

# Bharti Airtel Ltd

(BRTI.BO / BHARTI IN)

|                          |                         |
|--------------------------|-------------------------|
| Rating                   | <b>OUTPERFORM*</b>      |
| Price (01 Mar 11, Rs)    | 338.30                  |
| Target price (Rs)        | 415.00 <sup>†</sup>     |
| Chg to TP (%)            | 22.7                    |
| Market cap. (Rs mn)      | 1,284,704 (US\$ 28,641) |
| Enterprise value (Rs mn) | 1,866,984               |
| Number of shares (mn)    | 3,797.53                |
| Free float (%)           | 32.60                   |
| 52-week price range      | 373.15 - 255.00         |

\*Stock ratings are relative to the relevant country benchmark.  
<sup>†</sup>Target price is for 12 months.

## Research Analysts

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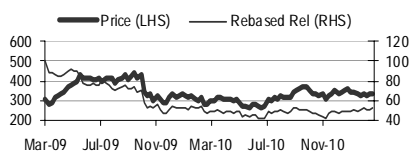
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## COMPANY UPDATE

### Fortune favours the bold

- **Management targets not aggressive:** Based on our analysis of Bharti's Africa operations, management's targets for this business are not aggressive. We believe its strategy is to grow the business largely in line with the industry, while taking EBITDA margins to the levels of other African peers.
- **Not after market share gains:** Management's US\$5 bn revenue target implies a CAGR of 11.3% (FY3/10-FY3/13) – broadly the midpoint of consensus expectation (5-16%) for large African peers (MTN, Millicom and Vodacom). However, any divergence in growth could be largely a reflection of the players' geographical diversity. Lack of significant revenue market share gain also implies capex could remain low. Further, margins of 40% could be achieved by FY3/13, if Bharti can bring its SG&A expenses (39% of revenue) to a level similar to its African peers (24-26%).
- **Current expectations low; risks to the upside:** While we believe that the targets are not aggressive, there is a risk of slippage either on timing or on investments required. In our model, we assume higher capex (36% higher than management estimate) and higher interest costs (US\$1.1 bn over three years) than what management has indicated. We believe the market is more negative; so, any near-term improvement (either on margins or revenue growth) and more details about African performance could result in robust share price performance.
- **Valuation:** At 6.7x FY3/12E EV/EBITDA, Bharti is trading at the low end of its historical trading range. The regulatory environment could lead to volatility in share prices over the near term. However, with stable competition and strong growth in India over the near term, coupled with improving visibility in Africa, we stay positive on the stock with OUTPERFORM.

## Share price performance



The price relative chart measures performance against the BOMBAY SE 30 SHARE SENSITIVE index which closed at 18446.5 on 01/03/11

On 01/03/11 the spot exchange rate was Rs44.86/US\$1

| Performance Over | 1M  | 3M   | 12M  |
|------------------|-----|------|------|
| Absolute (%)     | 9.0 | -3.5 | 21.1 |
| Relative (%)     | 6.4 | 3.9  | 7.8  |

## Financial and valuation metrics

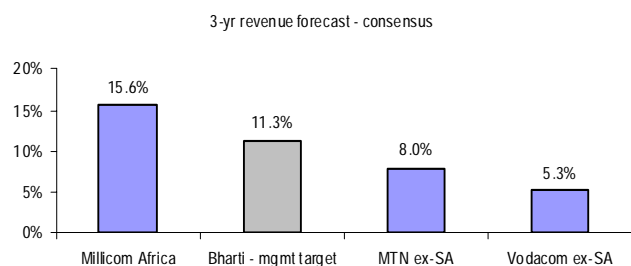
| Year                         | 3/10A     | 3/11E     | 3/12E     | 3/13E     |
|------------------------------|-----------|-----------|-----------|-----------|
| Revenue (Rs mn)              | 418,472.0 | 612,827.5 | 728,464.5 | 842,072.6 |
| EBITDA (Rs mn)               | 167,633.0 | 216,094.9 | 284,999.7 | 348,843.4 |
| EBIT (Rs mn)                 | 104,801.0 | 111,302.6 | 171,022.9 | 224,051.6 |
| Net income (Rs mn)           | 91,638.0  | 63,736.3  | 102,241.9 | 136,104.3 |
| EPS (CS adj.) (Rs)           | 24.16     | 16.80     | 26.96     | 35.88     |
| Change from previous EPS (%) | n.a.      | 0         | 0         | 0         |
| Consensus EPS (Rs)           | n.a.      | 17.9      | 22.7      | 29.1      |
| EPS growth (%)               | 8.2       | -30.4     | 60.4      | 33.1      |
| P/E (x)                      | 14.0      | 20.1      | 12.6      | 9.4       |
| Dividend yield (%)           | 0.3       | 1.6       | 3.3       | 5.1       |
| EV/EBITDA (x)                | 7.8       | 8.6       | 6.7       | 5.3       |
| P/B (x)                      | 3.0       | 2.8       | 2.4       | 2.2       |
| ROE                          | 25.2      | 14.4      | 20.7      | 24.3      |
| Net debt/equity (%)          | 5.4       | 108.4     | 102.8     | 84.8      |

Source: Company data, Thomson Reuters, Credit Suisse estimates

**DISCLOSURE APPENDIX CONTAINS ANALYST CERTIFICATIONS AND THE STATUS OF NON-US ANALYSTS. U.S. Disclosure:** Credit Suisse does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the Firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

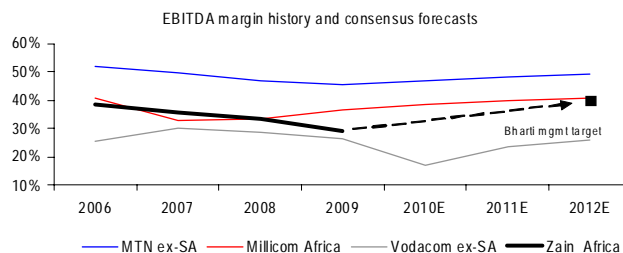
# Focus charts and table

**Figure 1: Bharti management's growth target not different from consensus estimates for competitors**



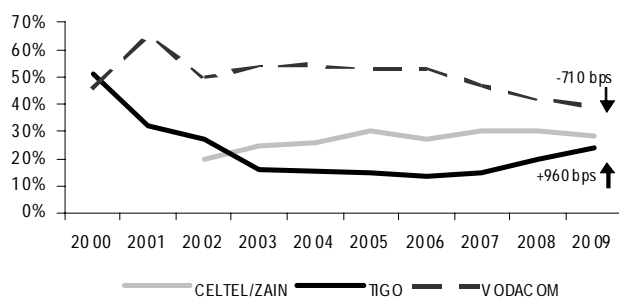
Source: Company data, Thomson Reuters, Credit Suisse estimates

**Figure 2: Management targets margins to recover to historical levels**



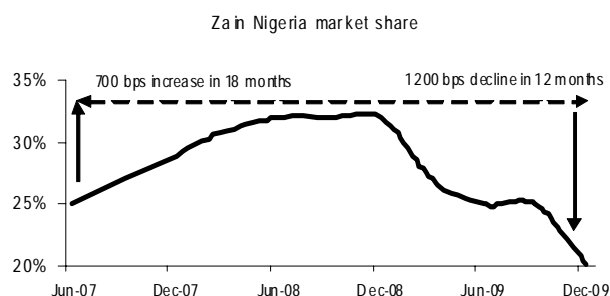
Source: Company data, Thomson Reuters, Credit Suisse estimates

**Figure 3: Market share movements could be swift, as seen in the case of Tigo in Tanzania ...**



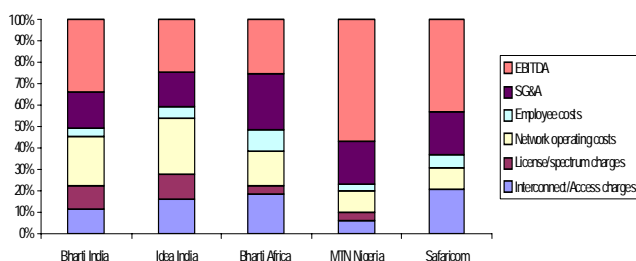
Source: Company data, Credit Suisse estimates

**Figure 4: ... and Zain in Nigeria**



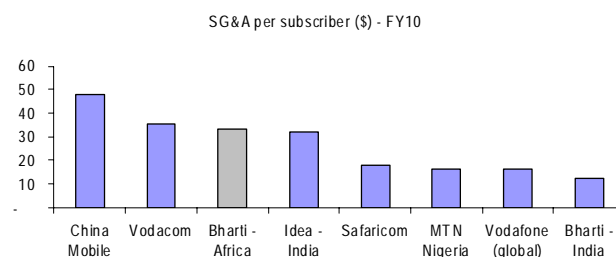
Source: Company data, Credit Suisse estimates

**Figure 5: SG&A, employee costs and network opex are key opportunities to improve margins**



Source: Company data, Credit Suisse estimates

**Figure 6: SG&A cost structure higher than African peers**



Source: Company data, Credit Suisse estimates

**Figure 7: Enough cash generation to sustain any upside risks to Africa capex or interest**

**costs (despite our already high estimates for these items)**

| (US\$ mn)                        | FY3/11E | FY3/12E | FY3/13E | Cumulative |
|----------------------------------|---------|---------|---------|------------|
| EBITDA (India+Africa)            | 4,802   | 6,333   | 7,752   |            |
| Interest payments (India+Africa) | 965     | 1,246   | 1,293   |            |
| Cash taxes (India+Africa)        | 325     | 513     | 783     |            |
| Cash which can be deployed       | 3,512   | 4,574   | 5,675   | 13,761     |
| Estimated capex (India)          | 2,808   | 2,626   | 2,394   | 7,828      |
| Estimated capex (Africa)         | 930     | 1,548   | 1,335   | 3,813      |
| Surplus                          | 704     | 1,948   | 3,281   | 5,933      |

Source: Company data, Credit Suisse estimates

## Fortune favours the bold

Bharti Africa CEO Mr Manoj Kohli has stated that he targets US\$5 bn in revenue by FY3/13, with EBITDA margin reaching 40% and capex US\$800-1000 mn. In this note, we examine if these targets are reasonable. First, we believe the top-line target does not require a significant market share increase. Second, while the margin targets are challenging, we see a number of opportunities to improve the cost structure from the current level – with potential key savings in SG&A, employee costs and network opex.

So, while we agree that the targets for Africa operations are not easy to achieve for Bharti, we believe the risks are on execution rather than strategy. Our valuation of negative Rs31 per share for the Zain acquisition adequately captures the downside involved in the acquisition, in our view. We maintain our OUTPERFORM on Bharti and our target price of Rs415.

Risks are not on strategy, but execution

### Could Bharti achieve US\$5 bn in revenue by FY3/13?

A look at the consensus expectations for other major listed African telecoms indicates that expectations for Bharti are in line with the peers' growth estimates. So, we believe that Bharti targets to grow in line with the industry rather than gain revenue market share.

Management targets do not require market share gains

We believe Bharti's African operations has some inherent advantages in terms of: (1) early mover in nine countries and (2) reasonable quantity of spectrum. We also believe that Bharti's acquisition should remove one of the biggest obstacles for these operations – access to adequate capital. History shows that the African telecom market presents adequate opportunities to gain market share for companies with good quality assets, strong processes and systems.

Further, we believe that a few characteristics of the African market could favour Bharti. These include (1) regulation-driven move towards lower interconnect charges, (2) poor network coverage and (3) multiple SIMs with users.

### Margin improvement is the key

The most debated of management's FY13 targets are the ones on margins (1,200 bp EBITDA margin increase) and capex (US\$800-1000 mn in annual capex).

We believe that Bharti's capex targets should be viewed using the same prism as its revenue targets. Bharti does not factor in significant revenue market share gains and so, we conclude that consensus concerns about Bharti turning into a 'price aggressor' could be wrong. This would not lead to a disproportionate increase in traffic and so could allow for lower capex. Further, we also believe that Bharti could get significant (over 50%) discount on its electronics capex.

Management expects margins to rebound to historical levels and in line with peers

We believe management largely expects margins to rebound to historical levels (Zain Africa earned 38% margins in 2006). This is also realistic, given that Bharti's African operations currently spend 39% of sales on SG&A vs sub-26% for other African operators.

### Key risks are currency and credit costs

Bharti has taken a loan of US\$9 bn to fund its purchase of these African assets. We believe that the African currency exposure is largely un-hedged and so could suffer if currencies turn volatile. Further, the loan funding is tied to six-month LIBOR (195 bp over six-month LIBOR) and could become expensive if LIBOR rises.

The un-hedged US\$9 bn loan and volatility in African currencies are key risks

Further, there would be risks from operating in emerging economies of Africa. The regulatory framework is at a nascent stage, and there could be political and security risks. Further, tax laws and laws governing profit repatriation to a foreign company could also be evolving.

# Valuation table

Figure 8: Asian mobile valuation summary

| 01-Mar-11            | Ticker           | Ccy       | Close Mkt cap   |             | Rating   | Target price | Normalised P/E |             | EV/EBITDA  |            | P/B        |            |
|----------------------|------------------|-----------|-----------------|-------------|----------|--------------|----------------|-------------|------------|------------|------------|------------|
|                      |                  |           | price (US\$ bn) |             |          |              | FY3/12         | FY3/13      | FY3/12     | FY3/13     | FY3/12     | FY3/13     |
|                      |                  |           |                 |             |          |              | 11E            | 12E         | 11E        | 12E        | 11E        | 12E        |
| AIS                  | ADVANC TB        | Bt        | 83.0            | 8.1         | N        | 95.0         | 10.3           | 9.8         | 4.9        | 4.9        | 5.9        | 6.0        |
| AXIATA               | AXIATA MK        | RM        | 5.0             | 13.9        | O        | 6.0          | 14.6           | 12.7        | 6.8        | 6.1        | 2.0        | 1.9        |
| <b>Bharti Airtel</b> | <b>BHARTI IN</b> | <b>Rs</b> | <b>338.3</b>    | <b>28.4</b> | <b>O</b> | <b>415.0</b> | <b>12.6</b>    | <b>9.4</b>  | <b>6.9</b> | <b>5.5</b> | <b>2.4</b> | <b>2.2</b> |
| China Mobile         | 941 HK           | HK\$      | 74.8            | 192.5       | O        | 116.0        | 9.7            | 9.0         | 3.8        | 3.3        | 2.2        | 2.0        |
| DiGi                 | DIGI MK          | RM        | 26.8            | 6.9         | O        | 29.6         | 16.0           | 15.0        | 8.1        | 7.7        | 15.5       | 15.4       |
| Excelcom             | EXCL IJ          | Rp        | 5,850.0         | 5.7         | O        | 6,700.0      | 13.1           | 11.4        | 5.6        | 5.0        | 4.3        | 3.5        |
| FarEasTone           | 4904 TT          | NT\$      | 42.7            | 5.3         | N        | 40.0         | 16.5           | 15.7        | 5.2        | 5.1        | 1.8        | 1.7        |
| Globe                | GLO PM           | P         | 697.0           | 2.1         | N        | 800.0        | 10.8           | 11.0        | 4.3        | 4.1        | 2.0        | 1.9        |
| <b>Idea Cellular</b> | <b>IDEA IN</b>   | <b>Rs</b> | <b>59.1</b>     | <b>4.1</b>  | <b>O</b> | <b>85.0</b>  | <b>13.7</b>    | <b>9.2</b>  | <b>5.8</b> | <b>4.5</b> | <b>1.4</b> | <b>1.3</b> |
| Indosat              | ISAT IJ          | Rp        | 5,100.0         | 3.1         | O        | 7,900.0      | 23.2           | 13.6        | 5.2        | 4.4        | 1.5        | 1.4        |
| LGT                  | 032640 KS        | Won       | 5,670.0         | 2.6         | N        | 8,500.0      | 5.6            | 4.8         | 5.0        | 4.4        | 0.6        | 0.6        |
| Maxis                | MAXIS MK         | RM        | 5.5             | 13.5        | O        | 6.1          | 17.6           | 17.4        | 10.3       | 10.2       | 4.7        | 5.3        |
| M1                   | M1 SP            | S\$       | 2.4             | 1.7         | N        | 2.7          | 13.2           | 12.5        | 7.0        | 6.8        | 7.1        | 6.4        |
| NTT DoCoMo           | 9437 JP          | ¥         | 156,400.0       | 83.7        | N        | 150,000.0    | 12.6           | 12.3        | 4.0        | 3.8        | 1.4        | 1.3        |
| <b>RCOM</b>          | <b>RCOM IN</b>   | <b>Rs</b> | <b>90.4</b>     | <b>4.1</b>  | <b>N</b> | <b>120.0</b> | <b>6.8</b>     | <b>5.3</b>  | <b>5.3</b> | <b>4.3</b> | <b>0.4</b> | <b>0.4</b> |
| SKT                  | 017670 KS        | Won       | 163,000.0       | 11.7        | N        | 183,000.0    | 8.5            | 7.9         | 3.6        | 3.5        | 1.1        | 1.0        |
| SmarTone             | 315 HK           | HK\$      | 24.2            | 1.6         | U        | 15.6         | 15.5           | 13.8        | 9.4        | 7.7        | 4.5        | 4.5        |
| StarHub              | STH SP           | S\$       | 2.6             | 3.5         | U        | 2.4          | 13.8           | 13.5        | 7.6        | 7.4        |            |            |
| TAC                  | DTAC TB          | Bt        | 41.5            | 3.2         | N        | 45.0         | 10.6           | 12.9        | 3.6        | 3.9        | 1.4        | 1.4        |
| <b>Average</b>       |                  |           |                 |             |          |              | <b>11.8</b>    | <b>10.9</b> | <b>4.8</b> | <b>4.3</b> | <b>2.4</b> | <b>2.3</b> |

Source: Bloomberg, Company data, Credit Suisse estimates

# Could Bharti achieve US\$5 bn in revenue by FY3/13?

Bharti Africa CEO stated he expects the African business to reach a revenue run rate of US\$5 bn by FY3/13. We find that these revenue targets are in line with growth rates of other large pan-African telecoms (adjusted for geographical divergence). Hence, Bharti's management is not factoring in a significant revenue market share gain in its forecasts.

We agree that Bharti is new to African markets and hence could face some teething delays in its plans. We also agree that Bharti's track record outside India has not been great. However, we argue that Bharti's African operations has some inherent advantages: (1) early mover in nine countries and (2) reasonable quantity of spectrum. We also believe that Bharti's acquisition would remove one of the biggest obstacles for this business – access to adequate capital. Volatility in market share in African countries also indicate that this market could present adequate opportunities to companies with good quality assets and strong processes and systems.

Further, we believe that a few characteristics of the African market could favour Bharti. These include (1) regulation-driven move towards lower interconnect charges, (2) poor network coverage and (3) multiple SIMs with users. We thus believe that Bharti should be able to reach its target of US\$5 bn in revenue in the next three years.

African operations have a few inherent advantages which Bharti can exploit

## Management guidance aka CEO's personal target

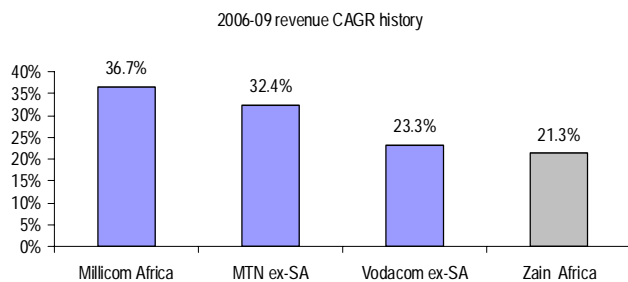
Mr Manoj Kohli stated in July 2010 that he expects the African business to reach an annual revenue run-rate of US\$5 bn with 100 mn subscribers (from its US\$3.6 bn p.a. run-rate and 40 mn current subscribers) and EBITDA of US\$2 bn. He also said that capex p.a. should stay under US\$1 bn. The company later clarified that these were not formal guidance but CEO's personal targets. However, we believe that these numbers give a flavour of management's three-year goal.

## Management revenue targets not aggressive

Comparing Bharti's revenue targets with consensus expectations for other pan-African telecom players, we find that these targets are broadly in sync with expectations for other players. We recognise that Bharti management's target is to grow its business faster than consensus expectations for MTN and believe that this hinges on Bharti being able to come up with a quick action plan to return to growth – especially in markets such as Nigeria where it lost market share and revenue in 2008/09.

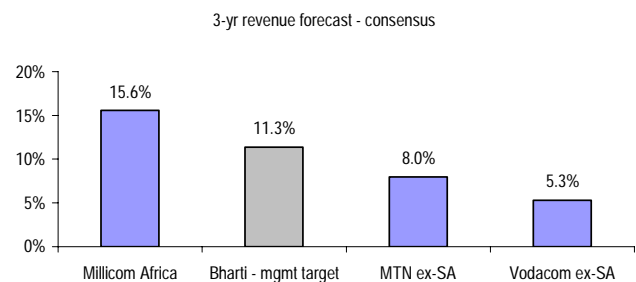
Management growth targets are in line with consensus expectations for peers

**Figure 9: Zain has lagged peers on top-line growth in Africa in recent years**



Source: Company data

**Figure 10: Bharti management's growth target in line with what consensus expects for competitors**

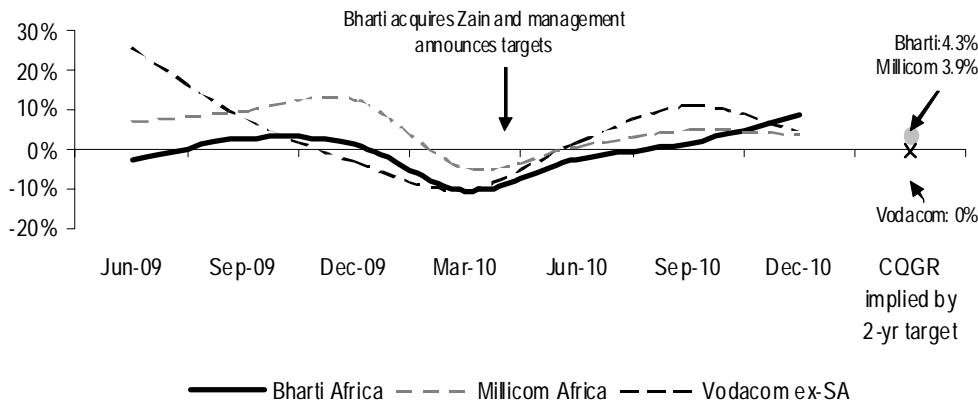


Source: Company data, Thomson Reuters

**Bharti's revenue growth trajectory has rebounded strongly post acquisition**

The following chart on recent quarterly performance of African operators shows that Bharti's revenue growth profile has improved in line with peers after the acquisition and that it in fact overtook Millicom and Vodacom in the December 2010 quarter. Bharti management's target requires the company to deliver a CQGR similar to that expected for Millicom (by consensus) over the next two years.

**Figure 11: QoQ revenue growth (in US\$)**



Bharti needs to grow in line with Millicom to reach management targets

Note: MTN reports only half yearly numbers, with the last reported period being June 2010.

Source: Company data, Credit Suisse estimates

In its recent earnings announcement, Millicom's management said that although growth remains strong in Africa, there was pricing pressure in recent months. Management stated that the elasticity for on-net traffic is very strong in the company's customer base. Off-net price cuts are a recent phenomenon (only in 4Q CY10) and hence the company is monitoring the elasticity on this segment.

**Nigeria could be a key growth driver**

A look at the country-wise estimates for the companies shows that Nigeria for MTN and Lesotho/DRC for Vodacom could be biggest growth drivers over the next three years (based on CS estimates). Our growth estimates for Bharti (Zain) are driven by Nigeria and Zambia.

Different country exposures could lead to some divergence across company growth rates

**Figure 12: Key growth driving countries for African telcos (based on CS estimates)**

|                                     | Zain                     |                  |                           | MTN                      |                  |                             | Vodacom                  |                  |                             |
|-------------------------------------|--------------------------|------------------|---------------------------|--------------------------|------------------|-----------------------------|--------------------------|------------------|-----------------------------|
|                                     | Contribution to revenues | 3Y forecast CAGR | Contribution to 3Y growth | Contribution to revenues | 3Y forecast CAGR | % contribution to 3Y growth | Contribution to revenues | 3Y forecast CAGR | % contribution to 3Y growth |
| Nigeria                             | 35.6%                    | 15.6%            | 46.0%                     | 57.7%                    | 12.0%            | 72.0%                       |                          |                  |                             |
| Congo Brazzaville                   | 5.7%                     | 9.9%             | 4.4%                      | 2.3%                     | 15.5%            | 3.8%                        |                          |                  |                             |
| Gabon                               | 7.0%                     | 7.9%             | 4.2%                      |                          |                  |                             |                          |                  |                             |
| Zambia                              | 8.2%                     | 15.4%            | 10.5%                     | 1.1%                     | 29.2%            | 3.8%                        |                          |                  |                             |
| Tanzania                            | 7.4%                     | 5.7%             | 3.2%                      |                          |                  |                             | 43.1%                    | -1.3%            | -21.2%                      |
| Niger                               | 4.3%                     | 21.9%            | 8.3%                      |                          |                  |                             |                          |                  |                             |
| Burkina Faso                        | 3.4%                     | 14.5%            | 4.1%                      |                          |                  |                             |                          |                  |                             |
| Malawi                              | 4.2%                     | 8.7%             | 2.8%                      |                          |                  |                             |                          |                  |                             |
| Chad                                | 3.6%                     | 9.8%             | 2.8%                      |                          |                  |                             |                          |                  |                             |
| Sierra Leone                        | 1.2%                     | 7.8%             | 0.7%                      |                          |                  |                             |                          |                  |                             |
| Madagascar                          | 2.1%                     | 6.7%             | 1.1%                      |                          |                  |                             |                          |                  |                             |
| Uganda                              | 2.7%                     | 13.1%            | 2.9%                      | 4.9%                     | 10.9%            | 5.5%                        |                          |                  |                             |
| DRC                                 | 8.8%                     | 2.7%             | 1.8%                      |                          |                  |                             | 33.8%                    | 3.8%             | 52.3%                       |
| Kenya                               | 4.2%                     | 3.5%             | 1.1%                      |                          |                  |                             |                          |                  |                             |
| Ghana                               | 1.5%                     | 39.5%            | 6.3%                      | 9.8%                     | 5.6%             | 5.3%                        |                          |                  |                             |
| Botswana                            |                          |                  |                           | 1.1%                     | 6.1%             | 0.6%                        |                          |                  |                             |
| Rwanda                              |                          |                  |                           | 1.0%                     | 14.8%            | 1.5%                        |                          |                  |                             |
| Swaziland                           |                          |                  |                           | 0.4%                     | 8.5%             | 0.3%                        |                          |                  |                             |
| Cote D'Ivoire                       |                          |                  |                           | 6.4%                     | -1.1%            | -0.7%                       |                          |                  |                             |
| Cameroon                            |                          |                  |                           | 6.3%                     | -0.6%            | -0.3%                       |                          |                  |                             |
| Conakry                             |                          |                  |                           | 1.5%                     | 18.5%            | 3.0%                        |                          |                  |                             |
| Bissau                              |                          |                  |                           | 0.7%                     | 3.5%             | 0.2%                        |                          |                  |                             |
| Benin                               |                          |                  |                           | 2.8%                     | 8.7%             | 2.4%                        |                          |                  |                             |
| Liberia                             |                          |                  |                           | 1.2%                     | 9.5%             | 1.1%                        |                          |                  |                             |
| Mozambique                          |                          |                  |                           |                          |                  |                             | 13.9%                    | -2.0%            | -10.7%                      |
| Lesotho                             |                          |                  |                           |                          |                  |                             | 9.2%                     | 18.4%            | 79.6%                       |
| Sudan                               |                          |                  |                           | 3.0%                     | 4.4%             | 1.3%                        |                          |                  |                             |
| <b>Total Africa ex-South Africa</b> | <b>100.0%</b>            | <b>12.4%</b>     | <b>100.0%</b>             | <b>100.0%</b>            | <b>9.8%</b>      | <b>100.0%</b>               | <b>100.0%</b>            | <b>2.5%</b>      | <b>100.0%</b>               |

Source: Company data, Credit Suisse estimates

**Subscriber/ARPU targets are irrelevant**

Sceptics have seized on Bharti's target of 100 mn customers by FY3/13 as a sign of significant market share gain. We disagree.

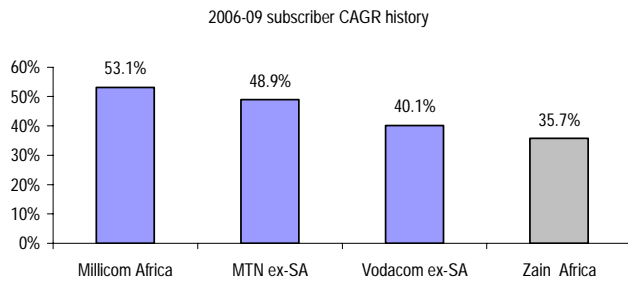
Instead, we argue that subscriber numbers are increasingly becoming irrelevant with the number of multiple SIMs. By industry/management estimates, the actual number of subscribers in Africa could be half the number of active SIM cards. We also note that Bharti wrote off 13% of Zain's subscriber base after the acquisition to ensure that the new subscriber numbers match its more conservative subscriber recognition norms.

Multiplicity of SIM cards reduces relevance of subscriber numbers

Looking at data from India, we find that active subscribers as a proportion of reported subscribers vary between 30% and 90% across operators. Clearly, an aggressive operator could report higher subscriber base while disregarding the lower active subscriber number.

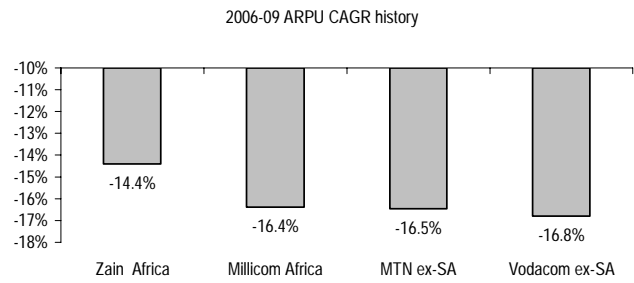
Instead, we believe that investors should focus on revenues, margins and capex numbers, as they are more reflective of actual operations of the company.

**Figure 13: Historical subscriber growth rates for African telcos**



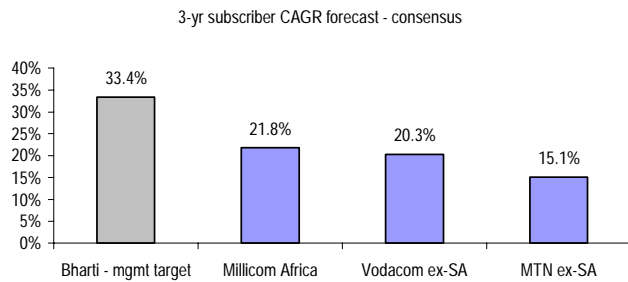
Source: Company data

**Figure 14: Historical ARPU growth rates for African telcos**



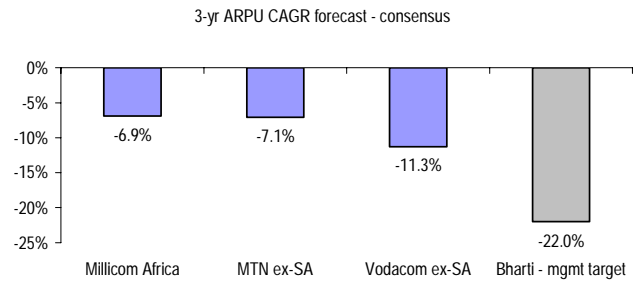
Source: Company data

**Figure 15: Subscriber growth estimates (consensus)**



Source: Company data, Thomson Reuters

**Figure 16: ARPU decline estimates (consensus)**



Source: Company data, Thomson Reuters

## But is there a case to build market share gains?

While we have shown above that Bharti management's targets do not imply a market share gain, one could still argue that Bharti could increase market share, given the company's impressive execution history in India. We look at this from both top-down and bottom-up basis.

### One significant advantage on a top-down basis

On a top-down basis, we believe that there are only three advantages which a telecoms operator could enjoy:

- (1) Time to market
- (2) Access to capital
- (3) Regulatory tilt

While Bharti's acquisition of Zain does not change criterion 1 or 3, it does have a significant impact on the company's access to capital. Bharti could generate close to US\$10 bn of free cash over the next three years and theoretically invest all of this to build its African franchise. While competitors such as MTN could be well funded, Bharti could have significant advantage in a few other countries such as Tanzania and Kenya. Also, we note that while Bharti can impact MTN in its home turf in Africa, MTN will not be able to impact Bharti in India.

Entry of Bharti can help address the issue of access to capital for African operations



**Figure 17: Market leaders in countries where Zain is currently weak**

| Country    | Revenue contribution to Bharti Africa | Market leader /Key competitor | % market share 2009 |
|------------|---------------------------------------|-------------------------------|---------------------|
| Nigeria    | 36%                                   | MTN                           | 45.0%               |
| Tanzania   | 7%                                    | Vodacom                       | 39.0%               |
| Kenya      | 2%                                    | Safaricom                     | 83.0%               |
| Uganda     | 3%                                    | MTN                           | 50.0%               |
| Madagascar | 4%                                    | Orange                        | 40.0%               |
| Ghana      | 2%                                    | MTN                           | 55.0%               |

Source: Company data, Credit Suisse estimates

**But what to make of Bharti's own record outside India?**

Outside India, Bharti has invested in Sri Lanka, Bangladesh and Seychelles (after the Zain acquisition). We note that Bharti's performance in these markets have been mixed.

Bharti has been successful in Seychelles, but not so much in Sri Lanka

**Figure 18: Bharti's international mobile ventures other than Zain**

| Country    | Time of entry | Acquired/<br>Greenfield | Details   | Market share     |         |
|------------|---------------|-------------------------|---|------------------|---------|
|            |               |                         |   | At time of entry | Current |
| Sri Lanka  | Jan-09        | Greenfield              | Mobile penetration at the time of Airtel's entry was around 50%. Market leader Dialog had 55% market share.   | 0%               | 3%      |
| Bangladesh | Jan-10        | Acquired                | Acquired 70% in Warid Telecom for US\$300 mn, a three year old operation with 6% market share   | 6%               | 6%      |
| Seychelles | Aug-10        | Acquired                | Acquired market leader Telecom Seychelles (57% market share) for US\$62 mn. Telekom Seychelles was earlier held by a group company of Bharti Enterprises. | 57%              | na      |

Source: Company data, Credit Suisse estimates

However, we note that Bharti was a new entrant in Sri Lanka and hence has a significant disadvantage in terms of time to market. As we highlighted in our report, "The night is darkest before dawn" (8 July 2010), late entrants are usually not able to make a significant impact on market leaders.

**Figure 19: Impact of new competition on sector leadership**

| Country    | Date of new competitor entry |   | New competitor |  | Top-three players  |  |
|------------|------------------------------|---|----------------|--|--|--|
|            |                              |   |                |  | At the time of new entry   | Three years later                                |
| Bangladesh | 2007                         | Warid Telecom (not listed)                                    |                |  | Grameenphone<br>Axiata<br>Banglalink (not listed)                | Grameenphone<br>Banglalink<br>Axiata             |
| Brazil     | 2002                         | Oi  |                |  | Vivo<br>Telefónica Italia Movil<br>Claro (not listed)            | Vivo<br>Telefónica Italia Movil<br>Claro         |
| Egypt      | 2006                         | Etisalat  |                |  | Mobinil<br>Vodafone  | Mobinil<br>Vodafone<br>Etisalat                  |
| Greece     | 1998                         | Cosmote (mobile arm of OTE)                                   |                |  | Panafon (not listed)<br>STET (not listed)                        | <b>Cosmote</b> <sup>1</sup><br>Panafon<br>STET   |
| HK         | 1996                         | Mandarin Communications, New World, P Plus, Peoples Telephone |                |  | CSL<br>Smartone<br>Hutch   | Hutch<br>CSL<br>Smartone                         |
| Indonesia  | 2007                         | Hutch   |                |  | Telkomsel<br>Indosat<br>Excelcom                                 | Telkomsel<br>Indosat<br>Excelcom                 |
| Nigeria    | 2007                         | Etisalat  |                |  | MTN<br>Zain<br>Globacom  | MTN<br>Zain<br>Globacom                          |
| Pakistan   | 2005                         | Telenor, Warid  |                |  | Mobilink (not listed)<br>Ufone (not listed)<br>Zong (not listed) | Mobilink<br><b>Telenor</b> <sup>2</sup><br>Ufone |
| Poland     | 2009                         | Play Mobile (not listed)                                      |                |  | TPSA<br>Vodafone<br>Deutsche Telecom                             | TPSA<br>Vodafone<br>Deutsche Telecom             |
| Thailand   | 2003                         | Hutch   |                |  | AIS<br>TAC<br>Orange   | AIS<br>TAC<br>Orange                             |
| Ukraine    | 2006                         | Vimpelcom   |                |  | Kyivstar (not listed)<br>MTS<br>Turkcell                         | Kyivstar<br>MTS<br>Turkcell                      |

1) Cosmote was the mobile arm of the incumbent dominant fixed-line player OTE.

2) Telenor Pakistan took advantage of poor investments by many incumbents. The company invested heavily getting the second best network footprint within two years of launch, surpassing most incumbents, some of them with more than 10 years of operations.

(Cases where new entrants were able to break into top three are highlighted in bold.)

Source: Company data, Credit Suisse estimates

In Bangladesh, Bharti acquired an existing operator (Warid) in January 2010, but the rebranding to Airtel happened only in December 2010. Warid's market share in Bangladesh had peaked at 5.8% a few months prior to the acquisition and was on a decline. After the acquisition, the market share bottomed out at 5.3% in January 2010 and has been rising ever since (reaching back to 5.9% by January 2011).

The acquisition in Seychelles is recent (August 2010). However, the Seychelles operations was earlier held under a group company of Bharti Enterprises and has been offering mobile services since 1998. Starting GSM three years after the incumbent (Cable and Wireless), Airtel gained market share to become the dominant operator (57% market share at the time of acquisition last year). The company has also led the market in a number of initiatives – importantly, the launch of prepaid services in 1999 and 3G services in 2007.

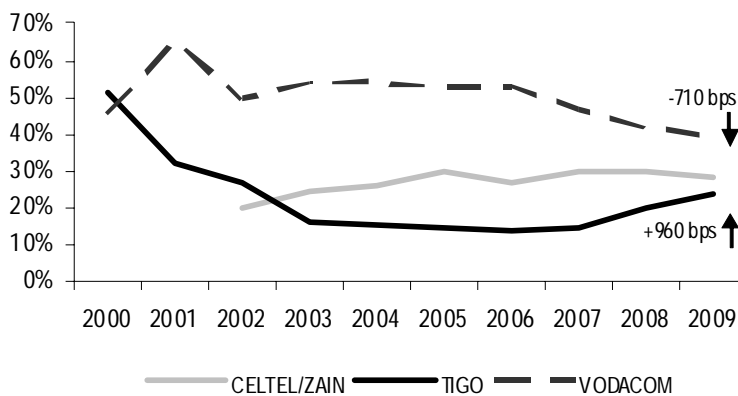
**African markets do exhibit a volatility in market share**

A combination of differentiated pricing and network coverage has earlier worked in African markets in shifting market shares.

- Tigo in Tanzania (network expansion, pricing):** Tigo (earlier known as Mobitel and Buzz), one of the incumbent operators in Tanzania, lost market share to new entrants between 2000 and 2003. In 2006, Millicom acquired full control by buying out equity partners and rebranded the company to Tigo. The company gained share in 2007-09, driven by (1) investment in network capacity (2) investment in direct salesforce and (3) a widely publicised sharp reduction in on-net call tariffs (from Tsh3 to Tsh1 per min)

A combination of differentiated pricing and network coverage has earlier worked in African markets in shifting market shares

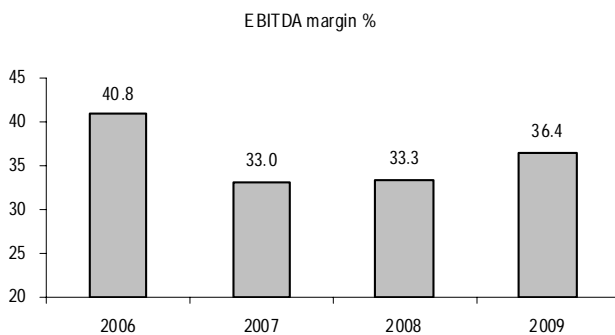
**Figure 20: Tigo in Tanzania gained 1,000 bp subscriber share in two years – with a focus on being the ‘price leader’**



Source: Tanzania Communications Regulatory Authority, Credit Suisse estimates

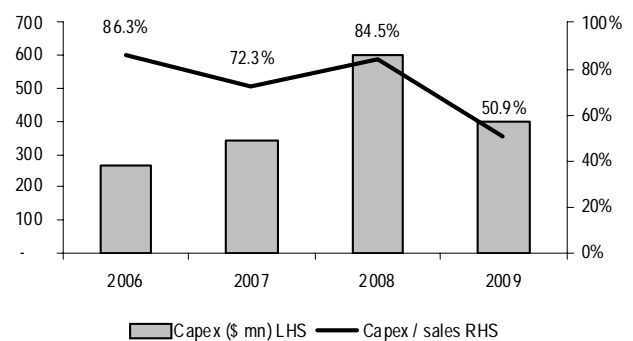
Clearly, a change in management helped Tigo regain market share sharply. We note that this was not done at the expense of margins – Tigo’s EBITDA margins expanded 440 bp over this period. The company stepped up its capex during 2007 and 2008.

**Figure 21: After a margin decline in 2007, Millicom saw a margin increase with market share gains in 2008 and 2009**



Source: Company data, Credit Suisse estimates

**Figure 22: Capex intensity was high during the years of market share gain**

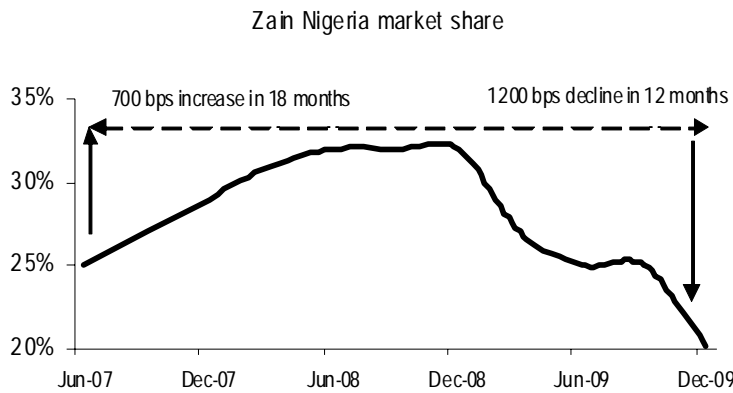


Source: Company data, Credit Suisse estimates

- CelTel (Zain) in Nigeria (network coverage):** CelTel (later rebranded as Zain) gained a 700 bp market share in 2007-08, moving ahead of Glo to become the No. 2 operator. After Zain’s acquisition in mid-2005, the company stepped up network rollout by investing US\$1 bn over two years (similar amount as the market leader MTN) towards improving coverage and adding fibre backbone. The company also invested in expanding its distribution network. However, we note that the following months also saw Zain lose market share significantly given: (1) the company failed to persist with network investments (in fact, the parent company bought back shares for over US\$2

bn when many African competitors were investing similar amounts in network enhancements) and (2) the possible undermining of confidence of local management teams with promoters clearly looking for an exit.

**Figure 23: Zain Nigeria's market share movement**

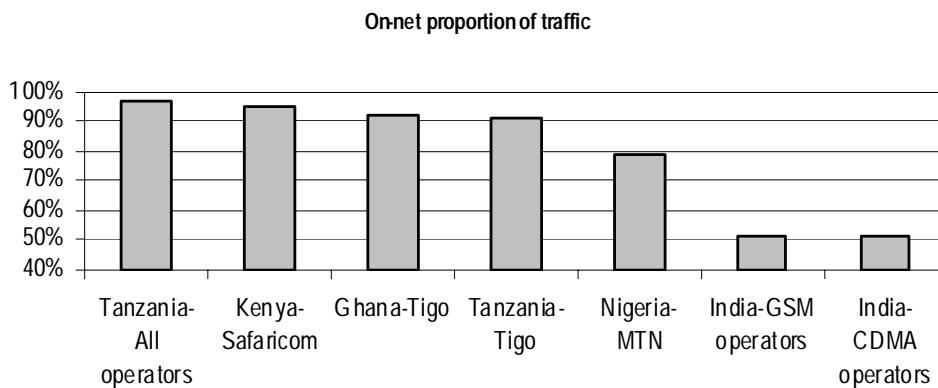


Source: Company data, NCC

## Mobile traffic gives some pointers to the key issues

We note that traffic distribution in African mobile networks is highly asymmetric, with a greater concentration in on-net calls vs off-net calls.

**Figure 24: Distribution of traffic is skewed towards on-net in Africa**



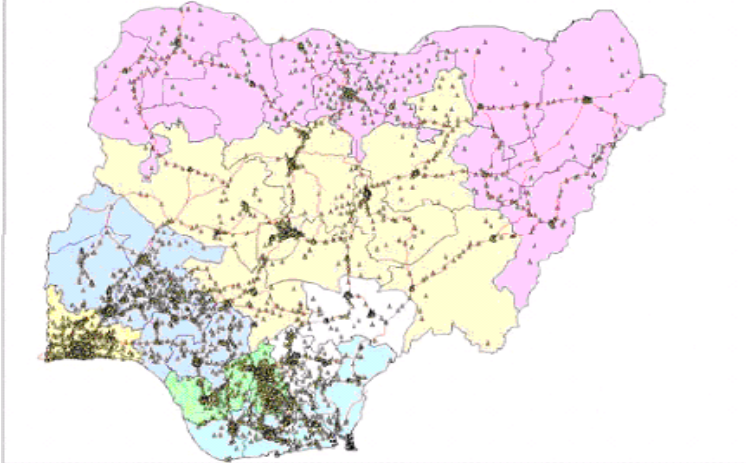
Source: Company data, Credit Suisse estimates

We believe there could be two reasons behind this asymmetry:

### 1. Network coverage

Our discussions with Nigerian telecom regulator suggest that operators do not have uniform network coverage in all areas. Thus, subscribers use different SIM cards to talk to people in different areas.

Figure 25: MTN's Nigeria network footprint

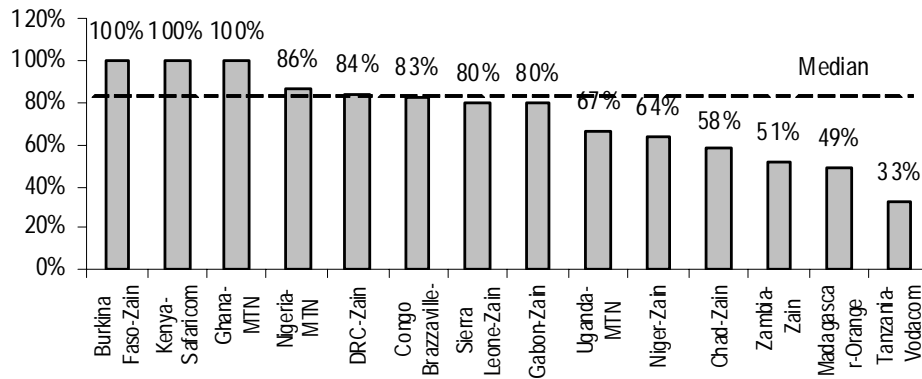


Source: Company data

**2. Significant gap between on-net and off-net tariff rates**

Median gap between on-net and off-net tariffs in African countries could be around 20%.

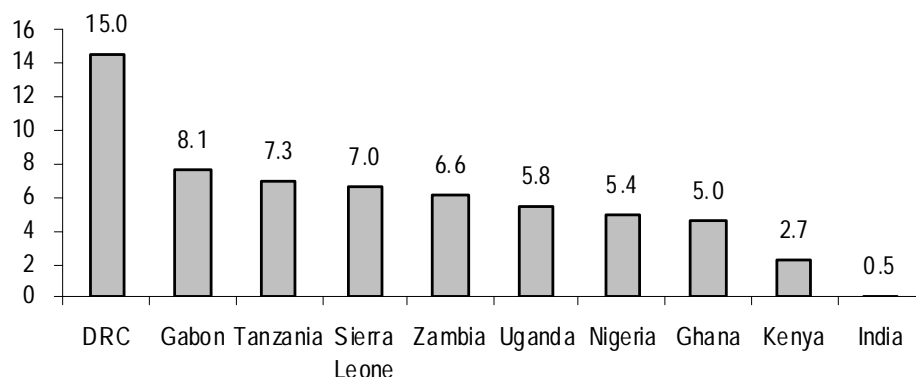
Figure 26: On-net tariffs as a % of off-net rates (peak) in Bharti's African markets



Note: Tariffs of market-leading operators in each of the markets is considered above.

Source: Company data, Credit Suisse estimates

**Figure 27: Termination rates in US cents per min**



Source: Company data, Country telecom regulators, Credit Suisse estimates

**What is the path going forward?**

First, we note that regulators across countries are working on reducing the termination rates. Nigeria, Kenya and Tanzania – together accounting for ~50% of sales – have already announced a schedule of decreasing termination rates over the next few years.

Termination rates are on the decline across countries

**Figure 28: Glide path for termination rates**

| Country  | Description   |
|----------|---|
| Nigeria  | Termination rates were reduced from N11 per min to N8.2 per min from Jan-10 for old operators, and to N10.12 for new operators progressively reducing to N8.2 by 2012 |
| Tanzania | Regulator issues a glide path for termination rates to go from US cents 7.8 per min in 2008 to US cents 7.16 by 2012.   |
| Kenya    | The regulator cut termination rates from KES4.42 to 2.21 in Jul-10, with progressive reduction to KES0.99 by Jul-13.  |

Source: Company data, Credit Suisse estimates

Other countries like Zambia, Uganda (together 11% of sales) have started the regulatory process around fixing termination rates.

Second, we believe that Bharti should be able to put a strong network in place. Bharti's management has already indicated that it could get discounts of up to 60% on electronics from the various manufacturers due to high volume of its India business.

Bharti's scale of network purchases is significantly higher than African peers

**Figure 29: Number of BTS added by operators in the last three years**

| EoY no. of BTS                        | 2006/ FY3-07 | 2007/FY3-08 | 2008/FY3-09 | 2009/FY3-10 | Added in last three years |
|---------------------------------------|--------------|-------------|-------------|-------------|---------------------------|
| Bharti India                          | 39,224       | 69,141      | 93,368      | 104,826     | 65,602                    |
| Bharti Africa                         |              |             |             | 10,840      | n.a                       |
| MTN Nigeria (30% of MTN revenues)     | 3,548        | 4,333       | 5,893       | 7,113       | 3,565                     |
| Millicom (global, 3 years up to 2010) | 8,186        | 11,267      | 12,661      | 13,523      | 5,337                     |

Source: Company data, Credit Suisse estimates

# Margin improvement is the key

The most debated of Bharti management's FY13 targets are the ones on margins (1,200 bp EBITDA margin increase) and capex (US\$800-1000 mn annual capex). We try to explore if these assumptions are reasonably achievable.

First, we note that management expects to take African operations back to the margins it enjoyed in 2006. Second, Bharti's African operations is significantly inefficient (SG&A is 39% of sales vs sub-26% for other African operators) and hence could be improved. Third, increased tower sharing could help all African operators reduce network costs.

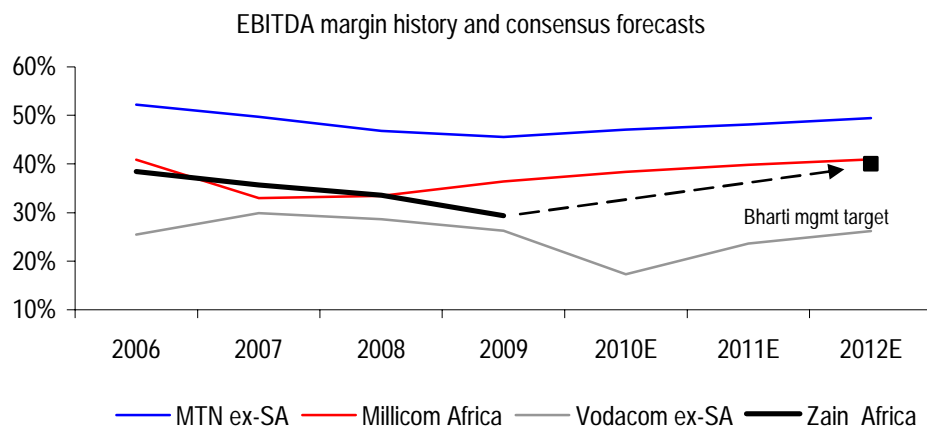
On capex, we believe that Bharti's capex targets should be analysed while keeping its revenue targets in view. Bharti management does not expect significant revenue market share gains and hence we believe will not be a 'price aggressor'. Thus, consensus view of a significant rise in traffic could be belied. We also believe that Bharti will be able to generate significant savings in electronics capex (~50%+) due to its scale in India. In this regard, we believe that our estimate for US\$3.8 bn capex over three years (vs management estimate of US\$2.4-3.0 bn) should comfortably help meet the growth targets.

## Margin targets not challenging given the competition

The EBITDA target of US\$2 bn by FY3/13 implies an EBITDA margin of 40% for Bharti's Africa business. Looking at other pan-African telecoms players, we find that Bharti management is targeting an EBITDA level in line with its peers.

We find that Bharti management is targeting an EBITDA level in line with its peers

**Figure 30: Consensus expects an increase in margins for African telcos over the next three years**



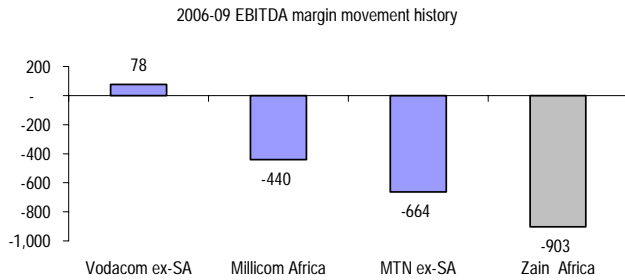
Source: Company data, Thomson Reuters, Credit Suisse estimates

We note that high margins in key markets for operators (Nigeria for MTN and Tanzania for Millicom) help high overall margins. The other African operators too saw a margin decline over the past few years. In the case of Millicom, this was driven by investments in rebranding (launch of Tigo brand in various countries), revamp of the distribution network, network expansion and tariff reductions. MTN stepped up network rollouts in key countries (the number of BTS increased 2x to 4x in three years across countries), and also faced new competition in a few countries.

## Reverting to historical EBITDA levels?

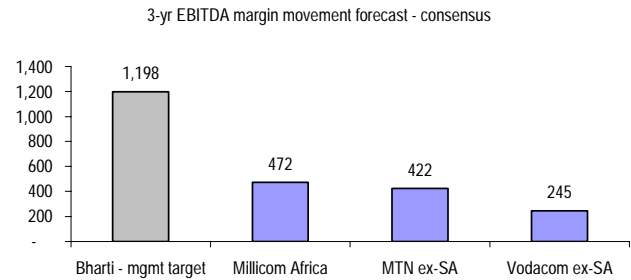
We also find that most of this improvement could be achieved if Bharti is able to reclaim the loss of margins suffered by its African business over the past three years.

**Figure 31: Historical margin movement for African telcos**



Source: Company data

**Figure 32: Consensus forecast for margin movement**

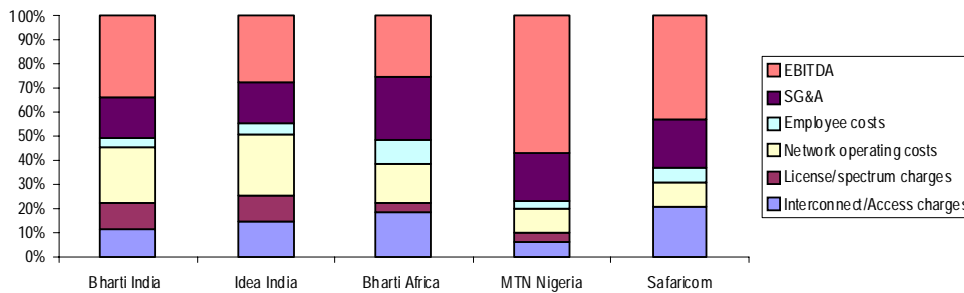


Source: Company data, Thomson Reuters

## Only 15-20% of operating costs are regulated/external

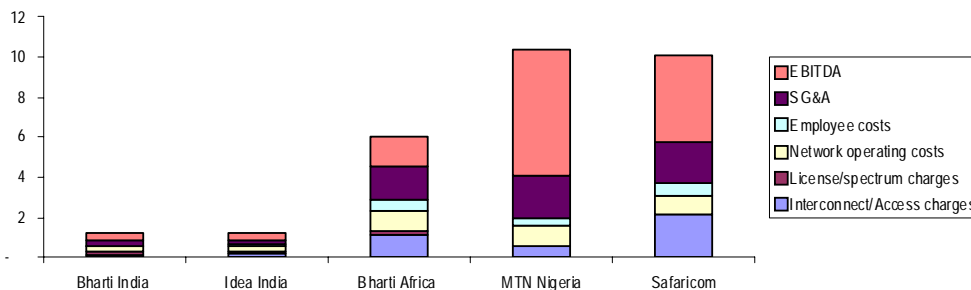
Due to low license/spectrum fees and high on-net density of traffic, the largest cost components in Africa are network costs and SG&A. This is unlike India where license/spectrum and interconnect costs together account for 35% of the total operating cost (15-20% for African operators).

**Figure 33: Cost structure (% of sales)**



Source: Company data, Credit Suisse estimates

**Figure 34: Costs structure (US cents per min)**



Source: Company data, Credit Suisse estimates

We believe that an efficient operator like Bharti should be able to influence internal costs like network opex/SG&A – thus having a relatively high impact given the African cost structures.



## Networks costs could be further optimised

### Higher spectrum allocation

Bharti management has earlier stated that the company has roughly 20 MHz of 2G spectrum in various African countries. This is nearly 2.5x the spectrum available in India.

We note that network capacity is roughly proportional to the square of spectrum allocated. Thus on per BTS basis (assuming similar BTS configuration), Bharti's African network could have 6x capacity of the Indian network.

Spectrum allocated in Africa is 2.5x of that allocated in India

**Figure 35: BTS numbers mask the true capacity of networks due to higher spectrum allocations**

| Country | Operator      | Subs Dec-09 (mn) | No. BTS A | Subs/BTS | MOU (min / month) B | Monthly MoU / BTS | Monthly MoU Spectrum (2x MHz) C | MoU/BTS/MHz A/B/C | MoU/BTS/MHz as % of Bharti |
|---------|---------------|------------------|-----------|----------|---------------------|-------------------|---------------------------------|-------------------|----------------------------|
| India   | Bharti        | 119              | 102,190   | 1,163    | 480                 | 558,743           | 8                               | 72,197            | 100%                       |
| India   | Idea          | 52               | 55,804    | 937      | 389                 | 364,574           | 6                               | 63,621            | 88%                        |
| Nigeria | MTN           | 35               | 7,113     | 4,929    | 106                 | 522,430           | 20                              | 26,121            | 36%                        |
| Kenya   | Safaricom     | 15               | 2,300     | 6,587    | 60                  | 395,217           | 18                              | 22,584            | 31%                        |
| Africa  | Zain (Bharti) | 42               | 11,338    | 3,715    | 120                 | 446,793           | 20                              | 22,340            | 31%                        |
| China   | China Mobile  | 522              | 470,000   | 1,111    | 508                 | 564,282           | 39                              | 14,469            | 20%                        |

Note: 1) Average spectrum allocated across all circles taken for Bharti and Idea in India.

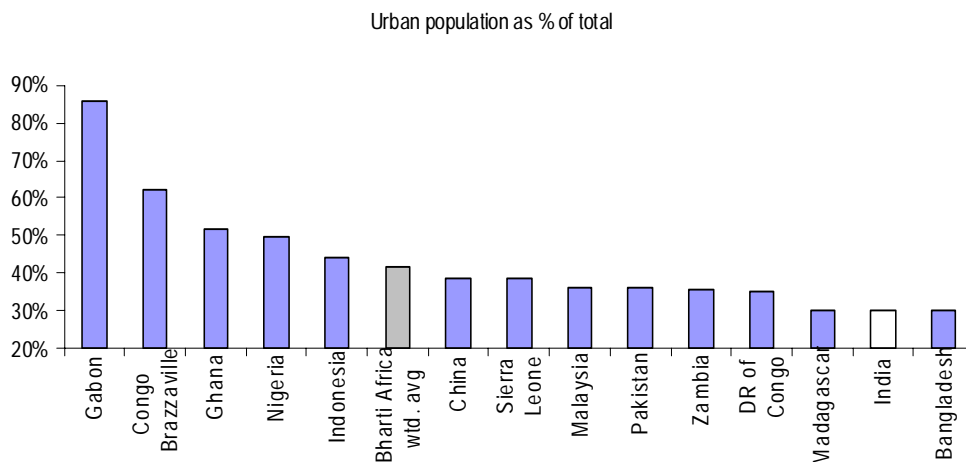
2) The 'MoU/BTS/MHz' column does not take into account the fact that network capacity is roughly proportional to the square of the spectrum allocated. Making this adjustment, the utilisation of Bharti Africa would be 14% of Bharti India instead of 31% as shown in the last column.

Source: Company data, Credit Suisse estimates

### Urbanised population

Around 42% of African population is urbanised compared with 30% in India. This should help population density and also easy servicing of customers.

**Figure 36: African countries tend to have higher population concentration in urban areas**



Source: UN population database

However, we keep in mind that overall population density in India is significantly higher than that in Africa. Thus, Indian network could continue to enjoy a slightly better utilisation.

**Figure 37: Population density across Bharti's African footprint is lower than India**

| Country                      | Population (mn) | Area (sq km)      | Population density |
|------------------------------|-----------------|-------------------|--------------------|
| Nigeria                      | 158             | 923,768           | 171                |
| Uganda                       | 34              | 241,038           | 140                |
| Malawi                       | 16              | 118,484           | 132                |
| Ghana                        | 24              | 238,533           | 102                |
| Sierra Leone                 | 6               | 71,740            | 81                 |
| Kenya                        | 41              | 580,367           | 70                 |
| Burkina Faso                 | 16              | 274,200           | 59                 |
| Tanzania                     | 45              | 947,300           | 48                 |
| Madagascar                   | 20              | 587,041           | 34                 |
| Democratic Republic of Congo | 68              | 2,344,858         | 29                 |
| Zambia                       | 13              | 752,618           | 18                 |
| Niger                        | 16              | 1,267,000         | 13                 |
| Congo Brazzaville            | 4               | 342,000           | 11                 |
| Chad                         | 12              | 1,284,000         | 9                  |
| Gabon                        | 2               | 267,667           | 6                  |
| <b>Bharti Africa blended</b> | <b>474</b>      | <b>10,240,614</b> | <b>46</b>          |
| <b>India</b>                 | <b>1,214</b>    | <b>3,287,263</b>  | <b>369</b>         |

Source: UN Population database

### Reasonable opportunities for tower sharing

We believe that some countries in Africa could provide conducive situation for tower sharing. On an average, Bharti's African countries have 4+ operators competing in the market. While we agree that operators with significantly better network coverage (such as MTN in Nigeria) might not agree to share their passive infrastructure, sharing among other operators itself could provide some degree of savings in passive capex and opex.

**Figure 38: Average 4+ operators in each country**

| Country                      | Num. Operators | Revenue contribution to Zain | Dominant operator | Dominant market share | Other key operators                    |
|------------------------------|----------------|------------------------------|-------------------|-----------------------|--|
| Tanzania                     | 7              | 7%                           | Zain              | 39%                   | Vodacom (33%), Tigo (23%), Zantel (5%) |
| Democratic Republic of Congo | 6              | 9%                           | Zain              | 45%                   | Vodacom (30%), Tigo(14%)               |
| Nigeria                      | 5              | 36%                          | MTN               | 42%                   | Glomobile (19%), Zain (25%)            |
| Niger                        | 5              | 4%                           | Zain              | 67%                   | Orange (14%), Moov (13%)               |
| Uganda                       | 5              | 3%                           | MTN               | 50%                   | Zain (37%), UTL (8%), Warid (5%)       |
| Ghana                        | 5              | 2%                           | MTN               | 55%                   | Tigo (25%), Vodafone (12%), Zain (7%)  |
| Gabon                        | 4              | 7%                           | Zain              | 62%                   | Libertis (22%), Moov (16%)             |
| Malawi                       | 4              | 4%                           | Zain              | 72%                   | TNM (28%)                              |
| Kenya                        | 4              | 4%                           | Safaricom         | 78%                   | Zain (17%), Orange (4%), Yu(2%)        |
| Madagascar                   | 4              | 2%                           | Orange            | 40%                   | Zain (38%), Telma (22%)                |
| Sierra Leone                 | 4              | 1%                           | Zain              | 46%                   | Africell (34%), Comium (15%), Tigo(5%) |
| Zambia                       | 3              | 8%                           | Zain              | 70%                   | MTN (23%), Zamtel (7%)                 |
| Congo Brazzaville            | 3              | 6%                           | Zain              | 53%                   | MTN (40%), Warid (7%)                  |
| Chad                         | 3              | 4%                           | Zain              | 70%                   | Tigo (30%)                             |
| Burkina Faso                 | 3              | 3%                           | Zain              | 51%                   | Telemob (35%), Moov (14%)              |

Source: Company data, Credit Suisse estimates

We also note that MTN, Tigo and Vodacom appear as common competitors for Zain in many of its circles – allowing for mutual benefit from tower sharing. For instance, DRC and Tanzania could be good markets for collaboration between Zain and Vodacom – where both companies have reasonably similar market positions. Similarly, while Tigo could help Zain in Ghana due to its stronger position, the company could benefit from Zain's strong positioning in other markets such as DRC, Tanzania, Sierra Leone and Chad.

**Figure 39: Countries where collaboration is possible between Zain and common competitors**

Depicts mutually exclusive countries of strong position for competitors and Zain

| Operator | Countries where operator dominant | Countries where Zain dominant     |
|----------|-----------------------------------|-----------------------------------|
| MTN      | Nigeria, Ghana, Uganda            | Zambia, Congo Brazzaville         |
| Tigo     | Ghana                             | DRC, Tanzania, Sierra Leone, Chad |
| Vodacom  |                                   | DRC, Tanzania                     |

Source: Company data, Credit Suisse estimates

We note that nearly 80% of Bharti’s revenue in Africa comes from markets with more than four operators. Further, half of Bharti’s revenue comes from markets where the dominant operator has market share of 50% or less.

**Figure 40: 80% of Bharti’s Africa revenue comes from markets that have 4+ operators**

| No. of operators | No. countries with these many operators | Average market share of leader | Contribution to Zain revenues |
|------------------|---|--------------------------------|-------------------------------|
| 3                | 4                                       | 60.9%                          | 21%                           |
| 4                | 5                                       | 59.6%                          | 19%                           |
| 5                | 4                                       | 53.5%                          | 44%                           |
| 6+               | 2                                       | 42.0%                          | 16%                           |

Source: Company data, Credit Suisse estimates

**Examples of collaboration among competitors**

Past experience shows that similar to India, competing mobile operators can collaborate in Africa on the back-end.

For example, Tigo in Tanzania, along with two other operators, is undertaking a joint fiber optics project. The project comprises metro fiber optic networks in Dar es Salaam, Arusha, Dodoma, Mwanza, Morogor and Mbeya, as well as a regional backbone. Total CAPEX cost will be shared equally by the operators involved. Project is expected to be completed by EoY 2011.

History shows a number of examples of collaboration among African operators

A few recent deals (where tower assets were sold to independent towercos) show growing acceptance of such models.

**Figure 41: Recent telecoms tower deals in Africa**

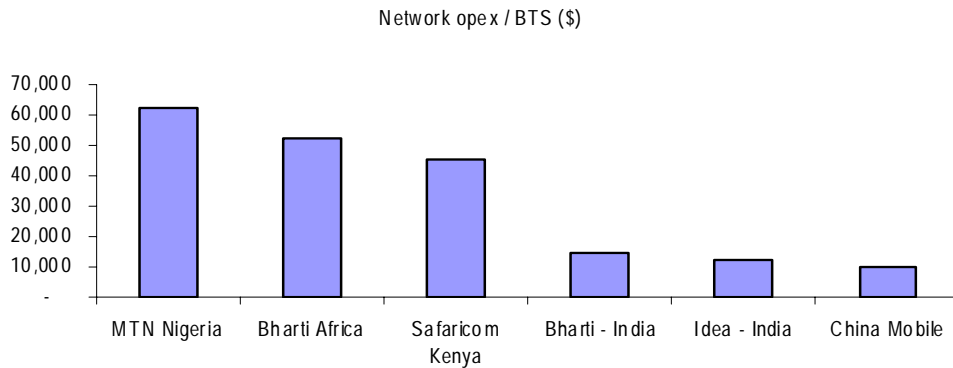
| Country              | Operator        | Towerco       | Year   | Description   |
|----------------------|-----------------|---------------|--------|---|
| Ghana, Tanzania, DRC | Tigo (Millicom) | Helios Towers | 2010   | Sale and leaseback of ~2500 telecom towers to Helios. |
| Ghana                | Vodacom         | Eaton Telecom | Oct-10 | Sale of ~800 towers of Vodacom in Ghana to Eaton      |

Source: Company data, Credit Suisse estimates

**Network opex cost structures high in Africa**

A look at the network opex levels across African and Asian telecoms operations shows that network opex on a per BTS basis for African telcos is 3-4x the levels seen in Asia.

**Figure 42: African telcos have significantly high network opex cost structures**

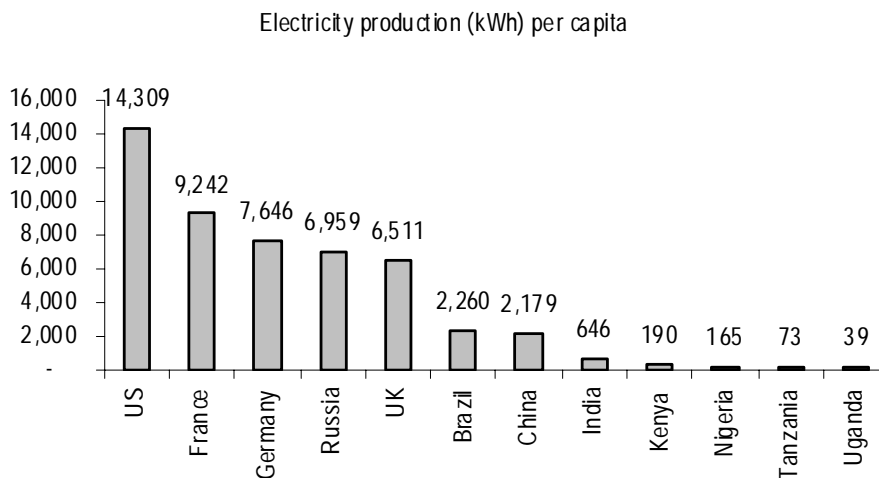


Note: Network opex for Indian operators is on reported basis, and includes tower lease rentals.

Source: Company data, Credit Suisse estimates

One of the key challenges for network expansion, and also one of the key cost drivers in Africa is the weak grid electricity coverage. Our conversations with regulators and operators suggest that power downtime could be 16 hrs+ in most areas (including urban areas). However, we note that Bharti is not new to this either – given the weak electricity infrastructure in India.

**Figure 43: Electricity penetration in African economies significantly weaker than India**



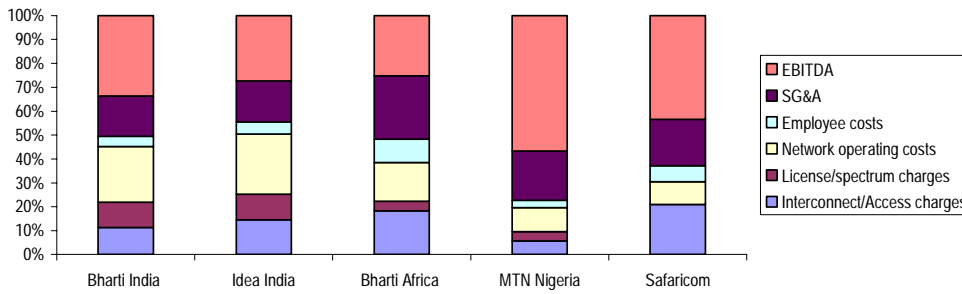
Source: World Bank, Credit Suisse estimates

## SG&A costs – opportunity to increase efficiency

SG&A costs could be the key reason for divergence in profitability of Bharti’s African operations vs peers or vs Bharti’s Indian operations. Figure 44 indicates that SG&A costs (including employee costs) were 39% of Bharti’s Africa revenue compared to 24% for MTN, 26% for Safaricom and 18% for Bharti India.

SG&A as percentage of sales is 39% for Bharti Africa versus 24-26% for peers

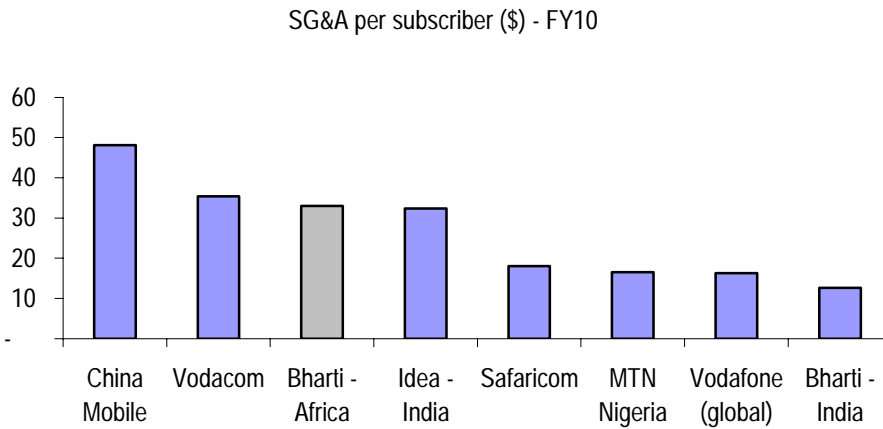
**Figure 44: Cost structure (% of sales)**



Source: Company data, Credit Suisse estimates

We also note that SG&A on per subscriber basis for Bharti Africa is also nearly double of MTN Nigeria.

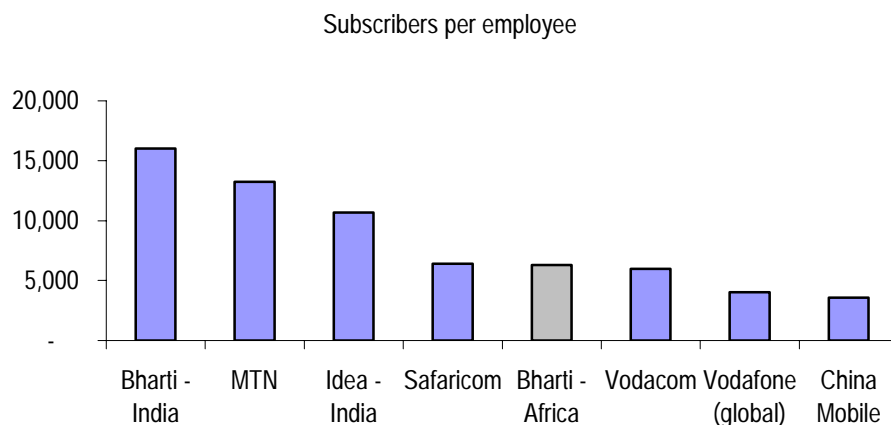
**Figure 45: Bharti African operations inefficient on SG&A even compared to African peers**



Source: Company data, Credit Suisse estimates

We see Bharti already bringing changes to the way the African operations work. In January 2011, the company introduced Easy Recharge system in Nigeria; this allows for prepaid top-ups without scratch cards, at any denominations starting at N50. Compared to prevailing recharge denominations starting at N200, this provides greater flexibility to customers, while at the same time helping save on costs of printing scratch cards.

**Figure 46: Employee utilisation has significant upside in Bharti Africa**



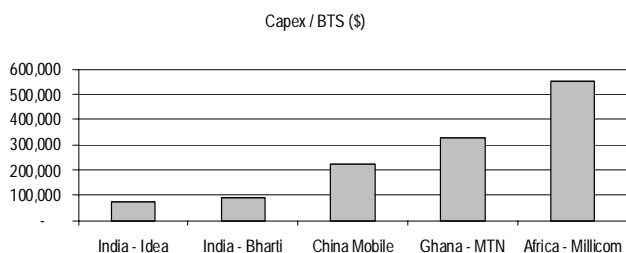
Source: Company data, Credit Suisse estimates

## Capex – could be a low hanging fruit

### Unit capex levels higher in African operations

We note that capex intensity on a per BTS basis is higher in African operations than in India. On a capex per BTS basis, African operators see capex costs 3-5x the levels seen in India.

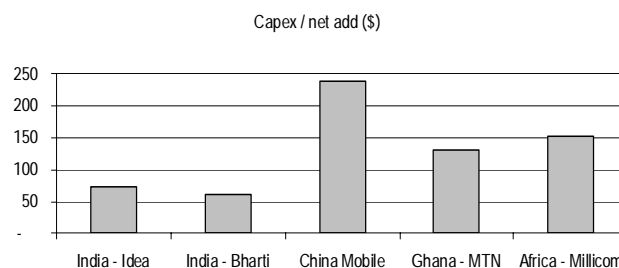
**Figure 47: Capex per BTS (three-year average, US\$)**



Note: Capex used above includes passive infra capex for Indian operators.

Source: Company data, Credit Suisse estimates

**Figure 48: Capex per net add (three-year average, US\$)**



Note: Capex used above includes passive infra capex for Indian operators.

Source: Company data, Credit Suisse estimates

### Bharti should be able to negotiate lower rate for electronics

Bharti management has indicated that it should be able to get discounts of as much as 60% from Ericsson on capex, compared to prevailing rates of Zain. Looking at the scale of India spend vs African spend, we believe that this should be possible.

**Figure 49: Number of BTS added by operators in the last three years**

| YoY no. of BTS                        | 2006/ FY3-07 | 2007/FY3-08 | 2008/FY3-09 | 2009/FY3-10 | Added in last three years |
|---------------------------------------|--------------|-------------|-------------|-------------|---------------------------|
| Bharti India                          | 39,224       | 69,141      | 93,368      | 104,826     | 65,602                    |
| Bharti Africa                         |              |             |             | 10,840      | n.a                       |
| MTN Nigeria (30% of MTN revenues)     | 3,548        | 4,333       | 5,893       | 7,113       | 3,565                     |
| Millicom (global, 3 years up to 2010) | 8,186        | 11,267      | 12,661      | 13,523      | 5,337                     |

Source: Company data, Credit Suisse estimates

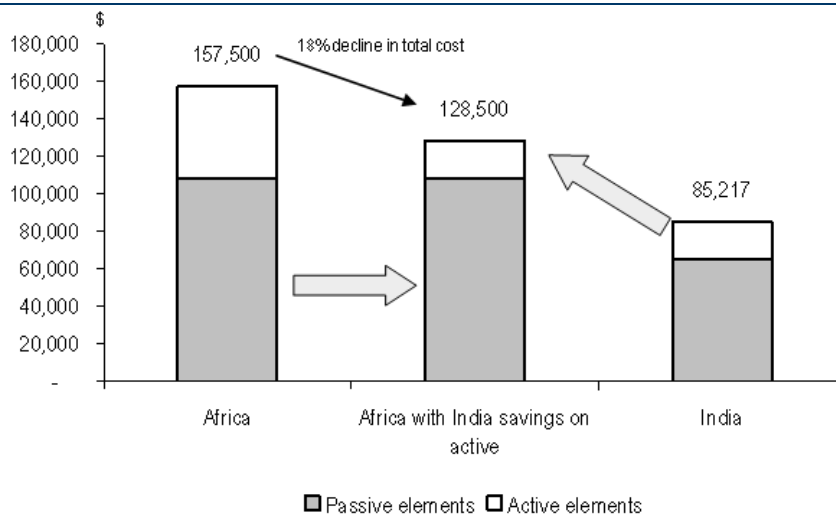
Looking at the data from MTN, we note that 1) construction costs are more than 1.5x that in India and 2) cost of active electronics is ~2.5x that for Indian operators. Assuming that Bharti is able to renegotiate the active element pricing down by 60%, we believe that the company could save 18% of capex per BTS.

**Figure 50: Breakdown of costs for setting up a tower + BTS (MTN Africa)**

| Cost element                           | Cost \$        | Nature of element |
|--|----------------|-------------------|
| Tower structure cost                   | 17,500         | Passive           |
| Electricals cost (Acs, DB trays etc)   | 6,000          | Passive           |
| Internal power systems                 | 8,000          | Passive           |
| Shelter                                | 5,000          | Passive           |
| Tower civils and installation cost     | 17,500         | Passive           |
| Electrical installation and connection | 6,000          | Passive           |
| Generator and fuel system              | 16,000         | Passive           |
| Fencing                                | 5,000          | Passive           |
| Management fee                         | 13,500         | Passive           |
| General installation civil works       | 14,000         | Passive           |
| Antenna System                         | 14,000         | Active            |
| Transmission EQ cost                   | 15,000         | Active            |
| RBS cost (average single BTS)          | 20,000         | Active            |
| <b>Total</b>                           | <b>157,500</b> |                   |

Source: Company data, Credit Suisse estimates

**Figure 51: 20% overall capex savings from lower equipment cost for large Indian operators**

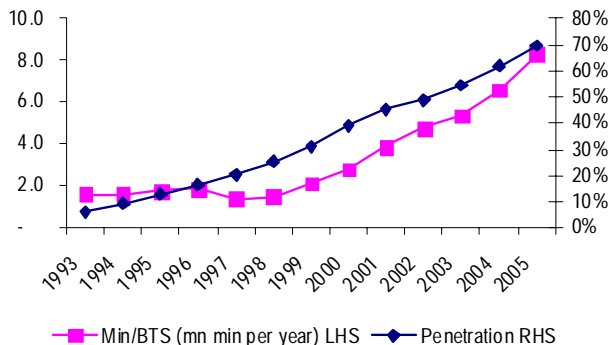


Source: Company data, Credit Suisse estimates

**Increasing network utilisation should help**

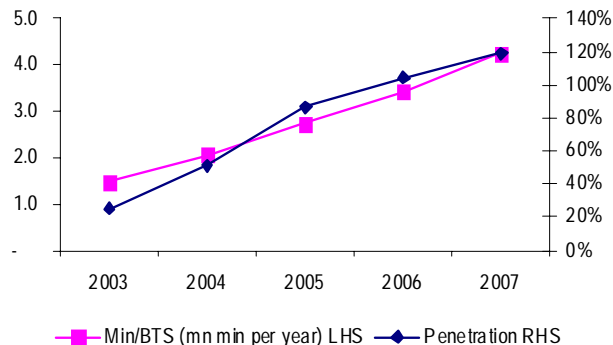
We note that as companies grow and penetration increases, companies are able to improve network utilisation significantly. Thus, as African penetration increases, we should expect higher network utilisation and hence lower capex.

**Figure 52: US telecoms industry – network utilisation grows with penetration**



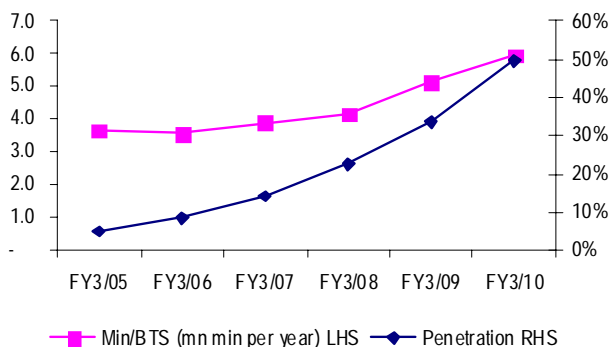
Source: CTIA, Credit Suisse estimates

**Figure 53: Vimpelcom Russia – network utilisation grows with penetration**



Source: Company data, Credit Suisse estimates

**Figure 54: Bharti India – network utilisation grows with penetration**



Source: Company data, Credit Suisse estimates

**Other vendors also indicate peaking of capex**

Other African wireless vendors including MTN have said that their capex could have peaked.

**Figure 55: Comments by operators on capex outlook**

| Operator | Comments on capex  |
|----------|--|
| MTN      | We believe that 2010 capex will be lower than 2009, and this trend will continue. Capex for the group peaked in 2009. Group capex guidance for 2010 reduced from ZAR23.6 bn to ZAR21.3 bn in Aug-10. Capex as percentage of revenues in Nigeria continues to decrease. |
| Vodacom  | Capex in International operations (Africa ex. South Africa) was lower in FY3/10 vs FY3/09. Going forward, capex budget will be tightly controlled. Capex in the DRC would be flat in FY3/11 vs FY3/10.   |

Source: Company data, Credit Suisse estimates

**We expect US\$3.8 bn of capex in next three years**

Building flat costs per BTS, we believe that this should translate into 23,806 additional BTS, taking the total number of BTS to 34,646.



**Figure 56: BTS network size comparisons**

| 2009                    | BTS    | Subs/BTS |
|-------------------------|--------|----------|
| MTN Nigeria             | 7,113  | 4,929    |
| MTN Ghana               | 2,453  | 3,556    |
| Safaricom               | 2,300  | 6,587    |
| Bharti Africa - current | 11,338 | 3,715    |
| Bharti Africa 3yr later | 35,613 | 2,514    |

Source: Company data, Credit Suisse estimates

### What if capex budget overshoots

Our estimate for Bharti's Africa capex is already 40% higher than management target (FY11: US\$800 mn; FY12 and FY13: US\$1 bn, at the upper end). However, even if there is significant upside risk to these capex estimates, we note that the level of cash generation from Bharti's operations gives sufficient room to accommodate higher capex without having to raise additional funds.

**Figure 57: Enough cash generation to sustain any upside risks to Africa capex**

| (US\$ mn)                          | FY3/11E | FY3/12E | FY3/13E | Cumulative |
|------------------------------------|---------|---------|---------|------------|
| EBITDA (India+Africa)              | 4,802   | 6,333   | 7,752   |            |
| Interest payments (India + Africa) | 965     | 1,246   | 1,293   |            |
| Cash taxes (India+Africa)          | 325     | 513     | 783     |            |
| Cash which can be deployed         | 3,512   | 4,574   | 5,675   | 13,761     |
| Estimated capex (India)            | 2,808   | 2,626   | 2,394   | 7,828      |
| Estimated capex (Africa)           | 930     | 1,548   | 1,335   | 3,813      |
| Surplus                            | 704     | 1,948   | 3,281   | 5,933      |

Source: Company data, Credit Suisse estimates

## Key risks are currency and credit costs

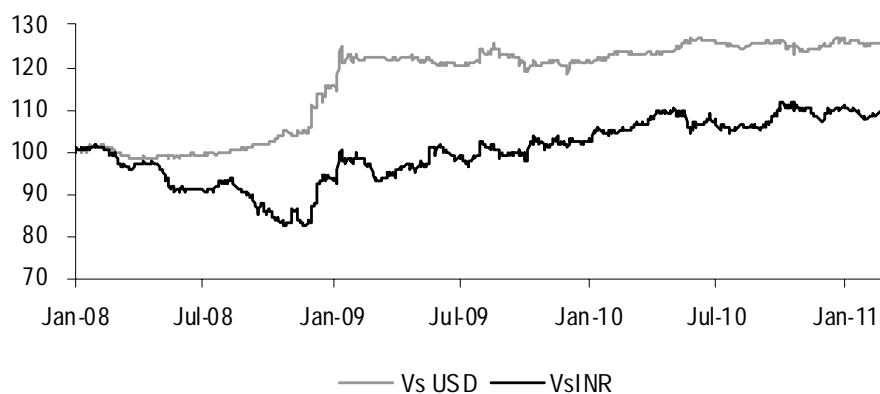
While we remain confident about Bharti's ability to make the best of the market/margin opportunities that we discussed in the earlier sections, our concerns remain on the economic/regulatory factors. If recent volatility in African currency exchange rates were to repeat, all of Bharti's gains in operations could be erased. Further, volatility in economic growth, dependence on fluctuating global factors and frequent changes to tax structures reduce the overall predictability of the business, in our view. These remain the biggest risks to Bharti's African story.

### Currency volatility could wipe out operational gains

All through the global economic slowdown, the African currencies that Bharti has exposure to demonstrated significant volatility – as shown in Figure 58. There have been times when currencies have depreciated 15%+ in just a month. Thus, any improvement in operating margins/revenue growth could be quickly offset by currency movements.

There have been times when currencies have depreciated 15%+ in just a month

**Figure 58: Exchange rate movement of Bharti's African currency basket (revenue-weighted average)**



Source: Bloomberg, Company data, Credit Suisse estimates

Further, since its US\$9 bn loan for the transaction is in US\$ – this issue could also lead to risks to Bharti's cash flows from Africa.

### Volatility in macroeconomic factors could also impact business

Political uncertainty notwithstanding, some of the African countries in Bharti's footprint have also seen volatile economies (large swings in GDP growth rates) with high dependence on a few commodities/foreign aid.

**Figure 59: Economic overview of Bharti's African countries**

| Country                      | GDP per capita<br>(2009, US\$) | Real GDP growth over last five years (loc. cur) |            | Inflation rate<br>(last 5Y avg) | Key drivers of economy                   |
|------------------------------|--------------------------------|---|------------|---------------------------------|--|
|                              |                                | Max   | Min        |                                 |  |
| Nigeria                      | 1,092                          | 6.4   | 2.9        | 11.1                            | Oil exports                              |
| Congo Brazzaville            | 2,361                          | 7.7   | -1.6       | 4.9                             | Oil exports, forestry, agriculture       |
| Gabon                        | 7,502                          | 5.6   | -1.0       | 2.9                             | Oil Exports, mining                      |
| Zambia                       | 985                            | 6.3   | 5.2        | 12.8                            | Copper, Foreign Aid, Agriculture         |
| Tanzania                     | 509                            | 7.4   | 5.5        | 8.3                             | Agriculture, Foreign Aid                 |
| Niger                        | 352                            | 9.5   | 1.0        | 4.7                             | Agriculture, Foreign Aid                 |
| Burkina Faso                 | 517                            | 6.4   | 3.5        | 4.4                             | Agriculture, Foreign Aid                 |
| Malawi                       | 326                            | 9.7   | 2.6        | 10.9                            | Agriculture (tobacco), Foreign Aid       |
| Chad                         | 596                            | 17.3  | -0.2       | 4.3                             | Oil, Agriculture, Foreign Aid            |
| Sierra Leone                 | 341                            | 7.3   | 4.0        | 14.5                            | Agriculture, Foreign Aid, Minerals       |
| Madagascar                   | 461                            | 7.3   | 0.4        | 11.6                            | Agriculture, Fishing, Forestry           |
| Uganda                       | 481                            | 10.8  | 6.3        | 9.3                             | Agriculture, Coffee exports, Foreign Aid |
| Democratic Republic of Congo | 163                            | 6.5   | 2.7        | 17.2                            | Mineral Exports                          |
| Kenya                        | 759                            | 7.1   | 1.7        | 14.0                            | Trade, Foreign Aid                       |
| Ghana                        | 655                            | 7.3   | 3.5        | 14.5                            | Gold, Cocoa, Foreign Aid, Remittances    |
| <b>Average</b>               | <b>1,140</b>                   | <b>8.2</b>                                      | <b>2.4</b> | <b>9.7</b>                      |  |

Source: World Bank, CIA World Factbook, Company data, Credit Suisse estimates

There have been instances of operators seeing sharply fluctuating revenues due to economic volatility. For example, Millicom commented in Jun-2010 that a few regions in DRC had seen revenues shrink 60-80% in the aftermath of collapse in commodity prices.

## Frequent changes in regulations increase uncertainties in running a business

Frequent changes to tax structures and imposition of new taxes add to the difficulties of running a business.

**Figure 60: Changes to tax structure lead to unpredictability**

| Country  | Timeframe | Key changes to taxes  |
|----------|-----------|---|
| Nigeria  | 2009      | Doubling of VAT tax rate from 5% to 10%                               |
| Tanzania | 2008      | An excise duty of 10% was imposed on telecom services                 |
| DRC      | 2009      | Tax on every mobile number that has been provisioned on the MSC       |
| Ghana    | 2010      | Temporary ban on new tower installations                              |
| Niger    | 2011      | Additional taxes on the telecom operators to fund the budget deficit. |

Source: Company data, Credit Suisse estimates

# Appendix: Country summaries (in order of revenue contribution)

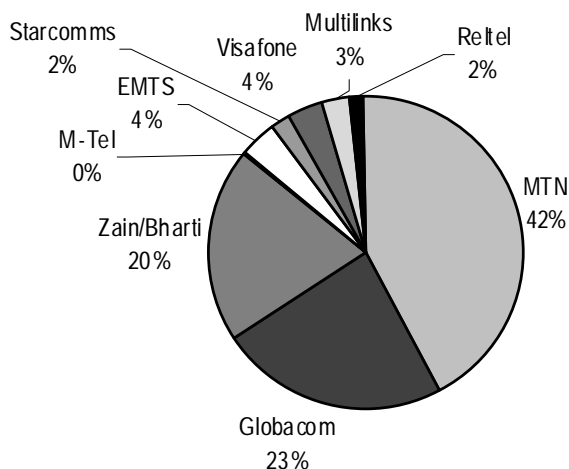
## Nigeria

**Figure 61: Country statistical snapshot**

| Country statistics  |             |
|---|-------------|
| Area (sq km)  | 923,768     |
| Population (mn)   | 158         |
| Population density  | 171         |
| Urban population (%)  | 50          |
| Population less than 15 yrs (%)                               | 43          |
| GDP per capita (US\$)   | 1,092       |
| GDP growth 5-yr avg (%)                                       | 5           |
| Key drivers of economy  | Oil exports |
| World Bank ease of doing business ranking (Best=1; India=135) | 134         |
| Telecom statistics  |             |
| Mobile subscribers (2009, mn)                                 | 73          |
| Mobile penetration (2009)                                     | 46%         |

Source: World Bank, Company data

**Figure 62: Subscriber market shares**



Source: NCC - Dec-09

**Figure 63: Zain/Bharti operations snapshot**

|                    | 2009 (US\$ mn) | % contribution to Zain (2009) | 3-yr CAGR up to 2009 |
|--------------------|----------------|-------------------------------|----------------------|
| Subscribers (mn)   | 15             | 35.1%                         | 32.2%                |
| ARPU (US\$)        | 6.8            |                               | -5.0%                |
| Revenues (US\$ mn) | 1,307          | 35.6%                         | 28.9%                |
| EBITDA (US\$ mn)   | 392            | 36.3%                         | 21.0%                |
| EBITDA margin      | 30.0%          |                               | -625 bps             |

Source: Company data, Credit Suisse estimates

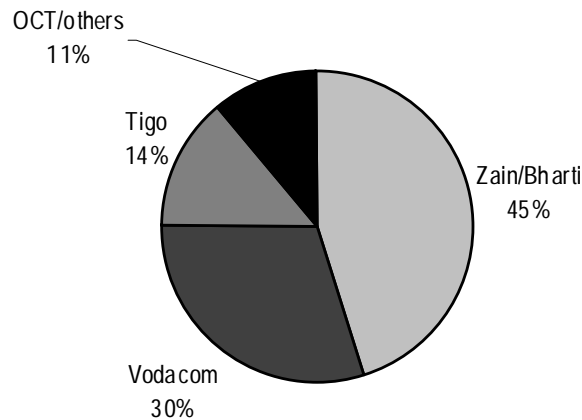
# Democratic Republic of Congo

**Figure 64: Country statistical snapshot**

| Country statistics  |                 |
|---|-----------------|
| Area (sq km)  | 2,344,858       |
| Population (mn)   | 68              |
| Population density  | 29              |
| Urban population (%)  | 65              |
| Population less than 15 yrs (%)                               | 47              |
| GDP per capita (US\$)   | 163             |
| GDP growth 5-yr avg (%)                                       | 5               |
| Key drivers of economy  | Mineral exports |
| World Bank ease of doing business ranking (Best=1; India=135) | 179             |
| Telecom statistics  |                 |
| Mobile subscribers (2009, mn)                                 | 9               |
| Mobile penetration (2009)                                     | 13%             |

Source: World Bank, Company data

**Figure 65: Subscriber market shares**



Source: Zain company presentation 2009

**Figure 66: Zain/Bharti operations snapshot**

|                    | 2009 (US\$ mn) | % contribution to Zain (2009) | 3-yr CAGR up to 2009 |
|--------------------|----------------|-------------------------------|----------------------|
| Subscribers (mn)   | 4              | 8.5%                          | 24.8%                |
| ARPU (US\$)        | 7.8            |                               | -12.2%               |
| Revenues (US\$ mn) | 322            | 8.8%                          | 8.3%                 |
| EBITDA (US\$ mn)   | 66             | 6.1%                          | -10.2%               |
| EBITDA margin      | 20.5%          |                               | -1545 bp             |

Source: Company data, Credit Suisse estimates

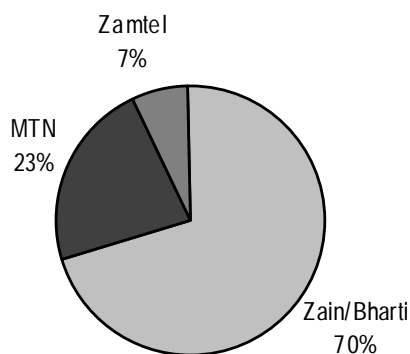
# Zambia

**Figure 67: Country statistical snapshot**

| Country statistics  |                                  |
|---|----------------------------------|
| Area (sq km)  | 752,618                          |
| Population (mn)   | 13                               |
| Population density  | 18                               |
| Urban population (%)  | 64                               |
| Population less than 15 yrs (%)                               | 46                               |
| GDP per capita (US\$)   | 985                              |
| GDP growth 5-yr avg (%)                                       | 6                                |
| Key drivers of economy  | Copper, Foreign Aid, Agriculture |
| World Bank ease of doing business ranking (Best=1; India=135) | 84                               |
| Telecom statistics  |                                  |
| Mobile subscribers (2009, mn)                                 | 5                                |
| Mobile penetration (2009)                                     | 35%                              |

Source: World Bank, Company data

**Figure 68: Subscriber market shares**



Source: Zain company presentation 2009

**Figure 69: Zain/Bharti operations snapshot**

|                    | 2009 (US\$ mn) | % contribution to Zain (2009) | 3-yr CAGR upto 2009 |
|--------------------|----------------|-------------------------------|---------------------|
| Subscribers (mn)   | 3              | 7.3%                          | 32.4%               |
| ARPU (US\$)        | 8.7            |                               | -10.0%              |
| Revenues (US\$ mn) | 300            | 8.2%                          | 16.4%               |
| EBITDA (US\$ mn)   | 128            | 11.9%                         | 14.8%               |
| EBITDA margin      | 42.7%          |                               | -183 bp             |

Source: Company data, Credit Suisse estimates

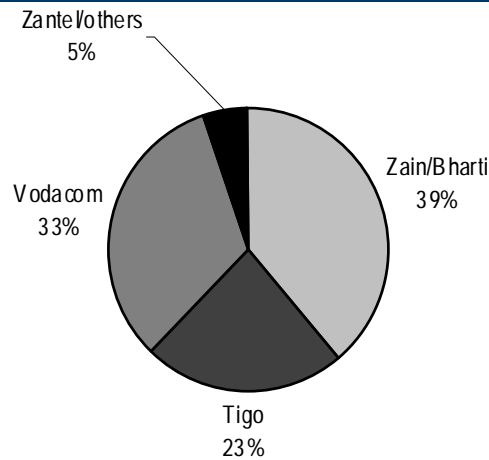
# Tanzania

**Figure 70: Country statistical snapshot**

| Country statistics  |                          |
|---|--------------------------|
| Area (sq km)  | 947,300                  |
| Population (mn)   | 45                       |
| Population density  | 48                       |
| Urban population (%)  | 74                       |
| Population less than 15 yrs (%)                               | 45                       |
| GDP per capita (US\$)   | 509                      |
| GDP growth 5-yr avg (%)                                       | 7                        |
| Key drivers of economy  | Agriculture, Foreign Aid |
| World Bank ease of doing business ranking (Best=1; India=135) | 125                      |
| Telecom statistics  |                          |
| Mobile subscribers (2009, mn)                                 | 18                       |
| Mobile penetration (2009)                                     | 40%                      |

Source: World Bank, Company data

**Figure 71: Subscriber market shares**



Source: Zain company presentation 2009

**Figure 72: Zain/Bharti operations snapshot**

|                    | 2009 (US\$ mn) | % contribution to Zain (2009) | 3-yr CAGR upto 2009 |
|--------------------|----------------|-------------------------------|---------------------|
| Subscribers (mn)   | 5              | 11.6%                         | 47.9%               |
| ARPU (US\$)        | 5.2            |                               | -17.8%              |
| Revenues (US\$ mn) | 272            | 7.4%                          | 17.1%               |
| EBITDA (US\$ mn)   | 93             | 8.6%                          | 13.8%               |
| EBITDA margin      | 34.1%          |                               | -301 bp             |

Source: Company data, Credit Suisse estimates

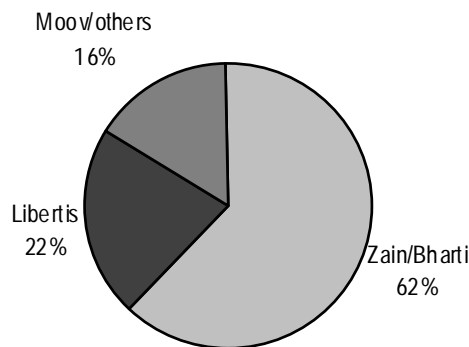
# Gabon

**Figure 73: Country statistical snapshot**

| <b>Country statistics</b>                                     |                     |
|---|---------------------|
| Area (sq km)  | 267,667             |
| Population (mn)   | 2                   |
| Population density  | 6                   |
| Urban population (%)  | 14                  |
| Population less than 15 yrs (%)                               | 36                  |
| GDP per capita (US\$)   | 7,502               |
| GDP growth 5-yr avg (%)                                       | 2                   |
| Key drivers of economy  | Oil Exports, mining |
| World Bank ease of doing business ranking (Best=1; India=135) | 158                 |
| <b>Telecom statistics</b>                                     |                     |
| Mobile subscribers (2009, mn)                                 | 2                   |
| Mobile penetration (2009)                                     | 120%                |

Source: World Bank, Company data

**Figure 74: Subscriber market shares**



Source: Zain company presentation 2009

**Figure 75: Zain/Bharti operations snapshot**

|                    | 2009 (US\$ mn) | % contribution to Zain (2009) | 3-yr CAGR upto 2009 |
|--------------------|----------------|-------------------------------|---------------------|
| Subscribers (mn)   | 0.9            | 2.2%                          | 22.1%               |
| ARPU (US\$)        | 24.5           |                               | -2.8%               |
| Revenues (US\$ mn) | 256            | 7.0%                          | 15.9%               |
| EBITDA (US\$ mn)   | 101            | 9.4%                          | 4.5%                |
| EBITDA margin      | 39.4%          |                               | -1446 bp            |

Source: Company data, Credit Suisse estimates



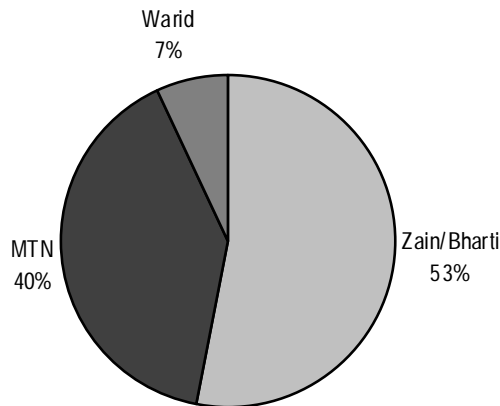
# Congo (Brazzaville)

**Figure 76: Country statistical snapshot**

| Country statistics  |                                    |
|---|------------------------------------|
| Area (sq km)  | 342,000                            |
| Population (mn)   | 4                                  |
| Population density  | 11                                 |
| Urban population (%)  | 38                                 |
| Population less than 15 yrs (%)                               | 40                                 |
| GDP per capita (US\$)   | 2,361                              |
| GDP growth 5-yr avg (%)                                       | 5                                  |
| Key drivers of economy  | Oil exports, forestry, agriculture |
| World Bank ease of doing business ranking (Best=1; India=135) | 177                                |
| Telecom statistics  |                                    |
| Mobile subscribers (2009, mn)                                 | 3                                  |
| Mobile penetration (2009)                                     | 77%                                |

Source: World Bank, Company data

**Figure 77: Subscriber market shares**



Source: Zain company presentation 2009

**Figure 78: Zain/Bharti operations snapshot**

|                    | 2009 (\$mn) | % contribution to Zain (2009) | 3-yr CAGR upto 2009 |
|--------------------|-------------|-------------------------------|---------------------|
| Subscribers (mn)   | 1.4         | 3.4%                          | 27.5%               |
| ARPU (US\$)        | 12.7        |                               | -10.2%              |
| Revenues (US\$ mn) | 208         | 5.7%                          | 13.2%               |
| EBITDA (US\$ mn)   | 56          | 5.2%                          | -0.2%               |
| EBITDA margin      | 27.1%       |                               | -1239 bp            |

Source: Company data, Credit Suisse estimates

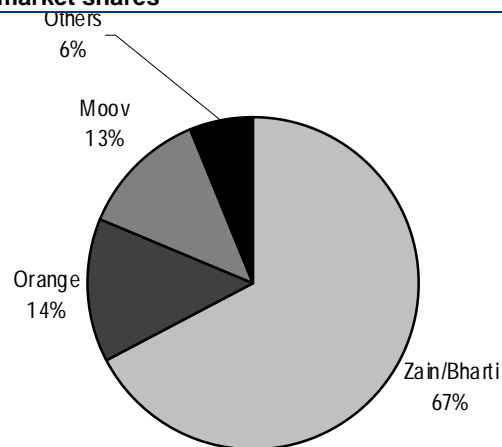
# Niger

**Figure 79: Country statistical snapshot**

| Country statistics  |                          |
|---|--------------------------|
| Area (sq km)  | 1,267,000                |
| Population (mn)   | 16                       |
| Population density  | 13                       |
| Urban population (%)  | 83                       |
| Population less than 15 yrs (%)                               | 50                       |
| GDP per capita (US\$)   | 352                      |
| GDP growth 5-yr avg (%)                                       | 5                        |
| Key drivers of economy  | Agriculture, Foreign Aid |
| World Bank ease of doing business ranking (Best=1; India=135) | 171                      |
| Telecom statistics  |                          |
| Mobile subscribers (2009, mn)                                 | 3                        |
| Mobile penetration (2009)                                     | 17%                      |

Source: World Bank, Company data

**Figure 80: Subscriber market shares**



Source: Zain company presentation 2009

**Figure 81: Zain/Bharti operations snapshot**

|                    | 2009 (\$mn) | % contribution to Zain (2009) | 3-yr CAGR upto 2009 |
|--------------------|-------------|-------------------------------|---------------------|
| Subscribers (mn)   | 1.5         | 3.7%                          | 57.4%               |
| ARPU (US\$)        | 9.9         |                               | -8.5%               |
| Revenues (US\$ mn) | 157         | 4.3%                          | 36.9%               |
| EBITDA (US\$ mn)   | 71          | 6.6%                          | 34.2%               |
| EBITDA margin      | 45.2%       |                               | -279 bp             |

Source: Company data, Credit Suisse estimates

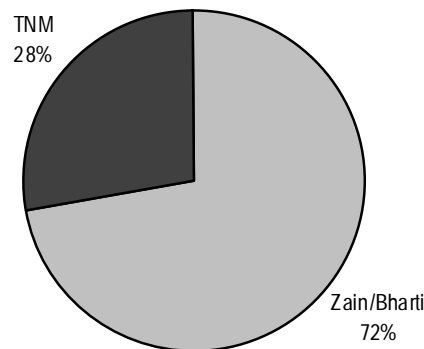
# Malawi

**Figure 82: Country statistical snapshot**

| Country statistics  |                                    |
|---|------------------------------------|
| Area (sq km)  | 118,484                            |
| Population (mn)   | 16                                 |
| Population density  | 132                                |
| Urban population (%)  | 80                                 |
| Population less than 15 yrs (%)                               | 46                                 |
| GDP per capita (US\$)   | 326                                |
| GDP growth 5-yr avg (%)                                       | 7                                  |
| Key drivers of economy  | Agriculture (tobacco), Foreign Aid |
| World Bank ease of doing business ranking (Best=1; India=135) | 132                                |
| Telecom statistics  |                                    |
| Mobile subscribers (2009, mn)                                 | 3                                  |
| Mobile penetration (2009)                                     | 17%                                |

Source: World Bank, Company data

**Figure 83: Subscriber market shares**



Source: Zain company presentation 2009

**Figure 84: Zain/Bharti operations snapshot**

|                    | 2009 (US\$ mn) | % contribution to Zain (2009) | 3-yr CAGR upto 2009 |
|--------------------|----------------|-------------------------------|---------------------|
| Subscribers (mn)   | 1.7            | 4.1%                          | 69.4%               |
| ARPU (US\$)        | 8.5            |                               | -4.8%               |
| Revenues (US\$ mn) | 154            | 4.2%                          | 53.8%               |
| EBITDA (US\$ mn)   | 67             | 6.3%                          | 58.6%               |
| EBITDA margin      | 43.8%          |                               | 386 bp              |

Source: Company data, Credit Suisse estimates

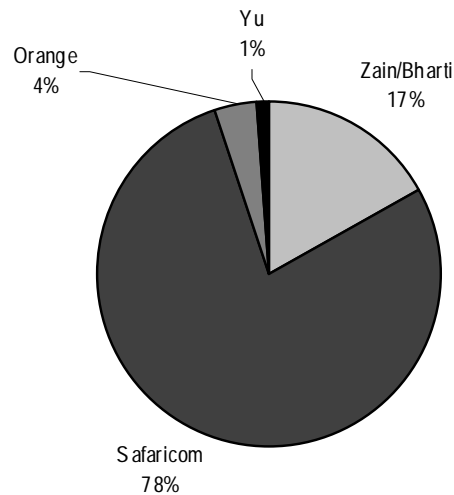
# Kenya

**Figure 85: Country statistical snapshot**

| Country statistics  |                    |
|---|--------------------|
| Area (sq km)  | 580,367            |
| Population (mn)   | 41                 |
| Population density  | 70                 |
| Urban population (%)  | 78                 |
| Population less than 15 yrs (%)                               | 43                 |
| GDP per capita (US\$)   | 759                |
| GDP growth 5-yr avg (%)                                       | 5                  |
| Key drivers of economy  | Trade, Foreign Aid |
| World Bank ease of doing business ranking (Best=1; India=135) | 94                 |
| Telecom statistics  |                    |
| Mobile subscribers (2009, mn)                                 | 20                 |
| Mobile penetration (2009)                                     | 48%                |

Source: World Bank, Company data

**Figure 86: Subscriber market shares**



Source: Zain company presentation 2009

**Figure 87: Zain/Bharti operations snapshot**

|                    | 2009 (US\$ mn) | % contribution to Zain (2009) | 3-yr CAGR upto 2009 |
|--------------------|----------------|-------------------------------|---------------------|
| Subscribers (mn)   | 2.1            | 5.0%                          | 2.6%                |
| ARPU (US\$)        | 5.0            |                               | -12.9%              |
| Revenues (US\$ mn) | 154            | 4.2%                          | -4.1%               |
| EBITDA (US\$ mn)   | 7              | 0.6%                          | -48.9%              |
| EBITDA margin      | 4.4%           |                               | -2490 bp            |

Source: Company data, Credit Suisse estimates

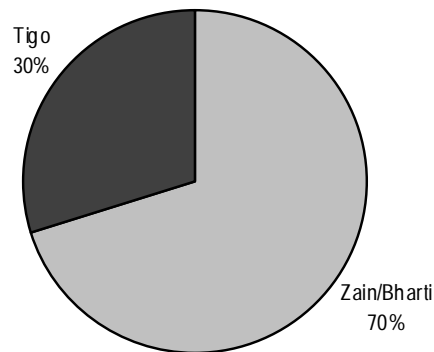
# Chad

**Figure 88: Country statistical snapshot**

| Country statistics  |                               |
|---|-------------------------------|
| Area (sq km)  | 1,284,000                     |
| Population (mn)   | 12                            |
| Population density  | 9                             |
| Urban population (%)  | 72                            |
| Population less than 15 yrs (%)                               | 46                            |
| GDP per capita (US\$)   | 596                           |
| GDP growth 5-yr avg (%)                                       | 4                             |
| Key drivers of economy  | Oil, Agriculture, Foreign Aid |
| World Bank ease of doing business ranking (Best=1; India=135) | 183                           |
| Telecom statistics  |                               |
| Mobile subscribers (2009, mn)                                 | 2.3                           |
| Mobile penetration (2009)                                     | 20%                           |

Source: World Bank, Company data

**Figure 89: Subscriber market shares**



Source: Zain company presentation 2009

**Figure 90: Zain/Bharti operations snapshot**

|                    | 2009 (US\$ mn) | % contribution to Zain (2009) | 3-yr CAGR upto 2009 |
|--------------------|----------------|-------------------------------|---------------------|
| Subscribers (mn)   | 1.2            | 2.9%                          | 51.5%               |
| ARPU (US\$)        | 9.9            |                               | -14.1%              |
| Revenues (US\$ mn) | 133            | 3.6%                          | 26.8%               |
| EBITDA (US\$ mn)   | 55             | 5.1%                          | 28.2%               |
| EBITDA margin      | 41.5%          |                               | 129 bp              |

Source: Company data, Credit Suisse estimates

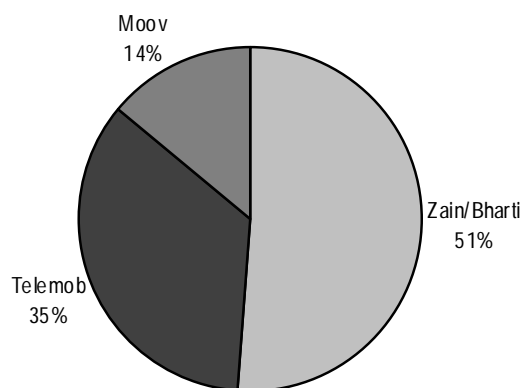
# Burkina Faso

**Figure 91: Country statistical snapshot**

| Country statistics  |                          |
|---|--------------------------|
| Area (sq km)  | 274,200                  |
| Population (mn)   | 16                       |
| Population density  | 59                       |
| Urban population (%)  | 74                       |
| Population less than 15 yrs (%)                               | 46                       |
| GDP per capita (US\$)   | 517                      |
| GDP growth 5-yr avg (%)                                       | 5                        |
| Key drivers of economy  | Agriculture, Foreign Aid |
| World Bank ease of doing business ranking (Best=1; India=135) | 154                      |
| Telecom statistics  |                          |
| Mobile subscribers (2009, mn)                                 | 3.9                      |
| Mobile penetration (2009)                                     | 24%                      |

Source: World Bank, Company data

**Figure 92: Subscriber market shares**



Source: Zain company presentation 2009

**Figure 93: Zain/Bharti operations snapshot**

|                    | 2009 (\$mn) | % contribution to Zain (2009) | 3-yr CAGR upto 2009 |
|--------------------|-------------|-------------------------------|---------------------|
| Subscribers (mn)   | 1.5         | 3.7%                          | 43.9%               |
| ARPU (US\$)        | 7.3         |                               | -9.3%               |
| Revenues (US\$ mn) | 126         | 3.4%                          | 27.1%               |
| EBITDA (US\$ mn)   | 52          | 4.8%                          | 22.8%               |
| EBITDA margin      | 41.3%       |                               | -440 bps            |

Source: Company data, Credit Suisse estimates

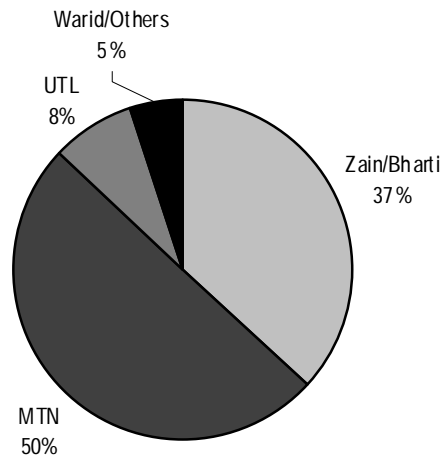
# Uganda

**Figure 94: Country statistical snapshot**

| Country statistics  |  |
|---|--|
| Area (sq km)  | 241,038                                  |
| Population (mn)   | 34                                       |
| Population density  | 140                                      |
| Urban population (%)  | 87                                       |
| Population less than 15 yrs (%)                               | 49                                       |
| GDP per capita (US\$)   | 481                                      |
| GDP growth 5-yr avg (%)                                       | 8  |
| Key drivers of economy  | Agriculture, Coffee exports, Foreign Aid |
| World Bank ease of doing business ranking (Best=1; India=135) | 129                                      |
| Telecom statistics  |  |
| Mobile subscribers (2009, mn)                                 | 12.2                                     |
| Mobile penetration (2009)                                     | 36%                                      |

Source: World Bank, Company data

**Figure 95: Subscriber market shares**



Source: Zain company presentation 2009

**Figure 96: Zain/Bharti operations snapshot**

|                    | 2009 (US\$ mn) | % contribution to Zain (2009) | 3-yr CAGR upto 2009 |
|--------------------|----------------|-------------------------------|---------------------|
| Subscribers (mn)   | 1.9            | 4.6%                          | 60.0%               |
| ARPU (US\$)        | 4.2            |                               | -16.1%              |
| Revenues (US\$ mn) | 100            | 2.7%                          | 35.9%               |
| EBITDA (US\$ mn)   | 12             | 1.1%                          | 294.7%              |
| EBITDA margin      | 12.3%          |                               | 1182 bps            |

Source: Company data, Credit Suisse estimates

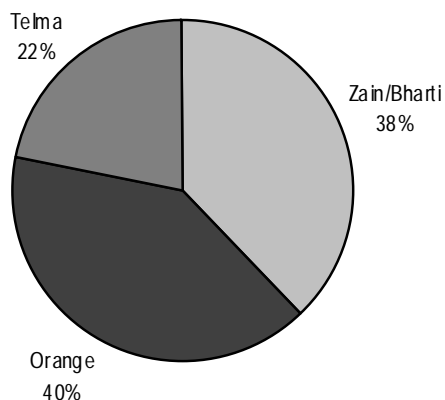
# Madagascar

**Figure 97: Country statistical snapshot**

| Country statistics  |                                |
|---|--------------------------------|
| Area (sq km)  | 587,041                        |
| Population (mn)   | 20                             |
| Population density  | 34                             |
| Urban population (%)  | 70                             |
| Population less than 15 yrs (%)                               | 43                             |
| GDP per capita (US\$)   | 461                            |
| GDP growth 5-yr avg (%)                                       | 5                              |
| Key drivers of economy  | Agriculture, Fishing, Forestry |
| World Bank ease of doing business ranking (Best=1; India=135) | 138                            |
| Telecom statistics  |                                |
| Mobile subscribers (2009, mn)                                 | 4.4                            |
| Mobile penetration (2009)                                     | 22%                            |

Source: World Bank, Company data

**Figure 98: Subscriber market shares**



Source: Zain company presentation 2009

**Figure 99: Zain/Bharti operations snapshot**

|                    | 2009 (\$mn) | % contribution to Zain (2009) | 3-yr CAGR upto 2009 |
|--------------------|-------------|-------------------------------|---------------------|
| Subscribers (mn)   | 1.6         | 3.7%                          | 68.0%               |
| ARPU (US\$)        | 4.6         |                               | -20.1%              |
| Revenues (US\$ mn) | 77          | 2.1%                          | 29.5%               |
| EBITDA (US\$ mn)   | 18          | 1.6%                          | 14.4%               |
| EBITDA margin      | 22.7%       |                               | -1026 bp            |

Source: Company data, Credit Suisse estimates



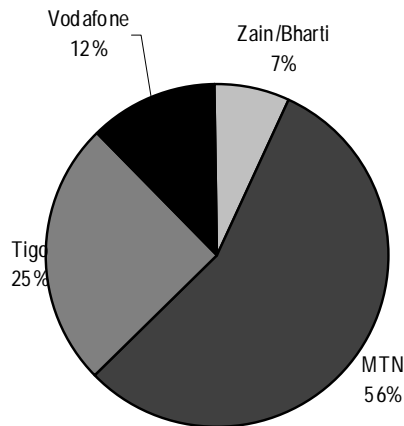
# Ghana

**Figure 100: Country statistical snapshot**

| Country statistics  |                                       |
|---|---------------------------------------|
| Area (sq km)  | 238,533                               |
| Population (mn)   | 24                                    |
| Population density  | 102                                   |
| Urban population (%)  | 49                                    |
| Population less than 15 yrs (%)                               | 38                                    |
| GDP per capita (US\$)   | 655                                   |
| GDP growth 5-yr avg (%)                                       | 6                                     |
| Key drivers of economy  | Gold, Cocoa, Foreign Aid, Remittances |
| World Bank ease of doing business ranking (Best=1; India=135) | 77                                    |
| Telecom statistics  |                                       |
| Mobile subscribers (2009, mn)                                 | 15.1                                  |
| Mobile penetration (2009)                                     | 62%                                   |

Source: World Bank, Company data

**Figure 101: Subscriber market shares**



Source: Zain company presentation 2009

**Figure 102: Zain/Bharti operations snapshot**

|                    | 2009 (US\$ mn) | % contribution to Zain (2009) | 3-yr CAGR upto 2009 |
|--------------------|----------------|-------------------------------|---------------------|
| Subscribers (mn)   | 1.3            | 3.0%                          | Na                  |
| ARPU (US\$)        | 6.1            |                               | Na                  |
| Revenues (US\$ mn) | 57             | 1.5%                          | Na                  |
| EBITDA (US\$ mn)   | -42            | -3.9%                         | Na                  |
| EBITDA margin      | -74.6%         |                               | Na                  |

Source: Company data, Credit Suisse estimates

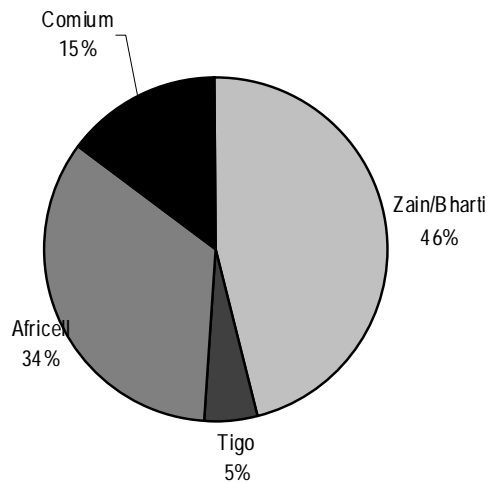
# Sierra Leone

**Figure 103: Country statistical snapshot**

| Country statistics  |                                    |
|---|------------------------------------|
| Area (sq km)  | 71,740                             |
| Population (mn)   | 6                                  |
| Population density  | 81                                 |
| Urban population (%)  | 62                                 |
| Population less than 15 yrs (%)                               | 43                                 |
| GDP per capita (US\$)   | 341                                |
| GDP growth 5-yr avg (%)                                       | 6                                  |
| Key drivers of economy  | Agriculture, Foreign Aid, Minerals |
| World Bank ease of doing business ranking (Best=1; India=135) | 143                                |
| Telecom statistics  |                                    |
| Mobile subscribers (2009, mn)                                 | 2.3                                |
| Mobile penetration (2009)                                     | 39%                                |

Source: World Bank, Company data

**Figure 104: Subscriber market shares**



Source: Zain company presentation 2009

**Figure 105: Zain/Bharti operations snapshot**

|                    | 2009 (US\$ mn) % contribution to Zain (2009) |      | 3-yr CAGR upto 2009 |
|--------------------|--|------|---------------------|
| Subscribers (mn)   | 0.6  | 1.3% | 32.4%               |
| ARPU (US\$)        | 7.2  |      | -22.2%              |
| Revenues (US\$ mn) | 44   | 1.2% | -0.3%               |
| EBITDA (US\$ mn)   | 2  | 0.2% | -52.6%              |
| EBITDA margin      | 5.2%   |      | -4320 bps           |

Source: Company data, Credit Suisse estimates

**Companies Mentioned** (Price as of 01 Mar 11)

Advanced Info Service PCL (ADVA.BK, Bt83.00, NEUTRAL, TP Bt95.00)  
 Axiata Group Berhad (AXIA.KL, RM4.99, OUTPERFORM, TP RM5.98)  
 Bahrain Telecom (BTEL.BH, BD.47)  
 Bharti Airtel Ltd (BRTI.BO, Rs338.30, OUTPERFORM, TP Rs415.00)  
 China Mobile Limited (0941.HK, HK\$74.75, OUTPERFORM, TP HK\$116.00)  
 Etisalat (ETEL.AD, Dhs10.85)  
 Excelcomindo Pratama PT (EXCL.JK, Rp5850.00, OUTPERFORM, TP Rp6700.00)  
 Far EasTone Telecom (4904.TW, NT\$42.65)  
 France Telecom (FTE.PA, Eu15.88, UNDERPERFORM, TP Eu16.00, MARKET WEIGHT)  
 Globe Telecom Inc (GLO.PS, P697.00, NEUTRAL, TP P800.00)  
 Grameenphone (GRAM.BD)  
 Hutchison Telecommunications HK Holdings Ltd (0215.HK, HK\$2.84, OUTPERFORM, TP HK\$2.75)  
 Idea Cellular Ltd (IDEA.BO, Rs59.05, OUTPERFORM [V], TP Rs85.00)  
 LG Uplus (032640.KS, W5,670, NEUTRAL, TP W8,500)  
 M1 Limited (MONE.SI, S\$2.41, NEUTRAL, TP S\$2.66)  
 Mahanagar Telephone Nigam (MTNL.BO, Rs41.60)  
 Maxis Berhad (MXSC.KL, RM5.46, OUTPERFORM, TP RM6.10)  
 Mobinil (EMOB.CA, £E133.21, UNDERPERFORM, TP £E185.00)  
 MTN Group (MTNJ.J, R122.82, UNDERPERFORM, TP R117.00)  
 NTT DoCoMo (9437, ¥156,400, NEUTRAL, TP ¥150,000, OVERWEIGHT)  
 Orascom Telecom (ORTEq.L, \$3.06, RESTRICTED [V])  
 OTE (OTEr.AT, Eu7.30, NEUTRAL, TP Eu12.00, MARKET WEIGHT)  
 PT Indosat Tbk (ISAT.JK, Rp5100.00, OUTPERFORM, TP Rp7900.00)  
 PT Telkom (Telekomunikasi Indo.) (TLKM.JK, Rp7500.00, OUTPERFORM, TP Rp10300.00)  
 Reliance Communication Ltd (RLCM.BO, Rs90.35, NEUTRAL [V], TP Rs120.00)  
 Singapore Telecom (STEL.SI, S\$3.00, OUTPERFORM, TP S\$3.73)  
 Sistema (SSAq.L, \$25.50, OUTPERFORM [V], TP \$32.00)  
 SmarTone Telecom (0315.HK, HK\$24.20, UNDERPERFORM, TP HK\$15.60)  
 StarHub Ltd (STAR.SI, S\$2.63, UNDERPERFORM, TP S\$2.35)  
 Taiwan Mobile (3045.TW, NT\$67.20)  
 Tata Communications Ltd (TATA.BO, Rs217.90, OUTPERFORM, TP Rs375.00)  
 Telecom Italia (TLIT.MI, Eu1.12, NEUTRAL, TP Eu1.10, MARKET WEIGHT)  
 Telemar Norte Leste S/A (TMAR5, R\$48.29, NEUTRAL, TP R\$61.00)  
 Telenor (TEL.OL, Nkr91.75, OUTPERFORM, TP Nkr105.00, MARKET WEIGHT)  
 Total Access Communication PCL (DTAC.BK, Bt41.50, NEUTRAL, TP Bt45.00)  
 TPSA (TPSA.WA, PLN16.70, UNDERPERFORM, TP PLN15.50)  
 True Corp PCL (TRUE.BK, Bt6.25, UNDERPERFORM [V], TP Bt3.30)  
 Turk Telekom (TTKOM.IS, TRY7.16, OUTPERFORM, TP TRY7.43)  
 Turkcell (TCELL.IS, TRY8.72, OUTPERFORM, TP TRY11.57)  
 Unitech Ltd (UNTE.BO, Rs35.25, OUTPERFORM [V], TP Rs76.00)  
 Vivo Participacoes (VIVO4, R\$59.70, RESTRICTED)  
 Vodafone Group (VOD.L, 174.45 p, OUTPERFORM, TP 185.00 p, MARKET WEIGHT)  
 ZAIN (ZAIN.KW, KD1.36, UNDERPERFORM [V], TP KD1.25)

## Disclosure Appendix

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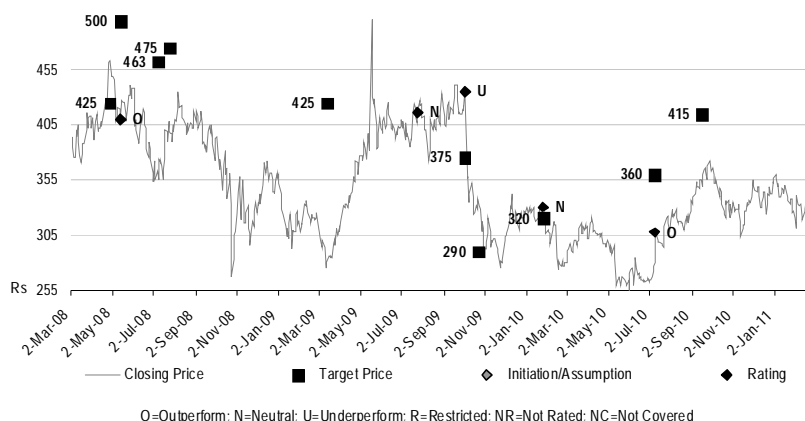
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*See the Companies Mentioned section for full company names.*

**3-Year Price, Target Price and Rating Change History Chart for BRTI.BO**

| BRTI.BO   | Closing Price (Rs) | Target Price (Rs) | Initiation/ Rating Assumption |
|-----------|--------------------|-------------------|-------------------------------|
| 28-Apr-08 | 463.925            | 425               |                               |
| 13-May-08 | 410.625            | 500               | O                             |
| 08-Jul-08 | 355.95             | 462.5             |                               |
| 25-Jul-08 | 398.225            | 475               |                               |
| 13-Mar-09 | 279.35             | 425               |                               |
| 24-Jul-09 | 416.95             |                   | N                             |
| 02-Oct-09 | 435                | 375               | U                             |
| 22-Oct-09 | 337.5              | 290               |                               |
| 25-Jan-10 | 331                | 320               | N                             |
| 09-Jul-10 | 307.5              | 360               | O                             |
| 17-Sep-10 | 359.5              | 415               |                               |



The analyst(s) responsible for preparing this research report received compensation that is based upon various factors including Credit Suisse's total revenues, a portion of which are generated by Credit Suisse's investment banking activities.

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**Outperform (O):** The stock's total return is expected to outperform the relevant benchmark\* by at least 10-15% (or more, depending on perceived risk) over the next 12 months.

**Neutral (N):** The stock's total return is expected to be in line with the relevant benchmark\* (range of ±10-15%) over the next 12 months.

**Underperform (U):** The stock's total return is expected to underperform the relevant benchmark\* by 10-15% or more over the next 12 months.

\*Relevant benchmark by region: As of 29<sup>th</sup> May 2009, Australia, New Zealand, U.S. and Canadian ratings are based on (1) a stock's absolute total return potential to its current share price and (2) the relative attractiveness of a stock's total return potential within an analyst's coverage universe\*\*, with Outperforms representing the most attractive, Neutrals the less attractive, and Underperforms the least attractive investment opportunities. Some U.S. and Canadian ratings may fall outside the absolute total return ranges defined above, depending on market conditions and industry factors. For Latin American, Japanese, and non-Japan Asia stocks, ratings are based on a stock's total return relative to the average total return of the relevant country or regional benchmark; for European stocks, ratings are based on a stock's total return relative to the analyst's coverage universe\*\*. For Australian and New Zealand stocks a 22% and a 12% threshold replace the 10-15% level in the Outperform and Underperform stock rating definitions, respectively, subject to analysts' perceived risk. The 22% and 12% thresholds replace the +10-15% and -10-15% levels in the Neutral stock rating definition, respectively, subject to analysts' perceived risk.

\*\*An analyst's coverage universe consists of all companies covered by the analyst within the relevant sector.

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**Overweight:** Industry expected to outperform the relevant broad market benchmark over the next 12 months.

**Market Weight:** Industry expected to perform in-line with the relevant broad market benchmark over the next 12 months.

**Underweight:** Industry expected to underperform the relevant broad market benchmark over the next 12 months.

\*An analyst's coverage universe consists of all companies covered by the analyst within the relevant sector.

\*\*The broad market benchmark is based on the expected return of the local market index (e.g., the S&P 500 in the U.S.) over the next 12 months.

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|--------------------|-----------------------------|-----------------------|
| Outperform/Buy*    | 46%                         | (62% banking clients) |
| Neutral/Hold*      | 41%                         | (60% banking clients) |
| Underperform/Sell* | 11%                         | (52% banking clients) |
| Restricted         | 2%                          |                       |

\*For purposes of the NYSE and NASD ratings distribution disclosure requirements, our stock ratings of Outperform, Neutral, and Underperform most closely correspond to Buy, Hold, and Sell, respectively; however, the meanings are not the same, as our stock ratings are determined on a relative basis. (Please refer to definitions above.) An investor's decision to buy or sell a security should be based on investment objectives, current holdings, and other individual factors.

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**Price Target:** (12 months) for (BRTI.BO)

**Method:** We arrive at our TP of Rs415 by Discounted cash flow (DCF). We assume a weighted average cost of capital (WACC) of 12 and beta of 0.9. Our DCF model builds in strong cashflow growth till FY3/15, a 8% medium term growth (FY3/15 - FY3/30) and 3% terminal growth. This includes a Rs-30/share value destruction from Zain Africa acquisition

**Risks:** Risks to our 12-month target price of Rs415 for Bharti include 1) TRAI recommendations get implemented 2) increased capex/slower improvement in EBITDA for African operations and 3) increased competitive intensity in the Indian market

Please refer to the firm's disclosure website at [www.credit-suisse.com/researchdisclosures](http://www.credit-suisse.com/researchdisclosures) for the definitions of abbreviations typically used in the target price method and risk sections.

*See the Companies Mentioned section for full company names.*

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