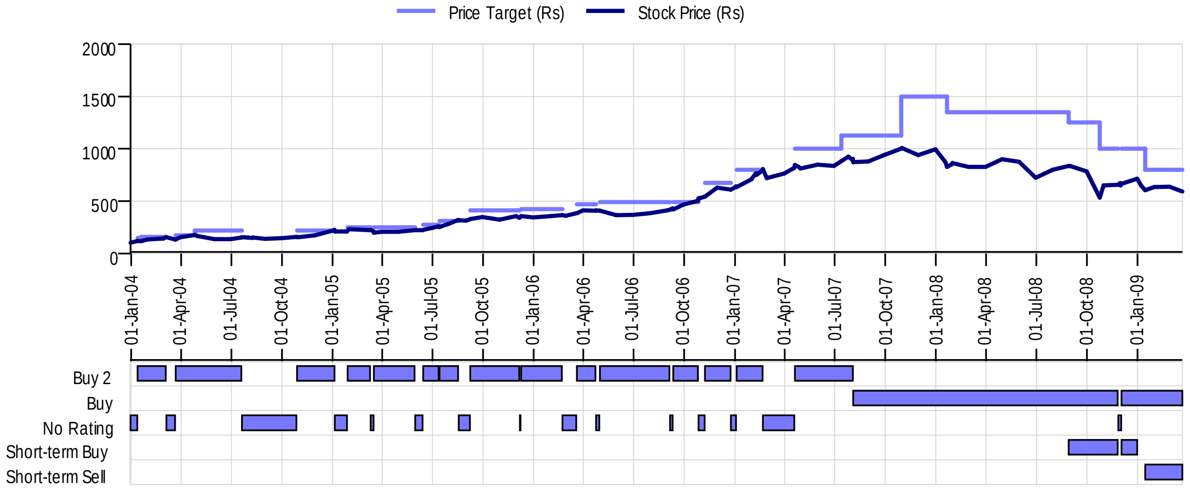
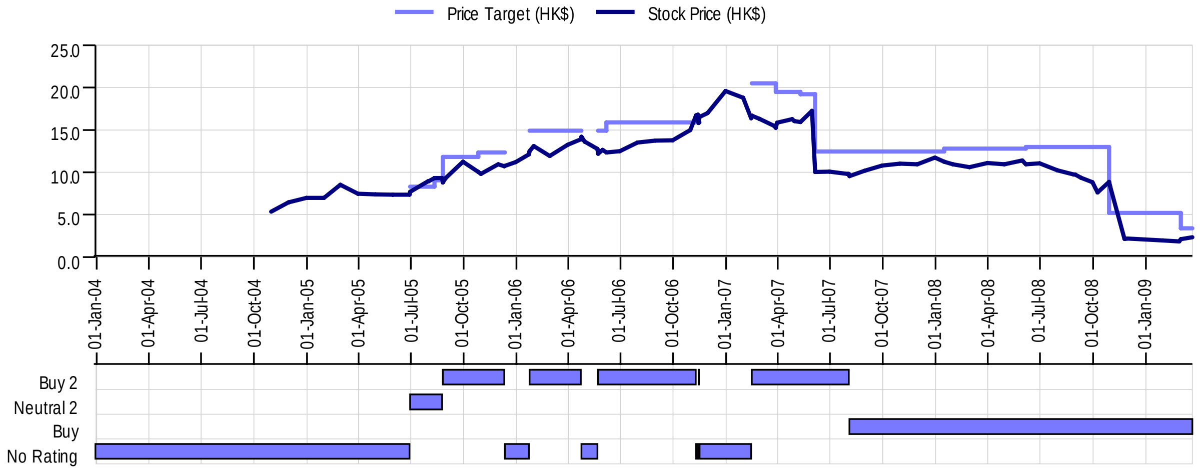
Unless otherwise indicated, please refer to the Valuation and Risk sections within the body of this report.

Bharti Airtel Ltd. (Rs)



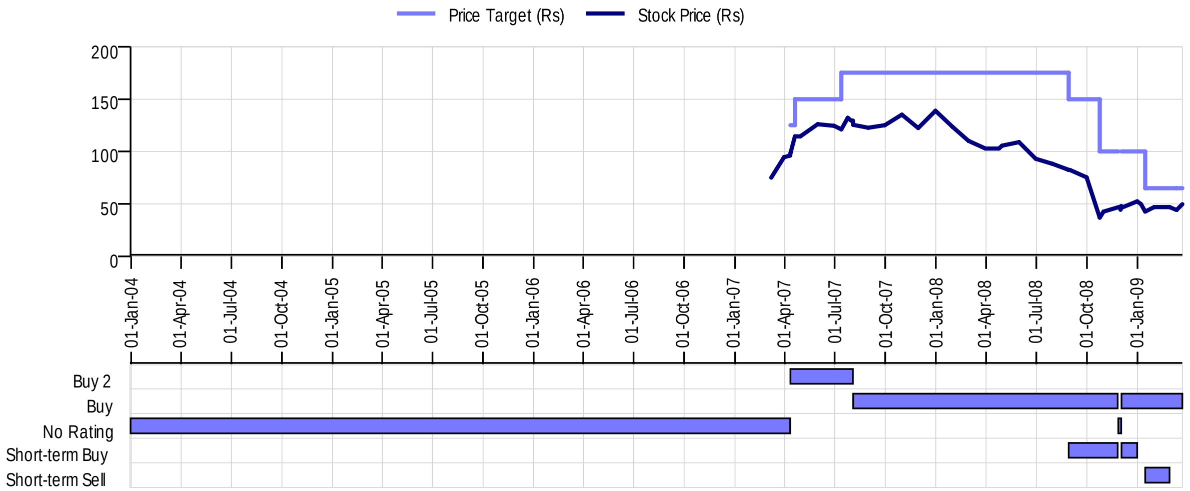
Source: UBS; as of 23 Mar 2009

Hutchison Telecommunications Int'l Ltd. (HK$)



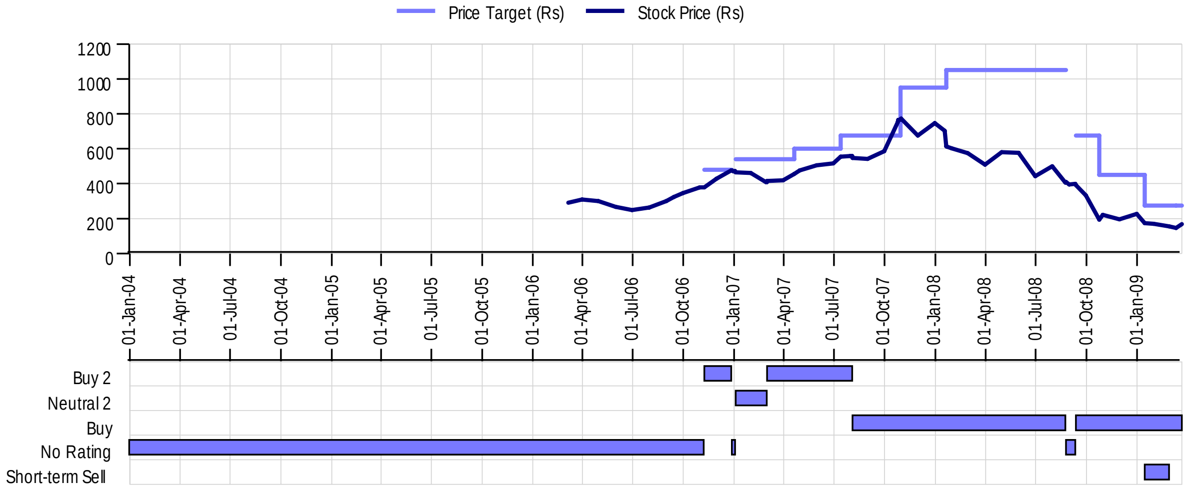
Source: UBS; as of 23 Mar 2009

Idea Cellular (Rs)



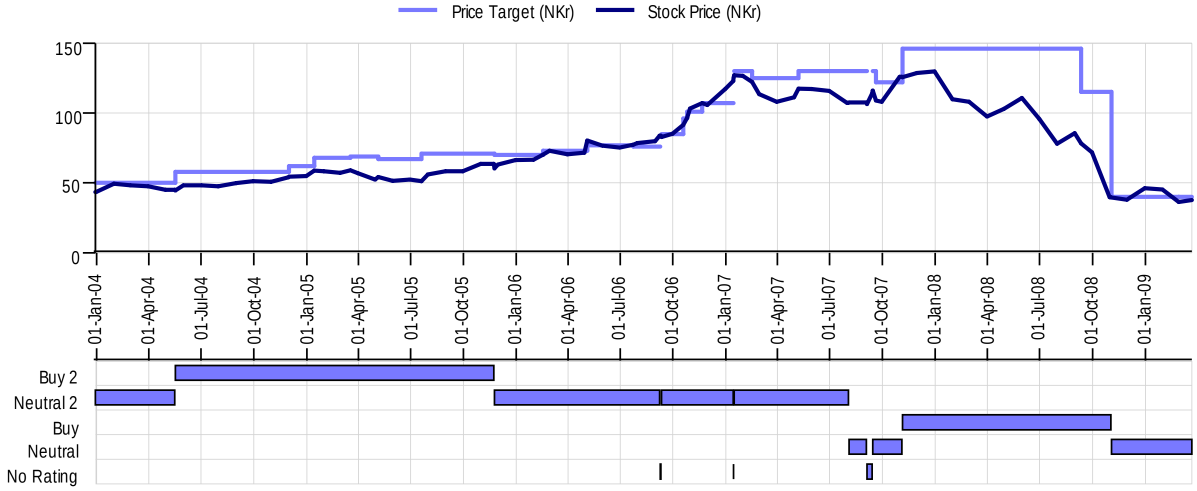
Source: UBS; as of 23 Mar 2009

Reliance Communication Limited (Rs)



Source: UBS; as of 23 Mar 2009

Telenor (NKr)



Source: UBS; as of 23 Mar 2009

Note: On August 4, 2007 UBS revised its rating system. (See 'UBS Investment Research: Global Equity Rating Definitions' table for details). From September 9, 2006 through August 3, 2007 the UBS ratings and their definitions were: Buy 1 = FSR is > 6% above the MRA, higher degree of predictability; Buy 2 = FSR is > 6% above the MRA, lower degree of predictability; Neutral 1 = FSR is between -6% and 6% of the MRA, higher degree of predictability; Neutral 2 = FSR is between -6% and 6% of the MRA, lower degree of predictability; Reduce 1 = FSR is > 6% below the MRA, higher degree of predictability; Reduce 2 = FSR is > 6% below the MRA, lower degree of predictability. The predictability level indicates an analyst's conviction in the FSR. A predictability level of '1' means that the analyst's estimate of FSR is in the middle of a narrower, or smaller, range of possibilities. A predictability level of '2' means that the analyst's estimate of FSR is in the middle of a broader, or larger, range of possibilities. From October 13, 2003 through September 8, 2006 the percentage band criteria used in the rating system was 10%.

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