

Rumble in the jungle

We have reviewed Bharti's operations in the 15 African countries in which it operates. Apart from learning that Madagascar makes half of the world's vanilla beans and 4/5 of African gorillas live in Gabon, we observe that Bharti is well positioned to regain share and return to an earnings growth trajectory. We don't underestimate the challenges as Bharti competes with 30 different operators in Africa; rather than the 40% margin by 2013F targeted by management, 32% is our projection. But nor do we expect capex blow-ups, as existing networks can be exploited further to drive usage up. A comparison of network utilisation and costs in Africa versus India shows room for further operational efficiencies. Recent price cuts of 30-40% are also matched by 20-30% termination rate cuts, and this may continue. A somewhat stagnant share price around INR330 doesn't appear to ascribe much value to an African turnaround. We find that domestic business alone, at a 7.5% EPS CAGR scenario over FY10-13F at 14x P/E, implies a INR417 share price – Zain remains earnings and NPV dilutive until then, we estimate. We upgrade Bharti to BUY (from Neutral), with a INR400 PT. While the stock may be volatile on MNP/regulatory newsflow near term, we believe overall domestic trends should be resilient over the coming 12 months. An FY13F P/E of 12.9x is another draw, in our view.

In this report, we provide an overview on Bharti's African businesses, including economic prospects, political trends, and the competitive landscape in each country.

① Key observations from Africa

② Why upgrade now?

Nomura Anchor Reports examine the key themes and value drivers that underpin our sector views and stock recommendations for the next 6 to 12 months.

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Closing price on 7 Feb	Rs333.9
Price target	Rs400.0 (from Rs332.0)
Upside/downside	19.8%
Difference from consensus	12.0%

FY12F net profit (Rsmn)	74,302
Difference from consensus	-11.4%

Source: Nomura

Nomura vs consensus

We are relatively more cautious on margin trends in India and Africa.

Any authors named on this report are research analysts unless otherwise indicated.
 See the important disclosures and analyst certifications on pages 133 to 136.

⊙ Action

After being cautious on Bharti since mid-2009, we now think the risk-reward is skewed to the upside. We upgrade to BUY with a INR400 PT. Post Africa reviews: 1) we think capex risks could be moderate and cut our capex forecasts from 25% to 20% of sales; 2) solid scope for operational turnaround, although management's 40% margin target by 2013 seems a stretch (we forecast 32%); and 3) the current price doesn't appear to ascribe much value to Africa, providing a free option on turnaround. Recent results show broad stabilisation domestically. Data could surprise positively for the next 12 months. We see low risk of very adverse regulations and an inexpensive valuation at 12.9x FY13F PE.

⚡ Catalysts

Improvements in Africa, progress on 3G/data, and price wars are some catalysts.

⚓ Anchor themes

Domestic trends are stabilising; Africa turnaround could be a challenge/opportunity.

Rumble in the jungle

① Key observations from Africa

1) Average GDP per capita in Africa is 60% lower than in India, and its political systems are relatively more unstable. 2) Around 35% of the population lives in urban areas, where penetration is 70-80%. 3) Competition is intense and fragmented, with Bharti competing against 30 different operators. Etisalat is the biggest competitor – competing in markets where Bharti generates 60-70% of EBITDA and revenue. 4) Recent price cuts have averaged 30-40%. 5) In 11 markets, the company has made explicit comments on capex spend for the next few years. 6) 3G is live in seven countries (limited presence in 2 others) while rollouts of domestic/international cables (rather than satellites usage) should reduce data prices; 7) Regulatory risks look broadly benign. 8) Network sharing/ tower divestments are gaining traction where MTN and Millicom are active.

② Why upgrade now?

We think Africa will be a lot more challenging, following our recent review of individual markets, but the return potential is also higher. We have reduced our Africa capex forecasts to 20% of sales from 25% previously as: 1) existing networks can be utilised further where usage per cell site is 30% lower vs India (average spectrum in Africa is 20Mhz vs 8Mhz in India); 2) network sharing is becoming more common, and Bharti will also leverage its existing domestic vendor agreements further; and 3) rural rollout (65% of population) will be more gradual due to topography challenges. Recent price cuts of 30-40% on average have followed 20-30% cuts in termination rates, and further declines are likely. Our stand-alone NPV for Africa is now -INR31/share vs -INR58/share previously. Overall, we think management's 40% margin target by 2013 is a stretch; we forecast 32% by 2013 (25% currently). We believe the shares don't factor in any turnaround either – a 7.5% EPS FY10-13F CAGR scenario for domestic business alone could yield INR 417 in share price at 14x P/E. We don't dismiss the domestic risks of price wars and increased regulations. We assume only 6-8% EBITDA growth for domestic wireless in FY12-13F, implying gradual margin decline. Meanwhile, we build in US\$500mn in one-off spectrum charge for FY12F.

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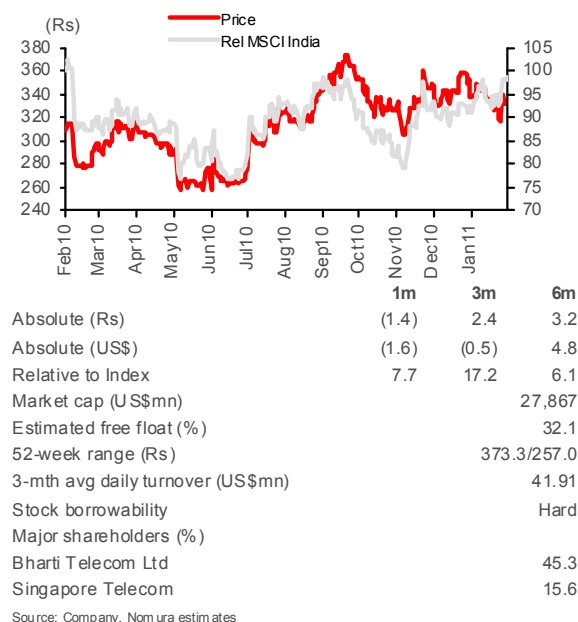
We are relatively more cautious on margin trends in India and Africa.

Key financials & valuations

31 Mar (Rsmn)	FY10	FY11F	FY12F	FY13F
Revenue	396,149	588,308	676,345	755,411
Reported net profit	91,027	60,562	74,302	98,433
Normalised net profit	87,626	65,685	74,302	98,433
Normalised EPS (Rs)	23.10	17.31	19.58	25.94
Norm. EPS growth (%)	(7.3)	(25.1)	13.1	32.5
Norm. P/E (x)	14.5	19.3	17.0	12.9
EV/EBITDA (x)	8.8	9.8	8.1	6.6
Price/book (x)	3.1	2.7	2.4	2.0
Dividend yield (%)	0.3	0.3	0.5	0.9
ROE (%)	25.4	13.7	14.7	16.9
Net debt/equity (%)	12.3	126.1	107.4	78.1
Earnings revisions				
Previous norm. net profit		67,794	80,728	106,276
Change from previous (%)		(3.1)	(8.0)	(7.4)
Previous norm. EPS (Rs)		17.87	21.28	28.01

Source: Company, Nomura estimates

Share price relative to MSCI India



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Upgrade

Upgrade to BUY with INR400 PT

After being cautious on Bharti since mid-2009, we now think the risk-reward is skewed to the upside over the next 12 months. We upgrade Bharti to BUY with a revised INR400 price target (from INR332). This is not to say we are becoming complacent on the risks ahead; but we think the current share price is capturing some of these uncertainties but has not priced in the potential upside. We make the following points:

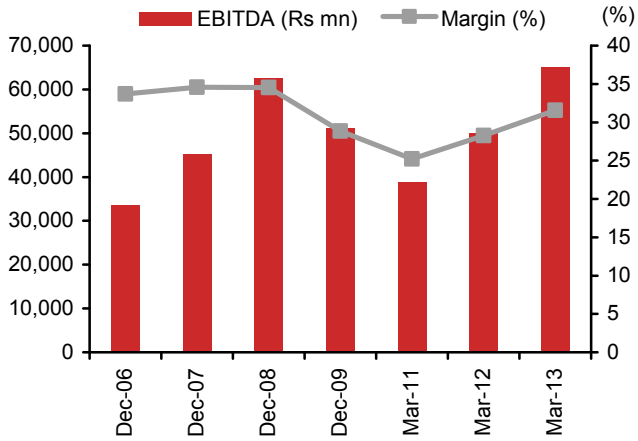
- **Africa is an unknown execution challenge** – following our recent detailed review of each African market, we have turned more cautious on the earnings trajectory, but have also reduced our capex forecasts from 25% of sales to around 20% of sales as: 1) existing networks can be utilised further where usage per cell site is 30% lower vs India and MoU is one-fourth of that in India (average spectrum in Africa is 20Mhz vs 8Mhz in India); 2) network sharing is becoming more common – led by Millicom and MTN, and Bharti is also likely to further leverage its existing relationships with network suppliers; and 3) rural rollout (65% of population) will likely be more gradual due to typography challenges.

We think management's "internal" aspirations to achieve 40% EBITDA margin on US\$5bn of revenues by FY13F from Africa will be a very tough ask. The recent quarterly results shows that Africa margins are currently trending at 25% levels with total annualised EBITDA of US\$840mn, which implies a CAGR of 54% by FY13F if the company were to achieve its target. Our earnings trajectory now assumes that Bharti Africa will generate revenues of US\$4.8bn by FY13F, with US\$1.5bn in EBITDA and total margin of 32%.

- **We don't dismiss the near-term MNP risks in India**, which could lead to further price wars. We assume a 19% drop in average prices in FY11F followed by another 9% drop in FY12F to 39p. We also assume further margin weakness in 4Q11F and in FY12F. Our scenario analysis shows that for every incremental 1ppt increase in post-paid churn, Bharti's EBITDA could be adversely impacted by 5%. See our 22 June 2010 report, *MNP – another price war trigger?* for more details.
- **Further competition also can not be ruled out; given there are more than ten viable players domestically.** This will remain a very difficult thing to forecast, and we remain of the view that even with possible changes to M&A regulations, further rationalisation is not imminent in the near term, and the desire to build scale and leverage additional 3G spectrum could compress prices/ margins further. We currently only assume 6-8% EBITDA growth for domestic wireless business in FY12-13F, versus an average 13% in the past three years.
- **Regulatory outlook is also uncertain, but further developments could remove a key overhang on spectrum prices and M&A.** The new telecoms minister is currently undertaking a comprehensive review as part of NTP-11, which will be released in the coming few months. We don't anticipate or build in many concessions for the operators, but we also expect some progress on overhangs. We currently build in US\$500mn for one-off payments for spectrum over 6.2Mhz in FY12F. Every US\$250mn additional payment impacts our valuation by INR4-5.

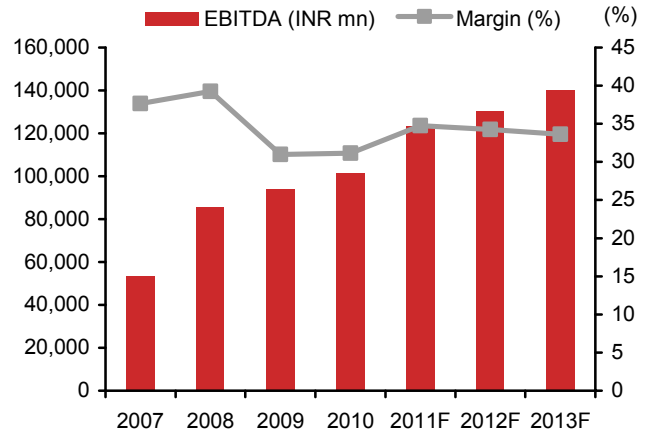
Key reasons for BUY rating: 1) the current share price of INR334 does not ascribe much value to Africa, in our view, and hence essentially offers a free option on any Africa turnaround; 2) recent quarterly results suggest that the likelihood of further price wars or margin erosion (over and above our current estimates) is low; 3) we are optimistic on the inherent data potential, which could unfold in the coming 12 months; 4) risk of adverse regulations remains low – we already assume a one-off payment of US\$500mn in our forecasts for excess spectrum; and 5) the stock's 12.9x FY13F PE is in line with regional peers, but with its higher growth potential.

Exhibit 1. Africa - EBITDA and margin...



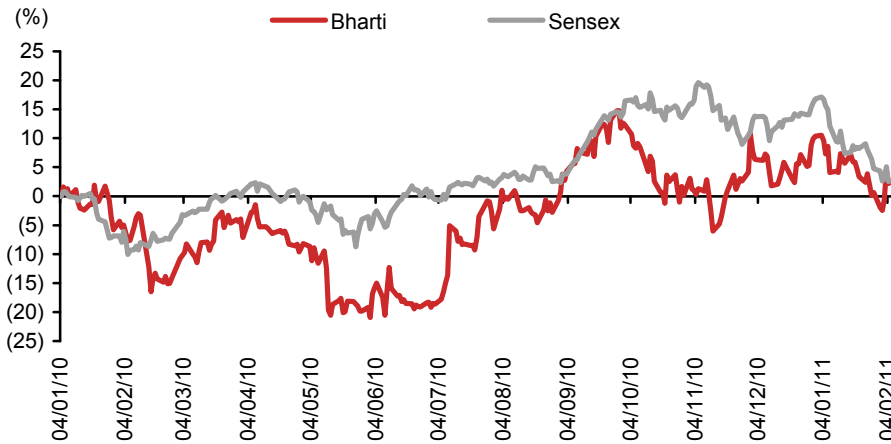
Note: Mar-11 indicates 12 months ending in March-11
Source: Company reports, Nomura estimates

Exhibit 2. India - EBITDA and margin...



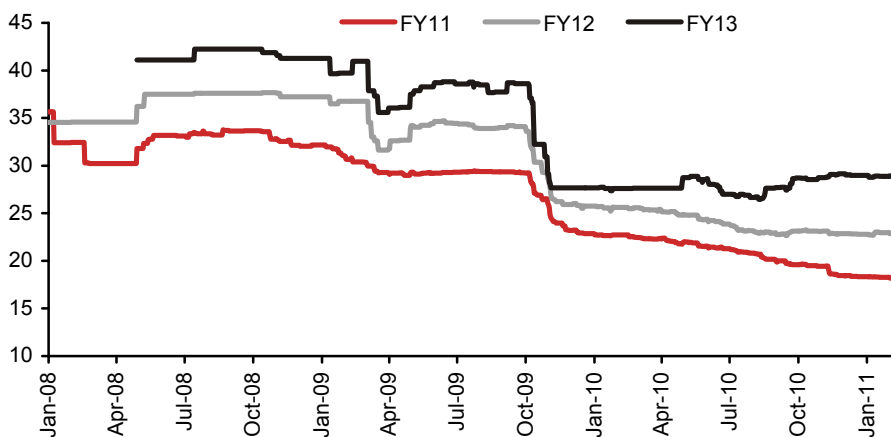
Source: Company reports, Nomura estimates

Exhibit 3. Price performance since 2010



Source: Bloomberg

Exhibit 4. EPS revision for Bharti



Source: Bloomberg

Exhibit 5. Summary findings

1. *Average GDP per capita in Africa is 60% lower than in India, with the GDP growth rate expected to be 5-7% in 2010-11F. Agriculture and mining account for the largest proportion of GDP growth.*
2. *The political systems tend to be unstable, face corruption and are relatively inconsistent. A lot of activity seems to happen in the “informal” sector, which is a part of the economy that is not directly monitored by or taxed by the government.*
3. *Wireless penetration is low, with an average of 44% versus 61% for India. On average, 35% of the population lives in urban areas, and given that network rollouts are still limited, we believe it is likely that real penetration levels could be 70-80% on average in urban areas.*
4. *Competition is intense and fragmented, with Bharti competing with 30 different operators across 15 markets. The top five competitors are Etisalat, MTN, Millicom, Orange and Vodafone. Etisalat is a bigger competitor than MTN as it competes in markets where Bharti generates 58% of total revenue and 66% of EBITDA, with an average margin of 38%.*
5. *Average prices across different markets have been cut by 30-40%, with limited data available on the elasticity impact.*
6. *3G is live in seven markets (limited 3G presence in 2 others) in which Bharti generates 42% of its current EBITDA, on our estimates.*
7. *In 11 markets, we found more explicit management comments on capex spend over the next few years, ranging from US\$25mn in Sierra Leone to up to US\$600mn in Nigeria.*
8. *Average ARPU is US\$7, average price is US¢8-9 after recent price cuts, and termination rates range from 5US¢ to 7US¢. We estimate the rate of decline over the past two years is around 20-30%.*
9. *Regulations are broadly benign, we think – with key focus on subscriber verifications and issuance of 2G/3G licenses. Interconnect rates are under review in seven markets, including Nigeria, while MNP is expected to be introduced this year in Ghana, Kenya and Nigeria.*
10. *Limited domestic and international backhaul is a key bottleneck and a reason for higher prices. Infrastructure sharing and tower divestments are gaining some traction as telcos look for opportunities to rein in cost; MTN and Millicom have been more active.*

Source: Nomura research

Exhibit 6. Regional comparables

	Bloomberg			Local price	Mkt cap (US\$mn)	P/E (x)				EV/EBITDA (x)				Div yield (%)				FCF yield (%)					
	ticker	Rating	Currency			09	10F	11F	12F	09	10F	11F	12F	09	10F	11F	12F	09	10F	11F	12F		
Wireless																							
AIS	ADVANC	TB	BUY	THB	82.75	7,993	14.0	11.8	12.0	11.9	5.6	5.1	5.2	5.2	13.7	15.1	11.5	8.2	10.7	13.7	12.4	12.1	
Axiata Group	AXIATA	MK	BUY	MYR	4.9	13,759	25.2	16.0	13.7	12.6	7.0	6.5	6.0	5.6	0.0	0.0	3.3	4.8	3.7	12.0	8.4	10.2	
Bharti Airtel	BHARTI	IN	BUY	INR	334	27,942	14.5	19.3	17.0	12.9	8.8	9.8	8.1	6.6	0.3	0.3	0.5	0.9	2.1	-38.4	1.5	7.2	
China Mobile	941	HK	BUY	HK\$	76	205,232	11.7	11.4	10.7	10.1	4.9	4.7	4.2	3.8	3.7	3.8	4.2	4.6	8.0	7.6	11.0	14.4	
Digi.com	Digi	MK	BUY	MYR	25	6,534	19.8	16.8	15.7	15.5	9.3	8.2	7.6	7.4	7.0	6.4	6.4	6.4	4.7	8.0	7.3	7.4	
Far EasTone	4904	TT	NEUTRAL	NT\$	44	4,879	15.4	16.1	16.3	15.9	5.6	6.2	6.2	6.1	6.4	5.6	5.5	5.7	11.0	6.6	8.5	8.6	
Globe Telecom	GLO	PM	REDUCE	PHP	765	2,334	10.1	10.9	11.3	11.0	4.4	4.5	4.5	4.3	13.4	9.2	7.8	7.5	7.1	6.7	6.3	7.0	
Idea Cellular	IDEA	IN	REDUCE	INR	69	5,014	24.7	29.7	22.7	16.1	8.1	9.3	7.8	6.9	0.0	0.0	0.0	0.0	-7.8	-23.7	0.9	3.4	
Maxis	Maxis	MK	NEUTRAL	MYR	5.3	13,184	17.3	17.4	16.9	16.6	10.1	9.7	9.4	9.1	2.8	6.0	6.0	6.0	4.8	3.8	5.4	5.9	
MobileOne	M1	SP	BUY	S\$	2.46	1,735	15.2	14.1	13.8	13.1	8.0	7.9	7.6	7.3	5.4	5.7	5.8	6.1	4.1	3.1	8.4	8.6	
PT XL Axiata	EXCL	IJ	BUY	IDR	5,100	4,867	16.5	14.4	10.9	9.1	8.5	5.7	4.7	4.9	0.0	0.0	2.1	3.2	6.5	8.6	10.2	13.4	
Reliance Com	RCOM	IN	REDUCE	INR	116	5,263	12.9	13.9	13.4	10.0	6.2	7.2	6.2	5.3	0.7	0.9	2.0	5.2	-2.5	-39.2	2.9	12.4	
SK Telecom	017670	KS	BUY	KRW	165,000	12,075	10.3	9.5	7.8	6.7	4.3	4.3	3.9	3.6	5.7	5.7	5.7	5.7	7.6	16.2	23.7	24.0	
Taiwan Mobile	3045	TT	BUY	NT\$	68.5	8,962	14.7	14.5	14.2	14.0	9.3	9.1	9.2	9.0	6.7	6.2	6.4	6.4	6.6	7.4	6.5	6.5	
Total Access	DTAC	TB	BUY	THB	41.0	3,162	14.6	9.7	10.7	12.5	5.1	4.2	4.4	4.7	3.4	7.6	9.3	10.5	13.4	14.1	13.3	12.3	
Average							15.8	15.0	13.8	12.5	7.0	6.8	6.3	6.0	4.6	4.8	5.1	5.4	5.3	0.4	8.4	10.2	
Median							14.7	14.4	13.7	12.6	7.0	6.5	6.2	5.6	3.7	5.7	5.7	5.7	5.7	6.5	7.4	8.4	8.6
Integrated																							
China Telecom	728	HK	NEUTRAL	HK\$	4.4	47,863	23.7	20.6	18.0	14.5	5.2	4.9	4.5	3.9	1.9	1.9	1.9	1.9	9.5	8.2	8.0	13.4	
China Unicom	762	HK	BUY	HK\$	12.68	40,065	27.8	46.7	31.7	22.5	5.6	5.4	4.8	4.3	1.4	1.4	0.9	1.3	-3.3	-3.5	-3.6	1.4	
Chunghwa	2412	TT	BUY	NT\$	89	32,750	19.8	18.8	19.1	19.0	9.5	9.8	9.9	10.0	6.8	8.1	5.8	5.9	5.4	6.0	5.6	5.5	
KT Corp	030200	KS	BUY	KRW	41,600	9,846	8.2	8.6	7.9	6.8	4.1	4.0	3.9	3.8	5.8	4.8	4.8	4.8	2.3	5.1	7.5	8.5	
LG Uplus	032640	KS	NEUTRAL	KRW	6,380	2,977	7.1	9.2	9.1	7.9	3.6	3.9	3.4	3.1	4.7	4.7	4.7	4.7	26.5	7.0	-3.3	2.5	
PLDT	TEL	PM	NEUTRAL	PHP	2,418	10,419	10.8	10.9	11.2	11.2	5.8	6.1	6.0	5.8	9.3	6.4	6.3	6.3	4.6	8.5	8.8	9.1	
PT Indosat	ISAT	IJ	BUY	IDR	5,000	3,048	24.0	17.8	13.8	11.4	5.5	5.1	4.6	4.3	2.9	1.6	2.6	4.9	-25.8	-9.2	0.7	9.7	
PT Telkom	TLKM	IJ	NEUTRAL	IDR	7,700	17,057	14.7	14.5	12.6	12.2	4.5	4.2	4.0	4.0	3.7	3.5	4.7	5.3	6.1	9.6	11.4	12.6	
SingTel	ST	SP	NEUTRAL	S\$	3.1	39,001	12.9	13.3	13.1	12.5	7.7	7.6	7.3	6.9	4.5	4.8	5.5	5.5	6.7	5.7	5.8	6.3	
StarHub	STH	SP	REDUCE	S\$	2.7	3,566	14.7	17.7	16.5	15.6	8.0	8.7	8.2	8.0	7.2	7.5	7.5	6.8	9.7	6.9	6.5	6.3	
Telekom Malaysia	T	MK	NEUTRAL	MYR	3.7	4,347	23.2	34.3	21.4	19.8	4.5	5.6	5.3	5.8	5.7	5.4	5.3	5.3	6.5	1.5	6.9	7.3	
Telstra	TLS	AU	NEUTRAL	A\$	2.9	36,323	8.6	9.3	10.1	11.2	4.5	4.6	4.9	5.1	9.7	9.7	9.0	7.8	11.6	13.1	11.4	10.5	
True Corporation	TRUE	TB	REDUCE	THB	6.7	1,533	n/m	n/m	n/m	n/m	5.9	6.3	6.2	6.2	0.0	0.0	0.0	0.0	4.2	1.6	3.4	6.7	
Average							16.3	15.9	15.4	13.7	5.7	5.9	5.6	5.5	4.9	4.6	4.6	4.7	4.9	4.6	5.3	7.7	
Median							14.7	14.5	13.4	12.3	5.5	5.4	4.9	5.1	4.7	4.8	4.8	5.3	6.1	6.0	6.5	7.3	

Source: Company reports, Nomura estimates, Bloomberg

What is implied in the current share price?

- Bharti generated EPS of INR24 in 2010 (pre-Zain acquisition). Even assuming a low *domestic* EPS CAGR of 5% until FY13F, this implies an EPS of INR28 in FY13F, which at 12x P/E suggests a share price of INR333, broadly in line with current levels. At 14x P/E, the implied share price would be INR417 at a 7.5% growth scenario. Our current EBITDA CAGR for the domestic business is 9% until FY13F.

Exhibit 7. Domestic EPS and valuation scenarios

Domestic 2010 EPS (INR)					24.0
Growth CAGR (%)	2.5	5.0	7.5	10.0	
Implied 2013F EPS	26	28	30	32	
P/E range					
@12x	310	333	358		383
@13x	336	361	388		415
@14x	362	389	417		447
@15x	388	417	447		479

Source: Nomura estimates

- Our current forecast is for consolidated EPS of INR26 by FY13F, which basically implies that Zain remains earnings dilutive until then, at least. The interest cost alone dilutes EPS by around INR5, we estimate, and then there is additional D&A too. Adjusting for our capex forecasts for Zain, our stand-alone NPV for Africa is now negative NPV of INR31/share for Bharti versus negative INR58 previously. This may be aggressive, but we think Africa will be challenging. Bharti does not provide stand-alone financials for each individual African country anymore, and based on the last reported data in the December quarter, we estimate the company saw a net loss of around US\$120mn.

Exhibit 8. Africa — standalone DCF

(INRmn)	Mar-11	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	TERMINAL
EBITDA	38,854	49,991	65,116	73,559	76,920	78,024	80,754	
WC	(2,310)	(2,652)	(3,094)	(3,456)	(3,687)	(3,856)	(3,997)	
Tax		(2,500)	(3,256)	(5,517)	(5,769)	(5,852)	(6,057)	
Capex	(35,463)	(38,896)	(41,254)	(46,082)	(49,162)	(51,419)	(53,290)	
FCF	1,081	5,944	17,512	18,503	18,302	16,897	17,411	434,502
Discounted CF	1,076	5,478	14,941	14,614	13,382	11,437	10,910	272,255
PV of free cash flow	71,839							
PV of terminal value	272,255							
Other assets	-							
Net debt	(427,500)							
Minority stake	(34,409)							
Total operations value	(117,815)							
- per share	(31)							

Source: Nomura estimates

We don't dismiss scope to improve profitability...but are cautious

A comparison between India and Africa from the recent 3Q result shows that:

- Networks are more heavily congested/ utilised in Africa based on subscribers per site metric – around three times higher as it is in India (we acknowledge that there are other variables that could explain some of this difference too, such as frequency and spectrum allocations). However, usage remains well below that of Indian levels, which is around 30% lower. If there is inherent elasticity in the system,

the costs are unlikely to rise in the same proportion as incremental traffic and margins should improve respectively. Bharti also notes that the intensity of network coverage has to improve further, as do utilisation rates, which it expects to improve in the coming few quarters.

- We understand employee costs are much higher in Africa. Personnel cost per employee is US\$50k per annum in Africa, almost double that in India, according to our estimates. Bharti will likely be outsourcing some operations, which should help reduce headcount and improve productivity in coming quarters.

Exhibit 9. Cost comparison - India vs Africa (3Q11)

	India & SE Asia (INRmn)	Africa (INRmn)
Revenues	117,213	40,530
Expenses	73,467	31,068
EBITDA	43,746	9,462
- % margin	37	23
Expense as % of sales		
Access charges	11	18
License charges	10	4
Network costs	22	16
COGS	0	2
Employee costs	4	10
SG&A	16	29
Total costs	63	77
Traffic data		
Mobile subs (mn)	152	42
Network sites	113,587	11,338
- Subs per site	1,343	3,715
Minutes (mn)	205,018	14,409
- Minute per site (mn)	1.8	1.3
- Minute per sub/ month	448	114

Source: Company reports, Nomura research

Earnings revisions

We have taken a bit more cautious stance on revenue and earnings in FY12F given various uncertainties still. We revise down revenue and EBITDA by 2-4%.

Nevertheless, our price target has increased to INR400 due to: 1) a reduction in Africa capex to US\$900mn in FY12F and US\$1bn in FY13F, which is around 20% of sales (our previous estimates were around 25% of sales); 2) Adjustments in domestic earnings and capex, post the recent quarterly results; and 3) rolling forward our DCF by one year. We maintain our assumptions for WACC of 9.2% and terminal growth rate of 3%.

Exhibit 10. Earnings revisions

New forecasts	2011F	2012F	2013F
Revenue	588,308	676,345	755,411
EBITDA	197,215	236,994	273,663
EBIT	97,481	124,045	151,370
NPAT	60,562	74,302	98,433
Adjusted NPAT	65,685	74,302	98,433
Old forecasts			
Revenue	581,601	689,535	770,961
EBITDA	201,840	246,851	285,539
EBIT	98,112	132,502	160,523
NPAT	65,812	80,728	106,276
Adjusted NPAT	67,794	80,728	106,276
% change			
Revenue	1	(2)	(2)
EBITDA	(2)	(4)	(4)
EBIT	(1)	(6)	(6)
NPAT	(8)	(8)	(7)
Adjusted NPAT	(3)	(8)	(7)

Source: Nomura estimates

Exhibit 11. Where are we vs consensus?

Consensus	2011F	2012F	2013F
Revenue	584,453	696,495	784,536
EBITDA	200,311	248,607	292,403
NPAT - reported	67,587	84,630	107,430
NPAT - adjusted	65,678	84,036	107,266
Difference from consensus (%)			
Revenue	1	(3)	(4)
EBITDA	(2)	(5)	(6)
NPAT - reported	(10)	(12)	(8)
NPAT - adjusted	0	(12)	(8)

Source: Nomura estimates, Bloomberg

Exhibit 12. Summary P&L – Bharti

Year end March (INRmn)	2008	2009	2010	2011F	2012F	2013F
<u>PROFIT & LOSS</u>						
Revenue						
Mobiles	217,861	303,601	324,872	354,548	380,346	417,215
Telemedia services	28,484	33,517	34,154	36,321	37,872	39,241
Enterprise	13,217	16,945	16,731	41,700	44,619	49,081
Passive infrastructure	6,023	42,489	35,425	85,945	104,047	117,367
Zain-Africa				131,346	176,799	206,268
Eliminations	(38,505)	(94,874)	(81,899)	(61,552)	(67,338)	(73,761)
Total revenue	270,250	369,615	396,149	588,308	676,345	755,411
EBITDA						
Mobiles	85,480	94,050	101,190	123,276	130,320	140,212
Telemedia services	11,407	14,208	14,776	16,236	16,361	16,756
Enterprise - carriers	14,310	30,174	32,868			
Enterprise	6,123	7,569	8,282	9,841	10,530	11,583
Passive infrastructure	2,236	15,022	16,353	32,495	45,010	56,993
Zain-Africa				28,898	49,991	65,116
Others (head office)	(3,659)	(6,169)	(9,865)	(10,590)	(11,836)	(13,220)
Eliminations	(2,182)	(3,176)	(3,336)	(2,942)	(3,382)	(3,777)
Total EBITDA	113,715	151,678	160,268	197,215	236,994	273,663
<i>-% change</i>	53	33	6	23	20	15
EBITDA margin (%)						
<i>Mobiles</i>	39	31	31	35	34	34
<i>Telemedia services</i>	40	42	43	45	43	43
<i>Enterprise</i>	46	45	50	24	24	24
<i>Passive infrastructure</i>	37	35	46	38	43	49
<i>Zain-Africa</i>				22	28	32
Total EBITDA	42	41	40	34	35	36
<i>Total ex-cellular</i>	38	44	47	33	33	32
Non operating income	2,423	1,302	1,094	872	-	-
D&A	(37,260)	(47,581)	(60,457)	(100,606)	(112,949)	(122,293)
Operating profit	78,878	105,399	100,905	97,481	124,045	151,370
Net interest income (expense)	(2,341)	(11,613)	5,783	(20,479)	(29,043)	(23,100)
Indus EBT contribution	0	(713)	292			
Pre-tax profit	76,537	93,073	106,980	77,002	95,002	128,271
Total Tax	(8,378)	(6,615)	(13,959)	(16,940)	(19,950)	(28,861)
<i>Effective tax rate (%)</i>	11	7	13	22	21	23
Minorities	(1,151)	(1,759)	(1,994)	500	(750)	(977)
Reported NPAT	67,008	84,699	91,027	60,562	74,302	98,433
<i>-% change</i>	57	26	7	-33	23	32
Underlying NPAT	69,719	94,567	87,626	65,685	74,302	98,433
<i>-% change</i>	56	36	(7)	-25	13	32

Source: Company reports, Nomura estimates

Exhibit 13. Mobile KPIs – India

MOBILE	2009	2010	2011F	2012F	2013F
Subs (mn)	93.92	127.62	154.42	176.64	196.94
Monthly net adds (mn)	2.66	2.81	2.23	1.85	1.69
ARPU (Rs)	328	244	200	183	178
Chg % y-y	(11)	(26)	(18)	(9)	(3)
MoU (minutes)	513	459	463	467	471
Chg % y-y	6	(10)	1	1	1
RPM (Rs)	0.64	0.53	0.43	0.39	0.38
Chg % y-y	(16)	(17)	(19)	(9)	(4)

Source: Company reports, Nomura estimates

Exhibit 14. Africa estimates

SUMMARY (US\$m)	2009	2011F	2012F	2013F
Revenues	3,667	3,581	4,112	4,797
Chg % y-y	(12)	(2)	15	17
Operational EBITDA	1,078	904	1,163	1,514
Margin %	29	25	28	32
Chg % y-y	(23)	(16)	29	30
Capex		825	905	959
as a % of sales		27	21	20
SUMMARY (INRmn)				
Revenues		153,981	176,799	206,268
Chg % y-y		(13.2)	14.8	16.7
Operational EBITDA		38,854	49,991	65,116
Chg % y-y		(24)	29	30
Margin (%)		25	28	32

Note: 2011 corresponds to full year for Africa business

Source: Nomura estimates

Africa overview

The African landscape

Exhibit 15. Bharti's presence in Africa



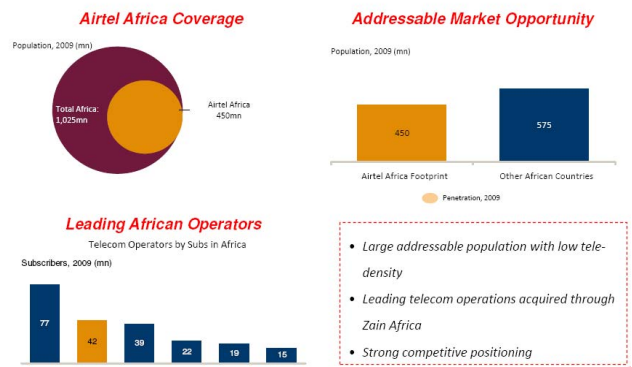
Source: Wikimap, IMF World Economic Outlook, CIA factbook, Internetworldstats, Nomura research

Exhibit 16. India versus Africa comparisons

	India	Africa ⁽¹⁾
Mobile Penetration	61%	40%
Average Number of Competitors	10-12	3-5
Business Model	High usage, low pricing model	Low usage, high pricing model
Minutes of Usage	~454	~112
ARPU (US\$)	~\$5	~\$7
ARPM (US cents c)	1c	7c

Source: Bharti

Exhibit 17. Africa Opportunity



Source: Bharti

Exhibit 18. Bharti's presence in Africa

Competitive landscape	Burkina Faso	Chad	Congo	DRC	Gabon	Ghana	Kenya	Madagascar	Malawi	Niger	Nigeria	Sierra Leone	Tanzania	Uganda	Zambia
#1	Onatel/Maroc (44%)	Bharti (53%)	Zain (46%)	Vodacom (36%)	Bharti (62%)	Scanacom/MTN (51%)	Safaricom (81%)	Orange (40%)	Bharti (63%)	Zain (65%)	MTN (45%)	Africell (43%)	Vodacom (41%)	MTN (53%)	Bharti (60%)
#2	Bharti (39%)	Millicom (47%)	MTN (42%)	Bharti (34%)	Maroc (61%)	Millicom/Tigo (23%)	Bharti (9%)	Bharti (37%)	TNM (37%)	Orange (27%)	Globacom (23%)	Comium (94%)	Bharti (28%)	Others (23%)	MTN (35%)
#3	Telecel/Elisatel (17%)	NA	Ward (12%)	Millicom/Tigo 20%	Elisatel (13%)	GTN/Vodafone (15%)	EssarGroup (7%)	Telma (23%)		Elisatel (10%)	Bharti (20%)	Zain (24%)	Millicom/Tigo (22%)	Bharti (18%)	Zambe (5%)
Others	NA	Bintell (14%)		CCT (10%)	Bintell (14%)	Bharti (10%)	Orange (3%)			Somiel (8%)	Elisatel (5%)	Zain (24%)	Zain/Elisatel (8%)	Orange (4%)	
						Kasapa (1%)					Others (7%)	TTCL (1%)			
Bharti's share	39%	53%	46%	34%	52%	10%	9%	37%	63%	55%	20%	24%	26%	18%	60%
Market penetration	4.99	2.70	0.24	10.35	1.73	16.85	20.25	5.33	3.00	3.30	85.12	2.32	20.68	3.20	4.94
Population (mn)	32%	26%	6%	15%	115%	72%	51%	25%	20%	21%	55%	36%	47%	10%	38%
- Urban population	16	10	4	69	2	23	40	21	15	16	152	6	44	32	13
	20%	27%	61%	34%	85%	50%	22%	29%	19%	16%	48%	38%	25%	13%	35%
ARPU (\$)	6.0	7.0	11.0	5.6	15.0-18.0	6.0	4.0	3.0-4.0	6.0-7.0	7.0-8.0	7.0-11.0	6.0-7.0	5.0-6.0	5.0	6.0
Average prices (Usc. per min)						7-8	1-4		3-26	6-27	8-9	8-10	7-22	8-10	12-26
Interconnect (Usc)							2.7		4.0	7.0	5.0-7.0	7.0	7.0	6.0	6.0
Recent price cuts							50-60%		20-80%	20-30%	30-50%	50-60%	40-50%	30-40%	30-50%
Competitive outlook	Moderate	Moderate	Moderate to high	Moderate to high	Moderate	Relatively high	Relatively high	Moderate	Moderate	Moderate	Relatively high	Moderate	Relatively high	Moderate	Moderate
Total Bharti subs	4%	3%	3%	8%	2%	3%	5%	4%	4%	4%	35%	1%	12%	5%	7%
% of African revenues	3%	4%	6%	9%	7%	2%	4%	2%	4%	4%	36%	1%	7%	3%	8%
% of African EBITDA	5%	5%	5%	6%	9%	-4%	1%	2%	6%	7%	36%	0%	9%	1%	12%
Change in EBITDA margins 06-09	-5%	4%	-16pp	-10pp	-9pp	na	-14pp	-3pp	+1pp	-4pp	-3pp	-11pp	-3pp	-2pp	-5pp
Preliminary capex indications (US\$mn)	NA	NA	NA	400	NA	200	350	50	100	100	600	25	150	100	150
Current 3G availability	YES - limited	NO	NO	YES - limited	NO	YES	YES	YES	YES	NO	YES	YES	YES	YES	No
Ratings	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate to increasing	Increasing	Moderate	Increasing	Moderate	Moderate	Moderate	Moderate to increasing	Moderate	High
GDP growth outlook	3.0-5.0%	4.0-5.0%	7.5-11.0%	5.0%	5.0%	5.0-6.0%	4.0%	2.8%	6.2%	3.5-5.0%	7.4%	4.5-5.2%	5.6-6.7%	6.0%	6.0-6.5%
GDP per capita PPP (US\$)	1,340	1,650	4,800	340	15	1,610	1,784	911	909	720	2,400	803	1,500	1,250	1,625

Source: Wikimap, IMF World Economic Outlook, CIA Factbook, Internetworldstats, Nomura research

Executive summary

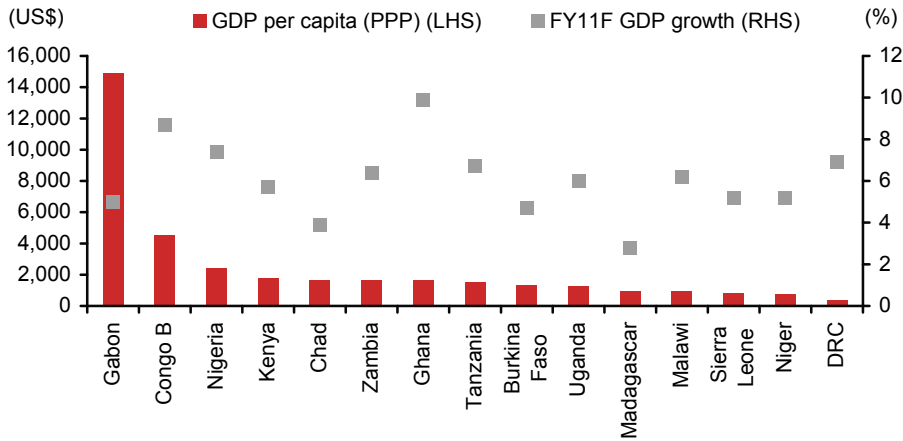
Key findings on African businesses

Exhibit 19. Summary findings

11. Average GDP per capita in Africa is 60% lower than in India, with the GDP growth rate expected to be 5-7% in 2010-11F. Agriculture and mining account for the largest proportion of GDP growth.
12. The political systems tend to be unstable, face corruption and are relatively inconsistent. A lot of activity seems to happen in the "informal" sector, which is a part of the economy that is not directly monitored by or taxed by the government.
13. Wireless penetration is low, with an average of 44% versus 61% for India. On average, 35% of the population lives in urban areas, and given that network rollouts are still limited, we believe it is likely that real penetration levels could be 70-80% on average in urban areas.
14. Competition is intense and fragmented, with Bharti competing with 30 different operators across 15 markets. The top five competitors are Etisalat, MTN, Millicom, Orange and Vodafone. Etisalat is a bigger competitor than MTN as it competes in markets where Bharti generates 58% of total revenue and 66% of EBITDA, with an average margin of 38%.
15. Average prices across different markets have been cut by 30-40%, with limited data available on the elasticity impact by individual country.
16. 3G is live in seven markets (limited 3G presence in 2 others) in which Bharti generates 42% of its current EBITDA, on our estimates.
17. In 11 markets, we found more explicit management comments on capex spend over the next few years, ranging from US\$25mn in Sierra Leone to up to US\$600mn in Nigeria.
18. Average ARPU is US\$7, average price is US¢8-9 after recent price cuts, and termination rates range from 5US¢ to 7US¢. We estimate the rate of decline over the past two years is around 20-30%.
19. Regulations are broadly benign, we think – with key focus on subscriber verifications and issuance of 2G/3G licenses. Interconnect rates are under review in seven markets, including Nigeria, while MNP is expected to be introduced this year in Ghana, Kenya and Nigeria.
20. Limited domestic and international backhaul is a key bottleneck and a reason for higher prices. Infrastructure sharing and tower divestments are gaining some traction as telcos look for opportunities to rein in cost; MTN and Millicom have been more active.

Source: Nomura research

- **Average GDP per capita in Africa is 60% lower than in India.** Amongst the African countries in which Bharti has a presence, the average GDP per capita (PPP) is US\$1,400, vs India's US\$3,200. Most African countries have GDP growth rates of 5-7%. Agriculture and mining account for the largest proportion of GDP growth, although many countries, such as Zambia or Tanzania, have been trying to reduce dependence and increase diversification, with mixed success so far. Economic volatility and political instability persist in most markets and a number of these markets (such as Malawi) are more heavily dependent on foreign aid, which can also affect GDP growth rates.

Exhibit 20. Summary of GDP per capita (PPP), GDP growth (FY11F)

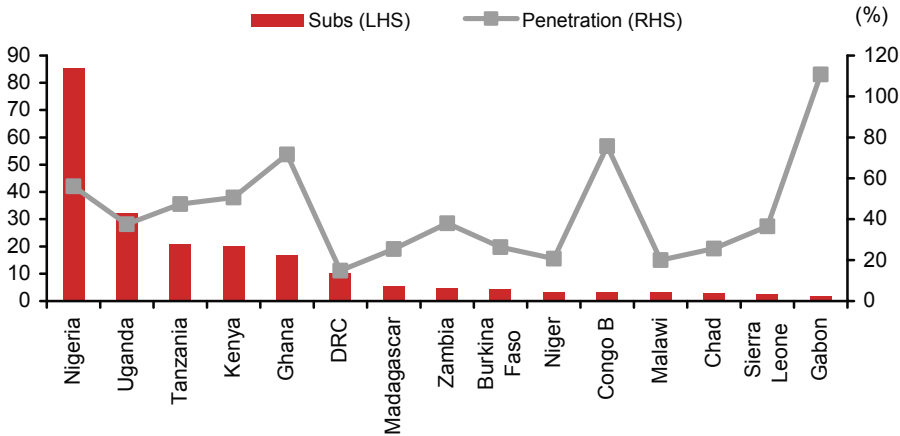
Source: IMF estimates

- The political systems tend to be unstable, more corrupt and relatively inconsistent.** A lot of activity seems to happen in the “informal” sector, which is a part of the economy that is not directly monitored by or taxed by the government. Lack of infrastructure, energy and resources, civil wars, corruption and bureaucracy are prevalent in most markets, with no clear end in sight. In the World Bank’s 2010 *Doing Business* report, a number of these countries rank poorly – for example, Democratic Republic of Congo (DRC), which is Bharti’s third-largest market, is considered the second most difficult country in which to do business. There have been many initiatives to encourage reforms and privatisation, with mixed success. For example, Burkina Faso, Uganda and Kenya have made relatively more progress on labour reforms, infrastructure and construction permits, while DRC has not. Overall, one sector that appears more progressive is telecoms, in our view.

The countries that appear relatively more economically and politically stable are Gabon, Zambia, Burkina Faso, Ghana, Tanzania, and Uganda. The less-stable nations, in our view, are Chad, DRC, Sierra Leone and Niger.

- Wireless penetration is low, with an average of 44%** (or around 215mn SIMs/subscribers) with 15% in DRC to as high as 111% in Gabon. This compares to the current Indian wireless penetration rate of 61%. Having multiple SIMs is common in most markets, and we estimate real subscriber penetration could be 10-30ppt lower across most markets. Looking ahead, it is uncertain and difficult to predict how fast and how high the penetration rate will rise as network rollout is a challenge across many counties, due to: 1) poor infrastructure, and 2) a vast majority of land is deserted or terrain is difficult, such as in Niger (70% covered by Sahara desert), Chad and Gabon.

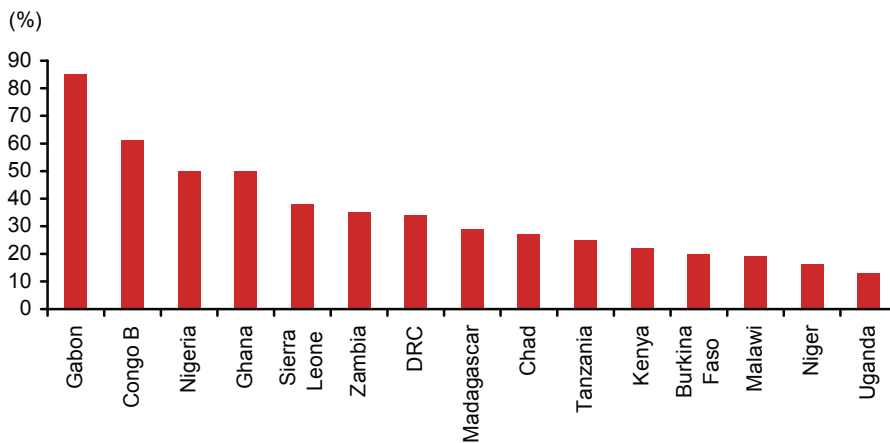
Exhibit 21. Wireless subscribers and penetration



Source: Company reports, regulator websites, Nomura estimates

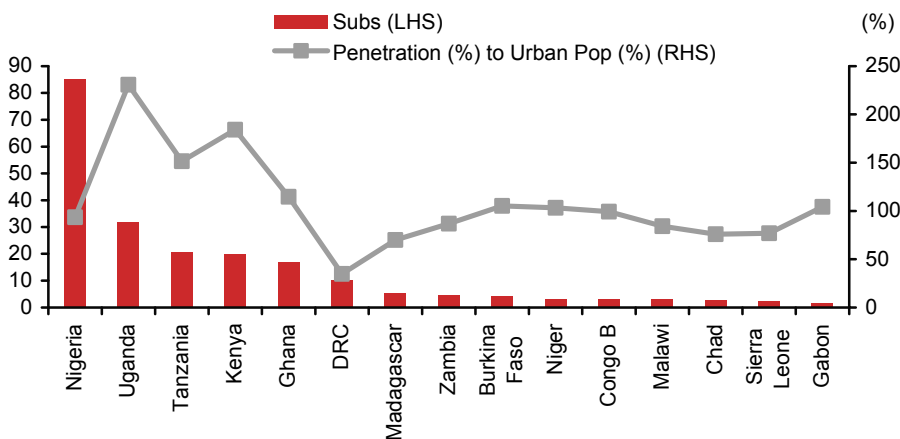
- **On average 35% of population lives in urban areas**, versus the average wireless penetration rate of 44%. Given that network rollouts are still limited, we believe it is likely that real penetration levels could be 70-80% on average in urban areas. In countries such as Uganda and Niger, the urban population is as low as 13-16%, while in Gabon and Congo it is 60-80%.

Exhibit 22. % of population that is living in urban areas



Source: CIA fact book

Exhibit 23. Implied penetration in urban areas, assuming 80% subscribers are urban



Source: IMF and Nomura estimates

- **Competition is intense and fragmented, with Bharti competing with 30 different operators across 15 markets.** Both MTN and Etisalat are the key competitors, with each competing in five different markets, including Nigeria. The next three key competitors are Millicom, Orange and Vodafone, with each competing in three to four markets.
- **Etisalat is a bigger competitor than MTN.** It competes in markets in which Bharti generates 58% of total revenue and 66% of EBITDA, with an average margin of 38%. In markets where it competes with MTN, Bharti's total revenue is 54%, EBITDA is 55% and the average margin is 28% (excluding Ghana). Bharti's third-largest competitor is Millicom, which competes in markets in which Bharti generates 21% of revenue, 20% of EBITDA and has an average 32% margin (excluding Ghana), on our estimates.

Exhibit 24. Overlap with Etisalat

	Bharti's rank (#)	% Revenue	% EBITDA	% Margin
Burkina Faso	#2	3	5	41
Gabon	#1	7	9	39
Niger	#1	4	7	45
Nigeria	#3	36	36	30
Tanzania	#2	7	9	34
Total/average		58	66	38

Source: Nomura research

Exhibit 25. Overlap with MTN

	Bharti's rank (#)	% Revenue	% EBITDA	% Margin
Congo B	#1	6	5	27
Ghana	#4	2	na	-74
Nigeria	#3	36	36	30
Uganda	#2	3	1	12
Zambia	#1	8	12	43
Total/average		54	55	28

Source: Nomura research

Exhibit 26. Overlap with Millicom

	Bharti's rank (#)	% Revenue	% EBITDA	% Margin
Chad	#1	4	5	42
DRC	#1	9	6	20
Ghana	#4	2	na	-74
Tanzania	#2	7	9	34
Total/average		21	20	32

Source: Nomura research

Exhibit 27. Penetration in urban areas, assuming all urban subscribers

	% Share	% Revenue	% EBITDA	% Margin		% Share	% Revenue	% EBITDA	% Margin
Burkina Faso					Malawi				
Onatel (Maroc)	44				Bharti	63	4	6	44
Bharti	39	3	5	41	TNM	37			
Telecel Faso (Etisalat)	17				Niger				
Chad					Bharti	55	4	7	45
Bharti	53	4	5	42	Orange	27			
Millicom	47				Etisalat	11			
Congo B					Sonitel	8			
Bharti	46	6	5	27	Nigeria				
MTN	42				MTN	44			
Warid	12				Globacom	23			
DRC					Bharti	20	36	36	30
Bharti	34	9	6	20	M-Tel	0			
Vodacom	36				Etisalat	5			
Millicom (Tigo)	20				Other CDMA	7			
CCT	10				Sierra Leone				
Gabon					Africell	43			
Bharti	52	7	9	39	Comium	34			
Maroc	31				Bharti	24	1	0	5
Etisalat	13				Tanzania				
Bintell	4				Vodacom	41			
Ghana					Bharti	28	7	9	34
Scancom (MTN)	51				Millicom (Tigo)	22			
Millicom (Tigo)	23				Zantel / Etisalat	8			
GT/Vodafone	15				TTCL	1			
Bharti	10	2	na	(74)	Others	0			
Kasapa	1				Uganda				
Kenya					MTN	52			
Safaricom	81				Bharti	18	3	1	12
Bharti	9	4	1	4	Others	25			
Essar Group	7				Orange	4			
Orange	3				Zambia				
Madagascar					Bharti	61	8	12	43
Orange	40				MTN	35			
Bharti	37	2	2	23	Zamtel	4			

Source: IMF and Nomura research

- **Average prices across different markets have been cut by 30-40%, with limited data available on elasticity impact by individual country.** In eight of the 15 markets, we notice that the average price has been cut by 30-40% in recent months. Bharti notes that it has implemented price cuts in the remainder of markets as well, however, we have been unable to validate this given the difficulties in collecting some data. Sierra Leone, Kenya and Malawi appear to have seen the most aggressive cuts in the range of 50-80%. There is no clear evidence that Bharti is the instigator or the only carrier cutting prices – each market has different drivers and reasons. One common factor appears to be termination rates, which remain quite high in some markets (eg US¢7-8). We also note that carriers have maintained off-net rates well above termination rates, and these could likely be exposed to further pressure in our view.

Exhibit 28. Summary of price cuts by market in recent quarters

Market	Average price cuts
Burkina Faso	NA
Chad	NA
Congo B	NA
DRC	NA
Gabon	NA
Ghana	NA
Kenya	50-60%
Madagascar	NA
Malawi	20-80%
Niger	20-30%
Nigeria	30-50%
Sierra Leone	50-60%
Tanzania	40-50%
Uganda	30-40%
Zambia	30-50%

Source: Press articles, Nomura research

- **3G is available in seven markets, in which Bharti generates 42% of its current EBITDA**, on our estimates. 2 other markets have limited 3G through EV-DO networks. Zambia and Sierra Leone recently saw the issuance of 3G licenses. The rest of the markets are on 2G/2.5G.
- **In 11 markets, management has discussed the possibility of raising capex** in some press articles. This ranges from US\$25mn in Sierra Leone to around US\$600mn in Nigeria *over the next few years*. We note that this is not the company's guidance.

Exhibit 29. 3G and capex plans

	Capex indications (US\$ mn)	3G availability
Burkina Faso	na	Limited (fixed wireless EV-DO)
Chad	na	No
Congo B	na	No
DRC	400	Limited (fixed wireless EV-DO), 3G auctions process were expected in 2010, yet to begin
Gabon	na	3G tender in process
Ghana	200	Yes
Kenya	350	Yes
Madagascar	50	Yes
Malawi	100	Yes
Niger	100	No
Nigeria	600	Yes
Sierra Leone	25	Bharti received LOI for 3G
Tanzania	150	Yes
Uganda	100	Yes
Zambia	150	3G license issued

Source: Nomura research

- **Average ARPU is US\$7, average price is US¢8-9 after recent price cuts, and termination rates range from US¢5-7**. We estimate the rate of decline in the past two years at around 20-30%.

Exhibit 30. ARPU estimates (US\$)

Burkina Faso	6.0
Chad	7.0
Congo	11.0
DRC	5.0-6.0
Gabon	15.0-18.0
Ghana	6.0
Kenya	4.0
Madagascar	3.0-4.0
Malawi	6.0-7.0
Niger	7.0-8.0
Nigeria	7.0-11.0
Sierra Leone	6.0-7.0
Tanzania	5.0-6.0
Uganda	5.0
Zambia	6.0

Source: Nomura research

Exhibit 31. Current prices in select African markets

	Voice prices (per min)		SMS prices (per SMS)		Current I/C (US¢, 2010)	
	On-net (US¢)	Off-net (US¢)	On-net (US¢)	Off-net (US¢)	Voice	SMS
Kenya	~1-4	4	0.7	1.2	2.7	0.6
Malawi	~3-26 (off-peak/peak)	~3-26	6	6	4	
Niger	~6-21	27	4	9	7	
Nigeria	~8-9	~8-9	3	6	5-7	0.6-1.0
Sierra Leone	8	10			7	
Tanzania	7	22			7	
Uganda	8	10			6	
Zambia	~14-20 (wknd/normal)	~12-26 (off-peak/peak)			6	3

Source: Press, company reports, Nomura research

- **Regulations are broadly benign, we think – with key focus on subscriber verifications and issue of 2G/3G licenses.** Interconnect rates are under review in seven markets, including Nigeria, while MNP is expected (based on regulator's comments) to be introduced this year in Ghana, Kenya and Nigeria. We found two countries – Zambia and Malawi – where the regulator appears more proactive on addressing policy framework, competition, tariffs and QoS issues. In general, however, the regulators appear keen to support competition (through MNP or otherwise) and for lower interconnect rates to make telecom services more affordable to the end user, in our view.

Exhibit 32. Summary of regulatory issues in various markets

Issues implemented in 2009-10 and on-going)	Countries where undertaken
Subscriber registration	Burkina Faso, Chad, Congo, DRC, Gabon, Ghana, Niger, Nigeria, Sierra Leone, Tanzania
Issue of new 2G/3G license	Burkina Faso (4th license), DRC (3G auction process yet to commence), Gabon (bids for 3G), Ghana (5 BWA license issue process underway), Malawi (issue of 4th license in 2010), Kenya (issued 2 new licenses), Sierra Leone (Airtel gets 3G license), Zambia (international gateway license, 3G license)
Interconnect review	Congo, Kenya, Nigeria, Sierra Leone, Tanzania, Uganda, Zambia
Tariff regulation	Malawi (notes it has powers for regulating tariff, and could potentially look to do so), Nigeria (price cap review), Zambia (relaxing approvals for new tariffs)
Additional levies	Ghana (on international calls), Niger (increase in taxes proposed)
MNP	Ghana (2011F), Kenya (2011F), Nigeria (2011F), Zambia (initial proposal)
Implementation of Universal service/access/ rural connectivity	Kenya, Malawi, Sierra Leone, Zambia
QoS review	Kenya, Malawi
Review of Telecom/ICT policy framework	Malawi (Review of Comm. Act of 1998), Zambia
Rollout obligations	Malawi
Listing requirements	Tanzania
Competition	Zambia (5 year restriction on entry of new players)

Source: Regulator's websites, Bharti, Company Reports, Press, Nomura research

- **Limited domestic and international backhaul is a key bottleneck and a reason for higher prices.** This is being addressed gradually as more and more cable lines are being rolled out. Notable ones include SAT-/WASC, Seacom and Glo-1. Currently a lot of the broadband usage is via satellite links, which is much more expensive and relatively inefficient. The World Bank has introduced initiatives in countries such as Chad to build domestic backhaul under the projects like Central African Backbone (CAB).
- **Infrastructure sharing and tower divestments are gaining some traction as telcos look for opportunities to rein in cost;** MTN and Millicom have been more active. In Ghana, Millicom sold its towers to Helios in January 2010 and MTN sold its towers to ATC in December 2010. In Tanzania, Millicom also sold its towers to Helios, while Eaton became the first independent tower company last year. Previously, the network was looked upon as a competitive advantage – although the average penetration rate in Africa is still low, we understand the logistics and advantages offered by tower sharing has made it an interesting proposition for even incumbent operators (who have better coverage). There are other initiatives, such as coordination of the use of spectrum along the national borders between Niger, Chad, Bukina Faso and other nations.

Key takeaways by market

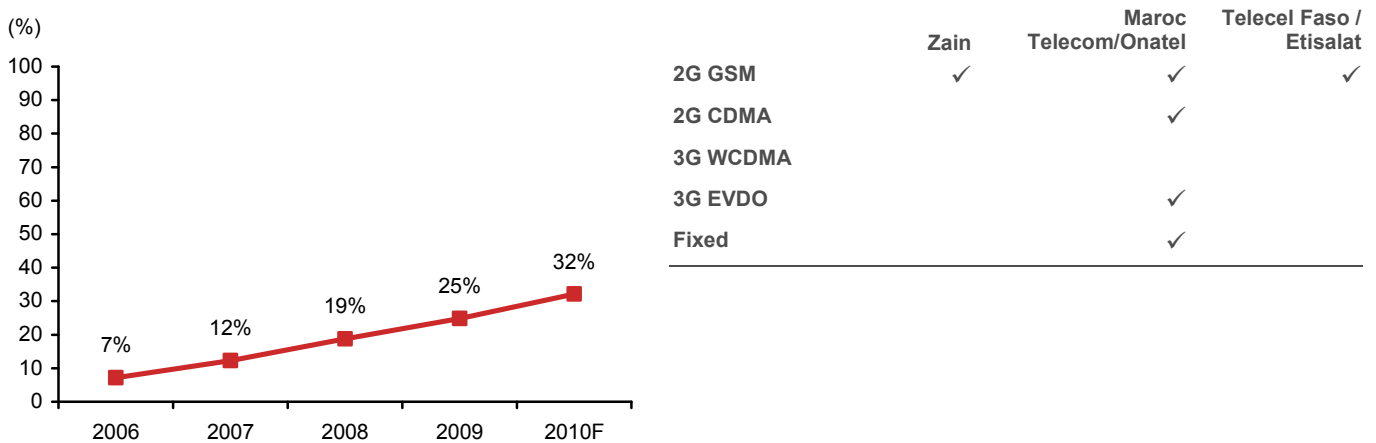
Key conclusion on each market

Burkina Faso....the land of upright people

Until 1984, it was called the Republic of Upper Volta... Burkina Faso apparently means "the land of upright people", but unfortunately it currently has the lowest literacy rate amongst the African nations at ~30% (Gabon has the highest at 95%).

- Burkina Faso is the eighth-largest market in Bharti's African portfolio, with a population of 16mn and 32% wireless penetration. Of the current three players – Bharti is at No. 2 with a 39% share, on Nomura estimates – there is a possibility of another license being awarded. Onatel (51% owned by Maroc) is the market leader with a 44% share and Telecel Faso (68% owned by Etisalat) has a 17% share. Earnings contribution for Bharti is 3-5%, while margins have dropped to around 41% in recent years. We currently build in some margin recovery to 45% by FY13F.

Exhibit 33. Burkina Faso - market penetration and overview of operators

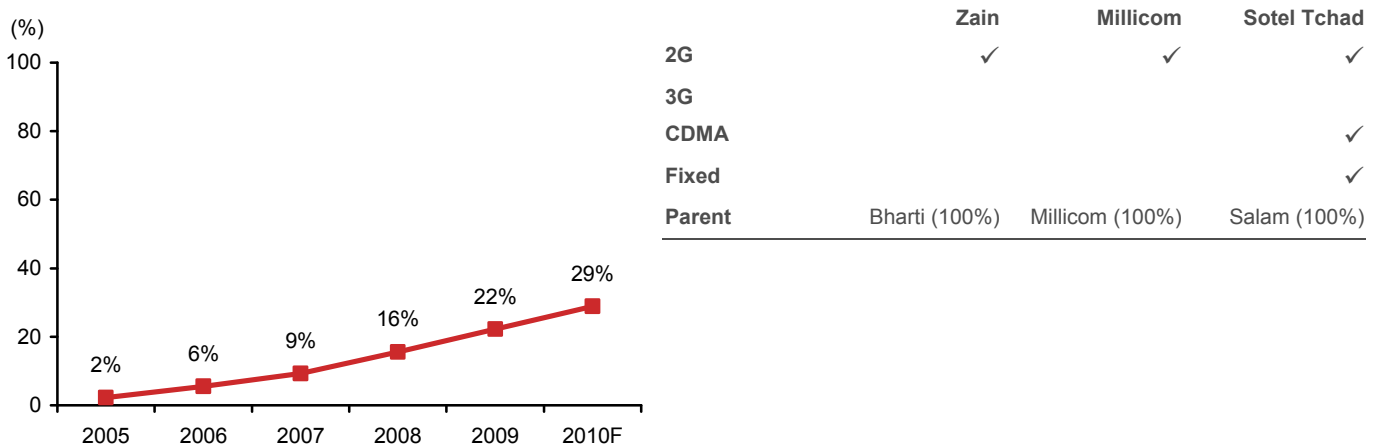


Source: Company reports, regulator websites, Nomura estimates

Chad... there is one paved road

Apparently, there is only one main paved road in Chad, which currently runs from Massakory in the north through its capital N'Djamena... and around 80% of its population lives below the poverty line.

- Chad represents around 4% of Bharti's African earnings, and the mobile market is a cosy duopoly between Bharti (53% share) and Millicom (47% share). Wireless penetration is low at 26%, with ARPU at around US\$7, on our estimates. Libyan state-owned firm LAP Green Network recently acquired a majority stake in Sotel (national fixed-line operator), but we believe there is no commercial launch planned at this stage. EBITDA margins for Bharti have increased gradually over the past three years to around 40% now, and it is difficult to envisage a further increase, given limited clarity on 3G at this stage, and the potential for rising competition.

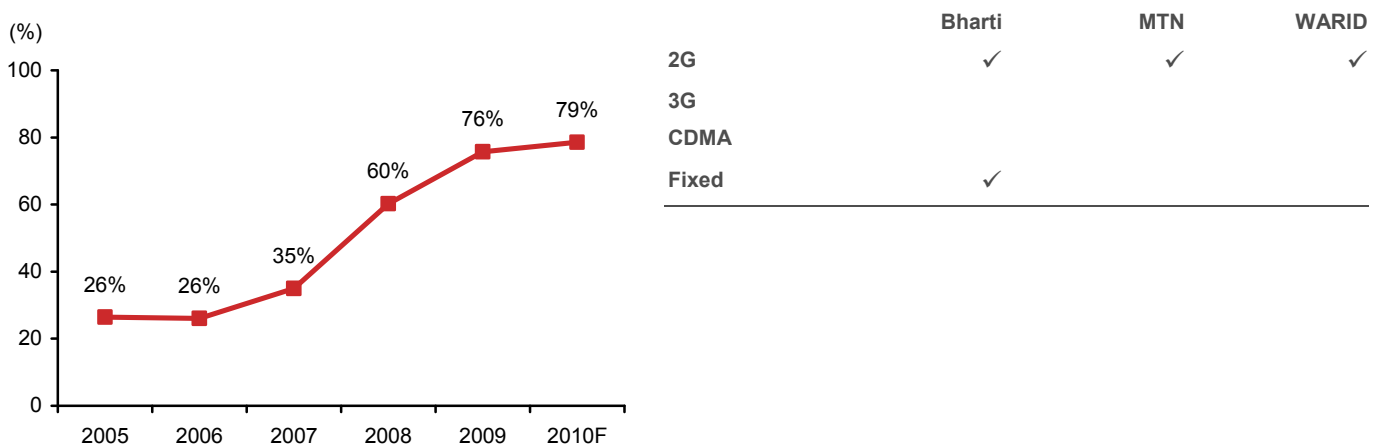
Exhibit 34. Chad - market penetration and overview of operators

Source: Company reports, regulator websites, Nomura estimates

Congo B... formerly Zaire

Congo B is different from DRC (Democratic Republic of Congo). DRC was formerly known as Zaire, and is one of the largest African nations, while Congo B is one of the smallest. They are right next to each other, but are separated by a river (Congo River – the second longest in Africa), and have different colonial backgrounds.

- The Republic of Congo, or Congo Brazzaville (Congo B), although small with a 4mn population, is a relatively more prosperous nation within Africa, with a GDP per capita (PPP) of US\$4,500 and wireless ARPU of US\$11. With rising competition over the past three years, Bharti's leading market share has dropped from 70% to around 46%, and margins have also dropped a hefty 20ppt to 25%. MTN and Warid are the other players, with shares of 42% and 12%, respectively (as of 2009). Another player, Bintel, entered the market last year, which could make a turnaround more challenging, in our view. Nevertheless, the market appears appealing (no 3G yet), and we build in a gradual margin recovery to mid-30% by FY13F at this stage.

Exhibit 35. Congo B- market penetration and overview of operators

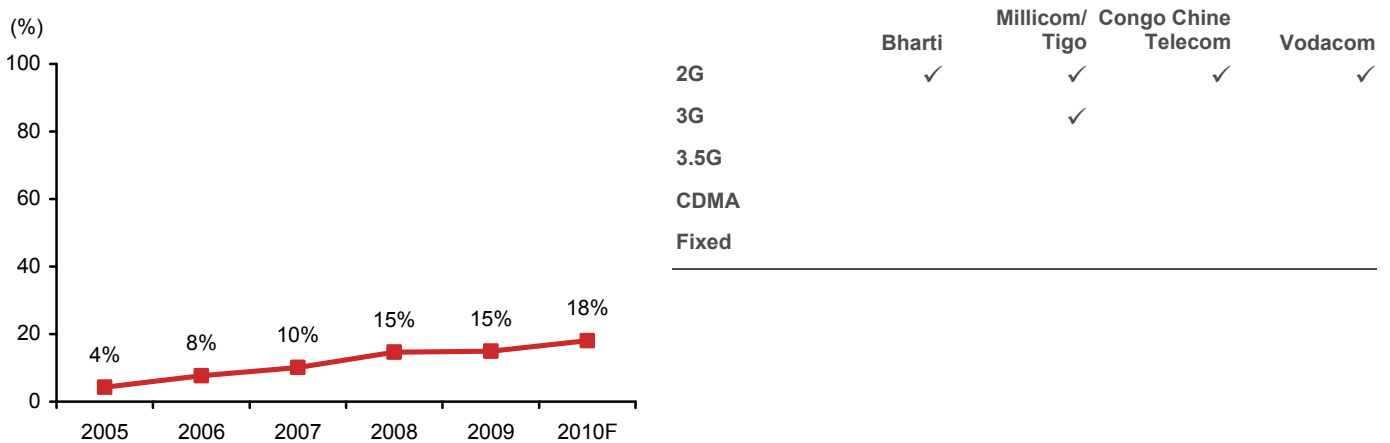
Source: Company reports, regulator websites, Nomura estimates

DRC... big, but unstable

The country celebrated 50 years of independence from Belgium last year. However, despite being rich in resources, it remains a poor country ravaged with violence. It is considered one of the largest missions for the UN, having deployed over 20,000 people there.

- DRC is the second most populous country in Bharti's African portfolio with 69mn people, but has low wireless penetration (15%). Bharti is the second-largest player with a 34% market share, on our numbers (Vodacom is the market leader with a 36% share). Earnings contribution is around 6%, with low EBITDA margins of 20%. The political environment is relatively unstable in DRC, while the telecoms landscape is more competitive, with four players. Moreover with no 3G on the horizon, we think ARPU risks could be to the downside from the current US\$5-6 level. We also see downside risks to our current margin projections of 33% by FY13F.

Exhibit 36. DRC - market penetration and overview of operators



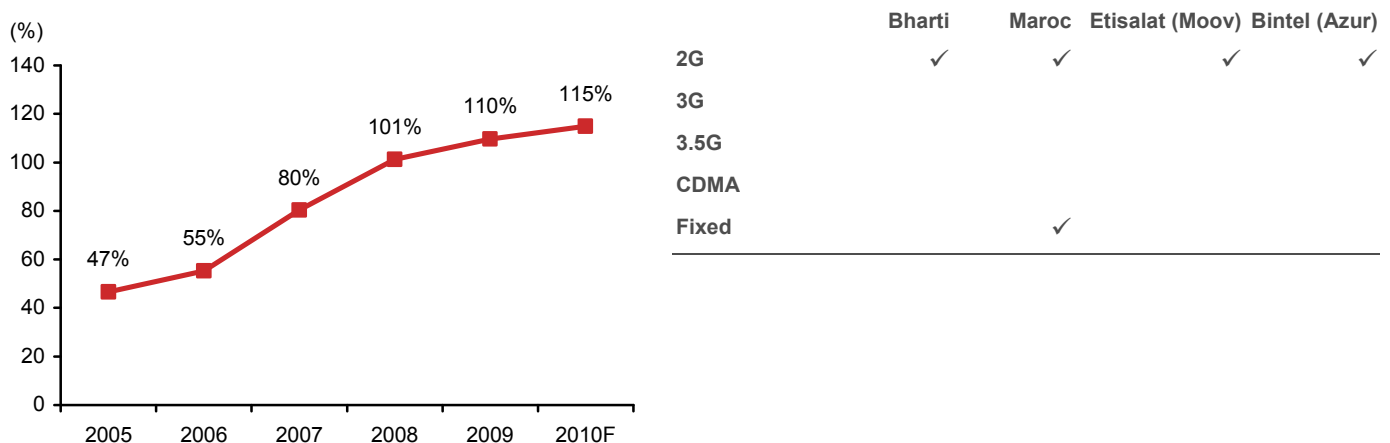
Source: Company reports, regulator websites, Nomura estimates

Gabon... the home of African gorillas

Around 80% of GABON is covered by rainforests, and four-fifth of Africa's gorillas live in GABON.

- Gabon is the third-largest earnings contributor for Bharti in Africa at 10% of total EBITDA (at ~40% margins). It is also one of the highest ARPU markets on the continent at around US\$15-18, but competition is heating up. Following Bintel's recent entry, Gabon is now a four-player market. Bharti currently dominates with around 52% market share. The penetration rate is high at 115%, and 3G is yet to be rolled out. It is one of the first markets where we think Bharti is expected to implement its outsourcing model, and we expect margins to rise to around 45% by FY13F, similar to FY08 levels.

Exhibit 37. Gabon - market penetration and overview of operators

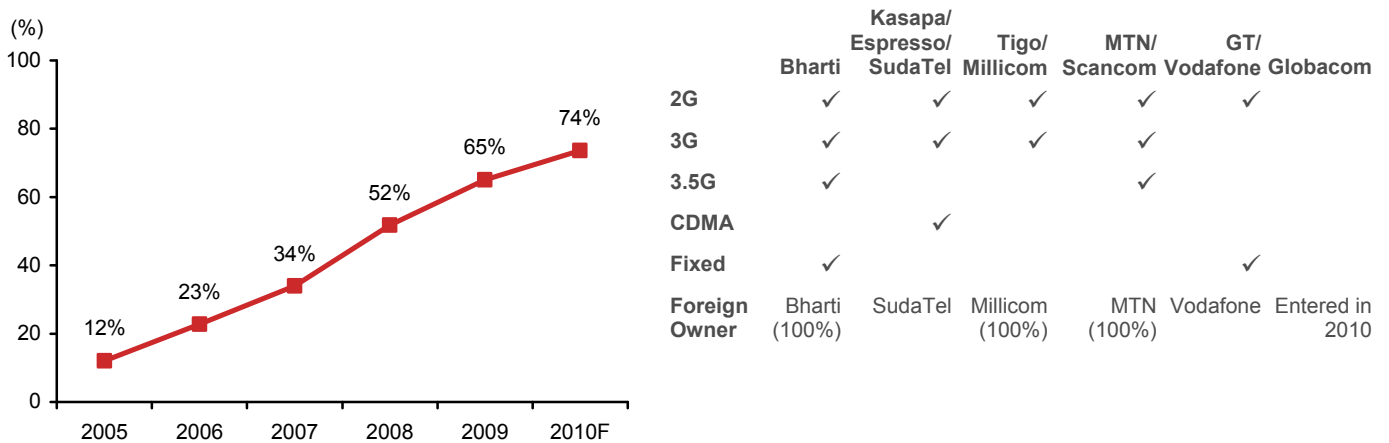


Source: Company reports, regulator websites, Nomura estimates

Ghana ...

- Ghana accounts for 2% of Bharti Africa's revenues and is still running at EBITDA losses, by our estimates. The political and regulatory environment in Ghana appears stable, but the market is relatively competitive with six players now, and Bharti (No. 4) only has a 10% share. Mobile penetration is 74%, and most carriers have live 3G services. Bharti is looking to invest US\$200mn in Ghana, according to management, but we think extracting returns in this market could be challenging and anticipate an EBITDA break-even by FY13F at this stage.

Exhibit 38. Ghana - market penetration and overview of operators

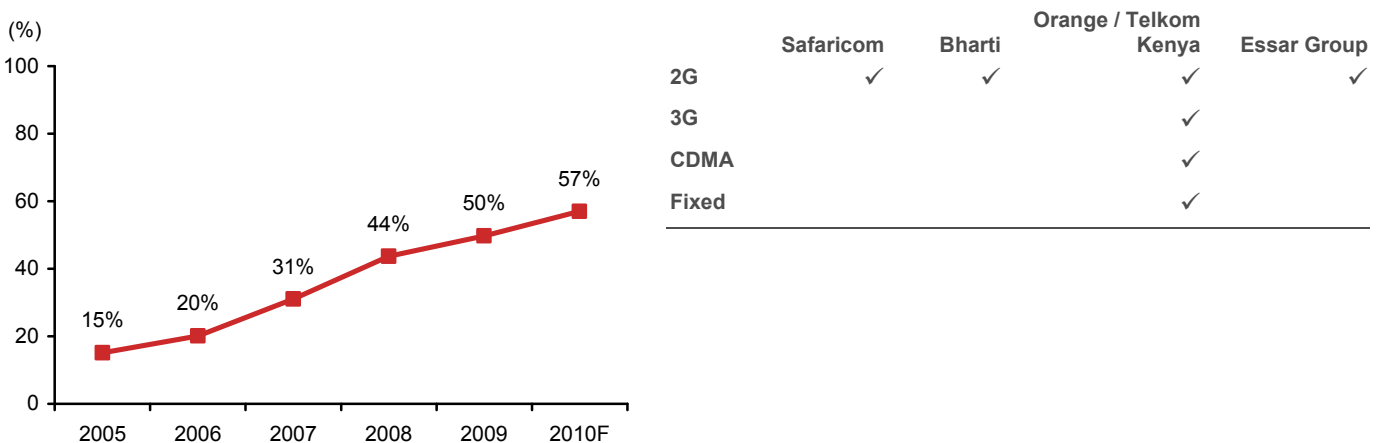


Source: Company reports, regulator websites, Nomura estimates

Kenya... a good test-bed

- Kenya is Bharti's African head-office, and is its fourth-largest market (by population, 40mn), with 50% wireless penetration. However, its market share is only 10% (as of June 2010) and profitability has declined over the past three years from 30% margins to 4-5% now. It is one of the first markets in which Bharti led with price cuts (of 50-60%) in voice to drive up usage, with some encouraging trends. Recently, however, competition has also picked up on prices and bundled offers – see attached note for detailed discussion on recent price cuts, usage trends, etc. We think Bharti would like to make an example of this market and build in a margin recovery to 15% by FY13F.

Exhibit 39. Kenya - market penetration and overview of operators



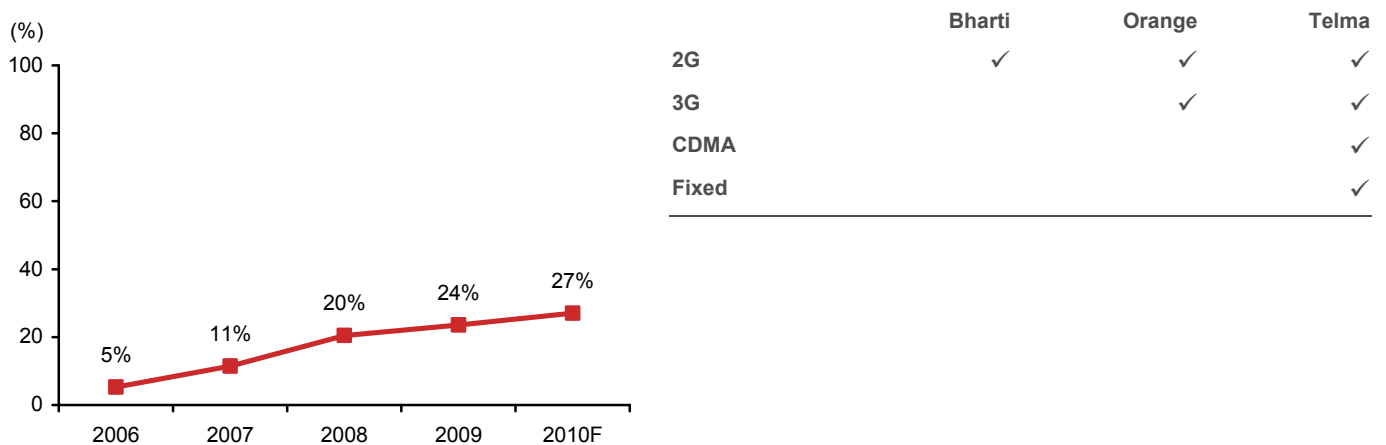
Source: Company reports, regulator websites, Nomura estimates

Madagascar... the home of vanilla ice-cream

Apart from being famous for computer animated "Madagascar" films, the country also smells "delicious," apparently growing more than half of the world's vanilla beans.

- Bharti is looking to spend US\$50mn over the next two years in Madagascar to expand coverage by 25% and increase its customer base from 2.0mn to 3.2mn, according to management. Competition is relatively benign in Madagascar, and we estimate Bharti is the second-largest operator with a 37% share, just behind Orange, which has a 40% share. ARPUs are around US\$3-4 and 3G/HSPA has been in existence since 2009; fibre rollout/international bandwidth should help accelerate data growth, in our view. We currently build in only a slight margin recovery to mid-20% levels by FY13F, but we see upside risks to this forecast.

Exhibit 40. Madagascar - market penetration and overview of operators



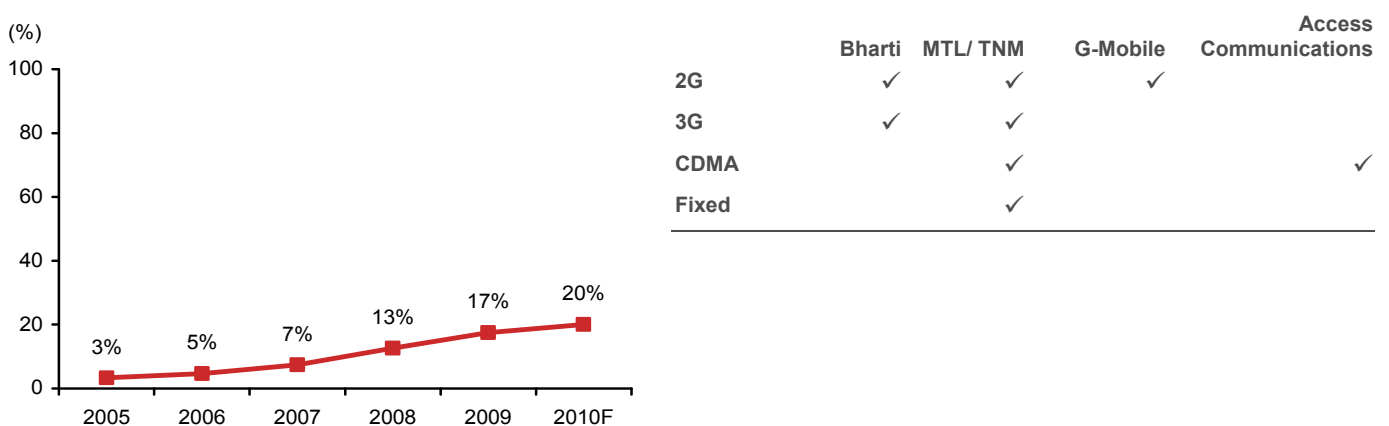
Source: Company reports, regulator websites, Nomura estimates

Malawi... famous for its Calendar Lake

Lake Malawi is one of the largest and famous lakes in Africa and interestingly its 365 miles long and 52 miles wide, hence the clever nickname... the Calendar Lake.

- Malawi is one of the poorest and most densely populated countries in the world, relying heavily on foreign aid. Yet for telecoms, it appears to be an attractive and important market for Bharti (6% of earnings). Penetration is low at 20% and Bharti dominates with a 63% share in this duopoly market. 3G/WiMAX is also being rolled out, and Bharti is looking to spend US\$100mn to further expand coverage over the next few years. ARPUs are appealing at US\$7 currently, but the risk of regulatory intervention appears to be rising. We expect margins to remain stable in 40% range.

Exhibit 41. Malawi - market penetration and overview of operators



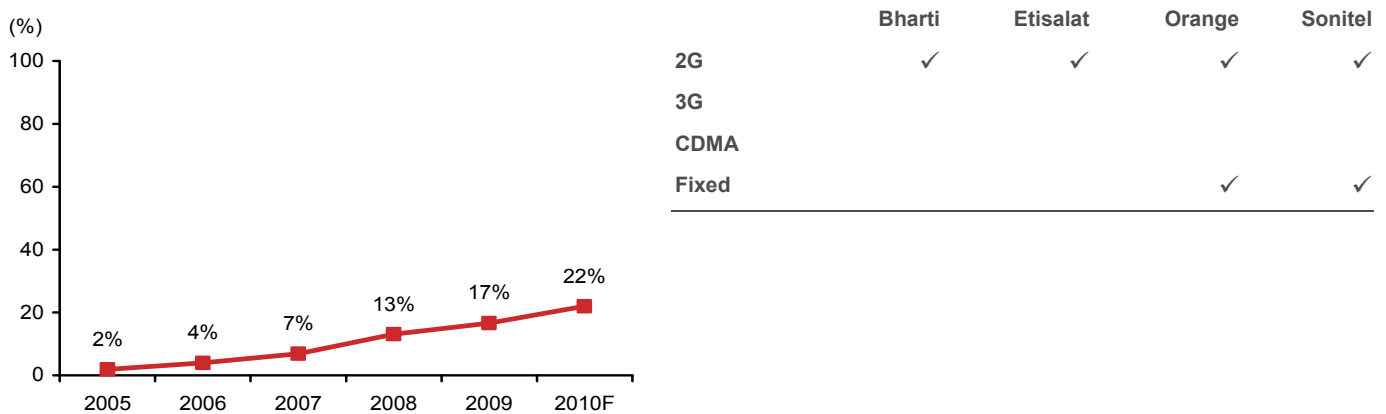
Source: Company reports, regulator websites, Nomura estimates

Niger... the hottest country in the world

Niger is one of the hottest countries in the world and its nickname is 'Frying Pan of the World'.

- Around 70% of Niger is covered by the Sahara desert, infrastructure is poor and it is also politically unstable; but for Bharti, with a 55% market share generating mid-40% margin, this is the fifth-largest market in Africa. Bharti is looking to spend a further US\$100mn to boost coverage over the next two years. ARPUs are appealing at US\$7-8 and the average pricing is still high at around US¢20/min despite recent 20-30% cuts. Further cuts are likely, in our view, but its low penetration of 21% and no 3G at this stage should bode well for revenue and earnings outlook relatively.

Exhibit 42. Niger - market penetration and overview of operators



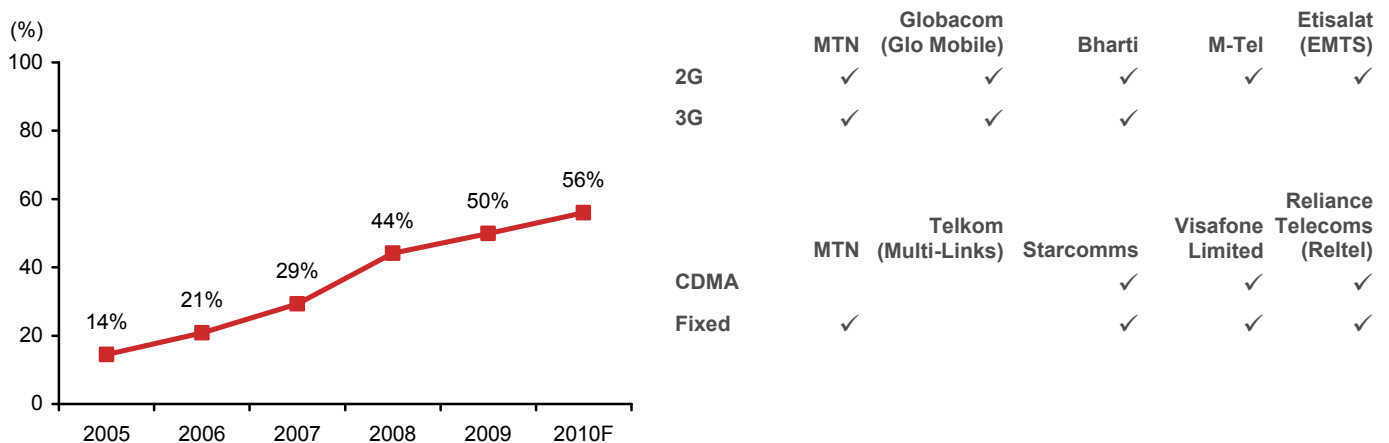
Source: Company reports, regulator websites, Nomura estimates

Nigeria... the make or break market?

Nigeria has the highest rate of twin births in the world – suggesting upside risks to penetration levels!

- Nigeria is the largest telecoms market in Africa, with 85mn subs, and the largest market for Bharti, contributing around one-third of African revenue and EBITDA. Bharti has struggled in this market in recent years on market-share losses (No. 3 with roughly a 20% share) and ARPUs of US\$7 are 40% lower than market leader MTN's. Margins have dropped from mid-30% to low-20%. A timely and sustainable turnaround in this market will be a critical success factor and a key driver to boost sentiment on this investment, we believe. We assume a margin recovery to mid-20% levels, which follows a planned US\$600mn investment over the next few years.

Exhibit 43. Nigeria - market penetration and overview of operators



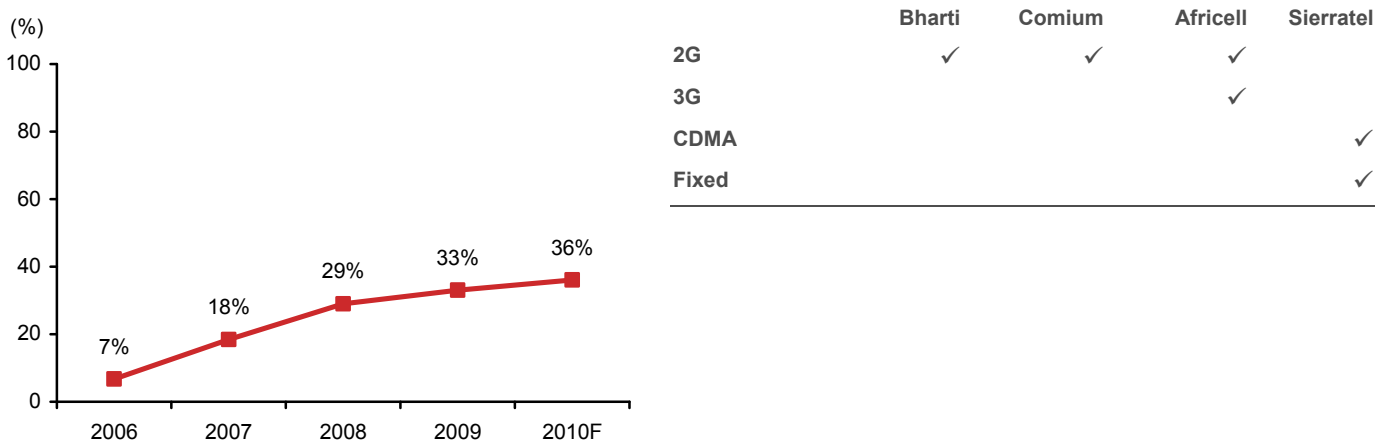
Source: Company reports, regulator websites, Nomura estimates

Sierra Leone...the blood diamond

The movie Blood Diamond with Leonardo DiCaprio was based on illicit diamond trading in Sierra Leone (which is its biggest export), and these are used to settle conflicts between rebel forces, authorities and gangs.

- Sierra Leone is known for its poverty, civil unrest, poor infrastructure and diamonds. Luckily, for Bharti, it is the smallest market in its African portfolio, with only 1% revenue contribution and negligible EBITDA. For a 6mn population, there are three key operators with 36% current penetration and we understand Bharti has reduced prices by around 60% in recent months. Average on-net price is US¢8 and ARPU is under US\$6-7, on our numbers. Bharti's margins used to be in mid-teens in recent years, but the current rate is in low single digits. It is the No. 3 player, with a 23% market share.

Exhibit 44. Sierra Leone – market penetration and overview of operators

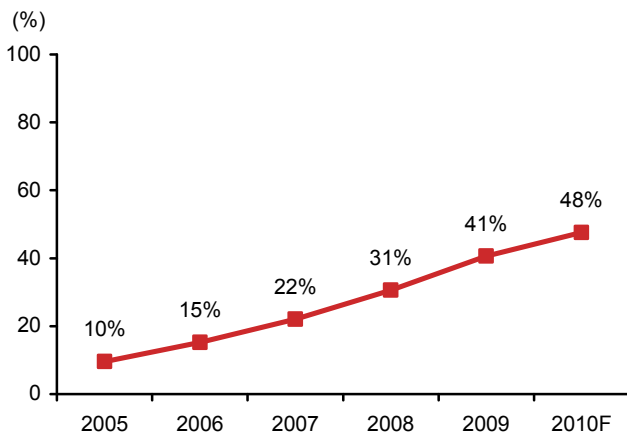


Source: Company reports, regulator websites, Nomura estimates

Tanzania... scaling Mount Kilimanjaro

Tanzania is one of the more famous tourist destinations in Africa (Mount Kilimanjaro is there) and around 25% of the country is allocated to wildlife and protected areas, one of the highest globally. Apparently it also has some of the largest crabs in the world too!

- There are eight mobile operators in Tanzania, but the top four have a combined market share of 99%. This is the fourth-largest market for Bharti in Africa by EBITDA contribution, with wireless penetration of 48% and ARPUs of US\$5-6. Average MoU is low at 60 minutes, and recently there appear to have been more aggressive price cuts in the range of 40-50%. Interconnect rates are high, at US¢7, with telcos lobbying for a review, we understand. Tower sharing/divestments are also more prominent. Bharti appears to have maintained its share at around 28% in the past few years and its margins have been relatively stable at the mid-30% level.

Exhibit 45. Tanzania - market penetration and overview of operators

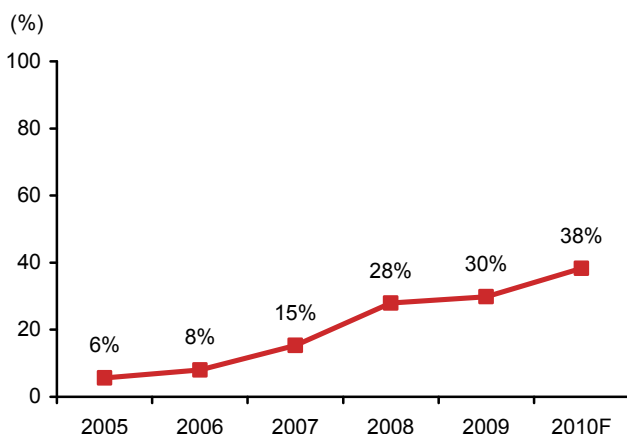
	Vodacom	Bharti	Millicom /Tigo	Zantel/ Etisalat	TTCL	Benson	Sasatel	Hits
2G	✓	✓	✓	✓				✓
3G	✓		✓	✓				
CDMA					✓	✓	✓	
Fixed				✓	✓			

Source: Company reports, regulator websites, Nomura estimates

Uganda... a cricket world cup contender?

Soccer is the most popular sport in Uganda, but apparently cricket is also becoming popular, with the national side finishing runner-up in Division 3 of the World Cricket League in 2009!

- Uganda is one of the more stable economies in Africa, and likewise, it is also facing rising competition within telecoms. There are five key players in the market now – and in recent months, prices have dropped around 30-40%. MTN has a commanding 53% share, and Bharti at No. 3 has an 18% share, on our numbers. Profitability looks weak and margins have dropped to the low double digits in recent years. Despite competitive challenges, we are building in a gradual margin recovery as Bharti benefits from some elasticity, market share gains and outsourcing. Uganda currently contributes only 3% to African revenues and 1% to EBITDA for Bharti.

Exhibit 46. Uganda - market penetration and overview of operators

	Bharti	Uganda Telecom	MTN	WARID	Orange	Essar
2G	✓	✓	✓	✓		✓
3G	✓	✓	✓			✓
CDMA		✓				
Fixed		✓				

Source: Company reports, regulator websites, Nomura estimates

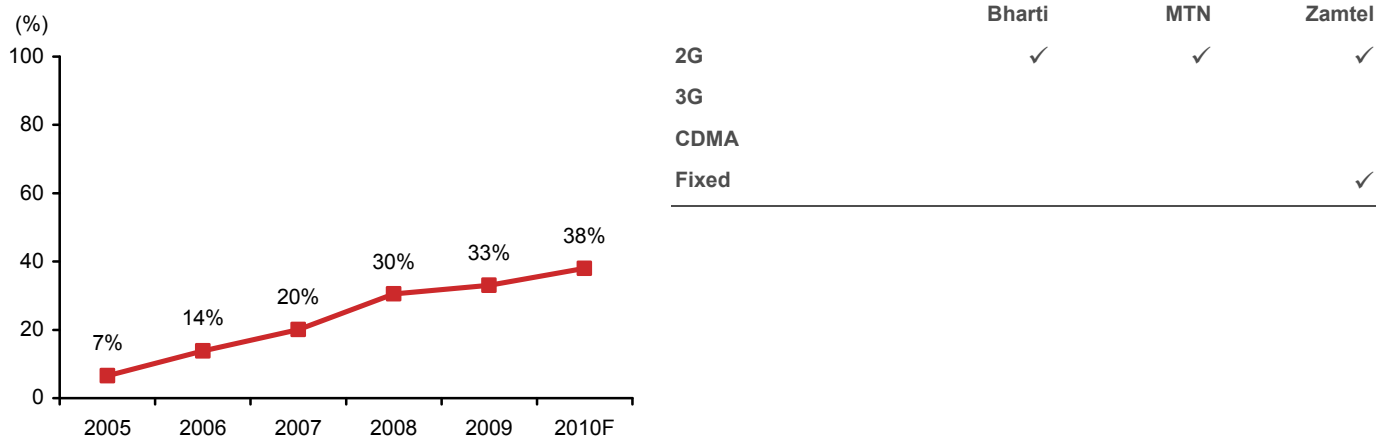
Zambia... watch for Mr Regulator

Zambia is known for its waterfalls – Victoria Falls (one of the seven natural wonders of the world) and Kalambo Falls – and it is also emerging as one of the new safari destinations in Africa.

- Despite rising regulatory risk, Zambia is an appealing and important market, with 38% penetration and only three players. For Bharti, it accounts for 8-12% of Africa revenue/EBITDA and ranks second in profitability. Bharti dominates the market with a 60% share. Recent price cuts have been significant (~30-50%, on our estimates),

and MTN and Zamtel have explicit subs targets. Still, with low penetration and 3G yet to launch, Bharti's growth outlook is strong, in our view. It looks to spend US\$150mn to boost coverage in coming years. We estimate current margins at mid-30s.

Exhibit 47. Zambia – market penetration and overview of operators



Source: Company reports, regulator websites, Nomura estimates

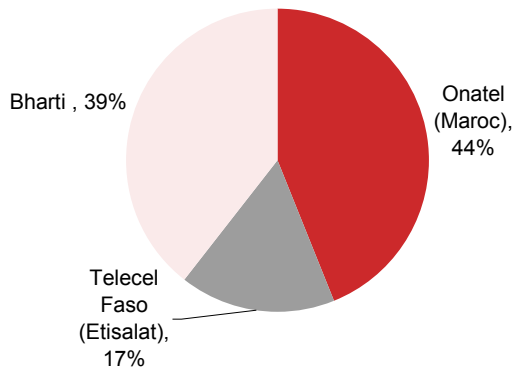
Market overview and competitive landscape by country

Country overview and competitive landscape

Burkina Faso

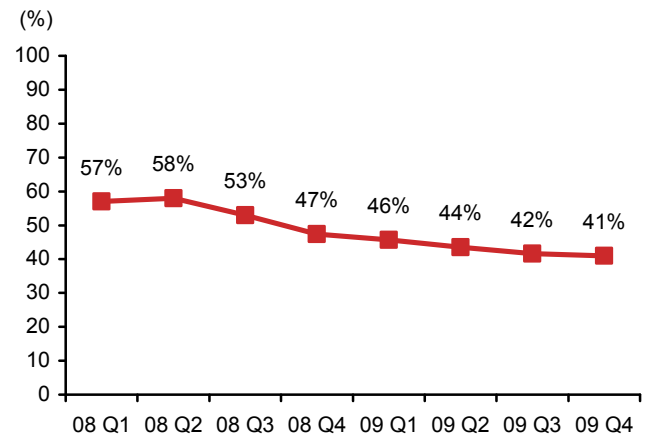
- Burkina Faso is a relatively stable country, with annual GDP growth of 3-5% in 2009-11F. GDP per capita (PPP) is US\$1,340, and the country is heavily dependent on gold and cotton exports.
- There are currently three operators (Onatel, Bharti and Telecel Faso), but the regulator recently announced a tender for a fourth license. Unfortunately, we have not been able to establish the progress of this license at this stage. Onatel (partly privatised incumbent) has a leading market share at 44%, on our estimates. Onatel is jointly owned by the government and Maroc Telecom, and operates a GSM network under the brand "Telmob." Bharti is the No. 2 player with around 39% share. Telecel Faso is the No. 3 player and is owned by Etisalat.

Exhibit 48. Market shares of various players (Mar-10)



Source: Company reports, Nomura estimates

Exhibit 49. Bharti's market share trends

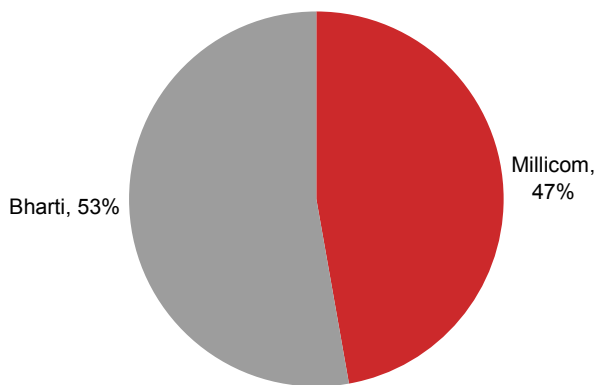


Source: Company reports, Nomura estimates

Chad

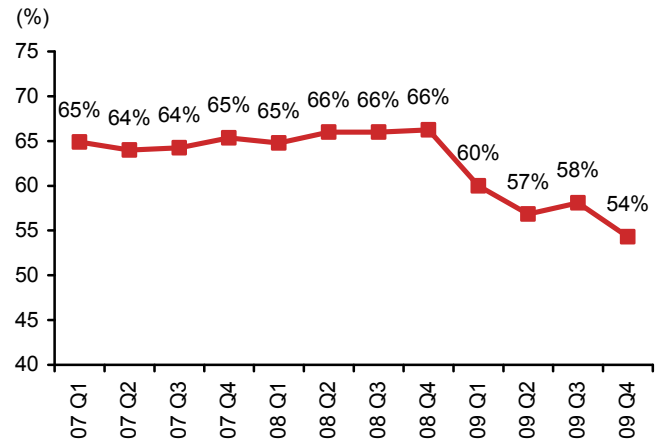
- Chad, a semi-desert country rich in gold and uranium, began exporting oil in 2003. Its population is 10mn, with a GDP per capita (PPP) of US\$1,650 (compared with India's US\$3,200). The wireless sector is currently a duopoly with Bharti and Millicom. Millicom has gained share on Bharti through 2009 and likely 2010. The third player, state-owned telco Sotel Tchad, had previously ceased mobile operations in 2004. More recently, in November 2010, Libyan state-owned firm LAP Green Network acquired a majority stake in Sotel for US\$90mn, but we understand no commercial launch is planned at this stage. The mobile networks in the country are still at 2.5G; 3G hasn't been introduced yet.

Exhibit 50. Market shares of various players (Sep-10)



Source: Company reports, Nomura estimates

Exhibit 51. Bharti's market share trends

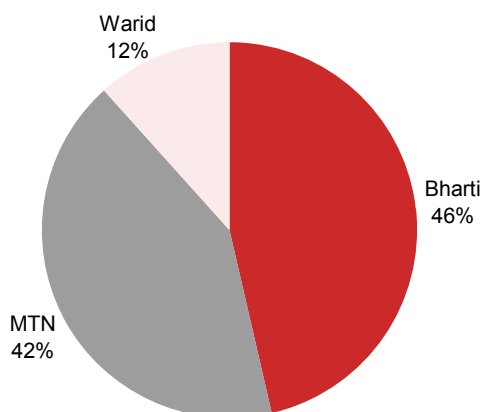


Source: Company reports, Nomura estimates

Congo B

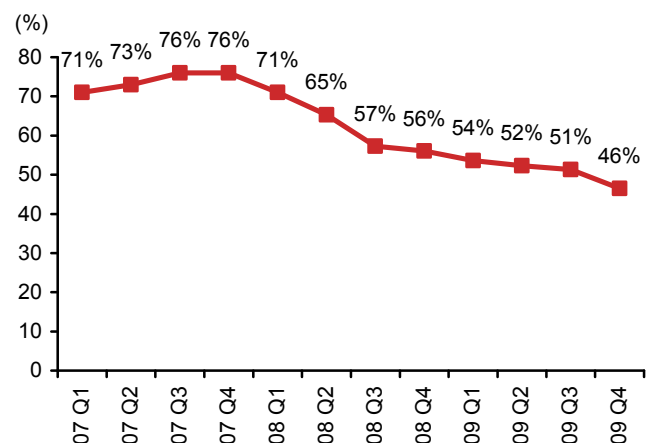
- Congo B is one of sub-Saharan Africa's main oil producers, with a relatively higher GDP per capita of US\$4,500. However, it is one of the smaller telecom markets within Africa with a population of around 4mn and around 80% wireless penetration. ARPU levels are high at around US\$11, on our estimates.
- There are three incumbent operators – Bharti, MTN and Warid – while the fourth operator, Bintel (a Bahrain-based telecom operator), only entered the market in 2009. Bharti was the market leader with a 46% share as of 2009, according to Nomura estimates, which declined from a peak of 70% in 2007. A fourth GSM license was issued to Equateur Telecom Congo, a subsidiary of Bintel (a Bahrain-based telecom operator) in 2009, and it launched its operations under the brand name “Azur” only in September 2010. Hence, we believe it currently has a negligible market share. We anticipate competition could be strong in this market and we cannot rule out some further market share loss in 2010. However, we do not forecast an ongoing market share loss for Bharti in the near future.

Exhibit 52. Market shares of various players (Dec-09)



Source: Company reports, Nomura estimates

Exhibit 53. Bharti's market share trends



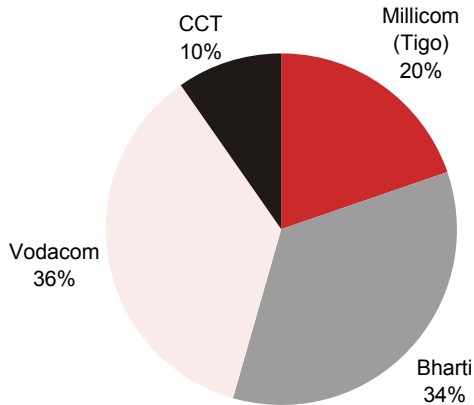
Source: Company reports, Nomura estimates

DRC

- Democratic Republic of Congo (DRC), the third-largest country in Africa, has one of the lowest per capita incomes in the world, and 80% of its population is below the poverty line (GDP per capita, or PPP, is US\$350). Among Bharti's Africa portfolio, DRC is the second-largest country with a population of around 69mn, but also the one with one of the lowest wireless penetration of 15%. Despite this, we think it

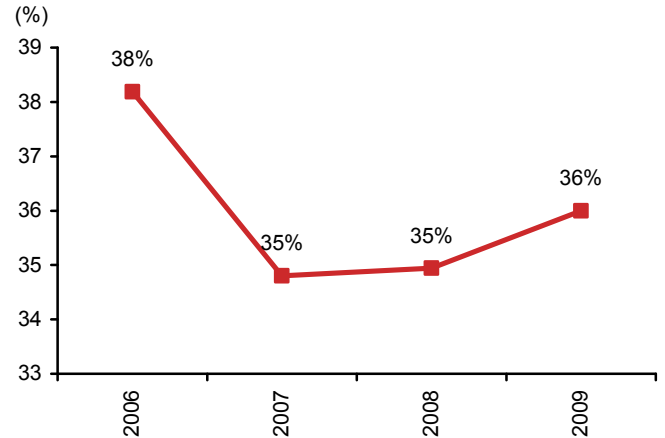
could be one of the more challenging markets to turn around for Bharti, given the political instability, poor affordability as well as rising competition. Average ARPU is at around US\$5-6. There is no national fibre optic backbone in the country and long distance connectivity is predominantly via satellite.

Exhibit 54. Market shares of various players (Sep-10)



Source: Company reports, Nomura estimates

Exhibit 55. Bharti's market share trends

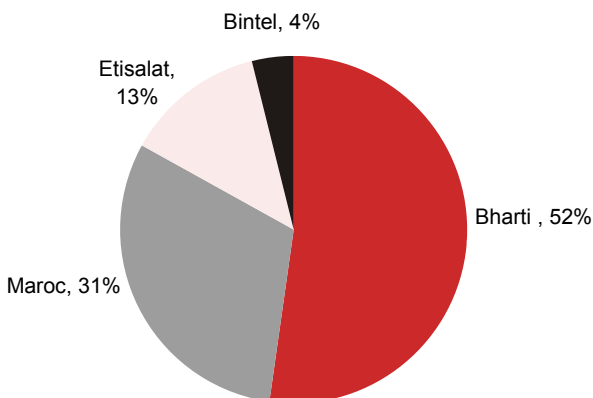


Source: Company reports, Nomura estimates

Gabon

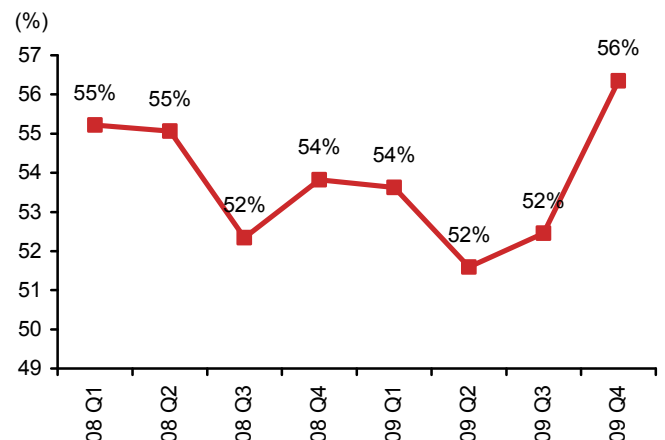
- Gabon, with a population of 1.5mn, has a high wireless penetration rate at 115% and a high average ARPU of US\$15-18. Its GDP per capita (PPP) is US\$14,865 (compared with India's US\$3,200) and BBC rates it as one of the more stable countries in West Africa. Bharti is the market leader with a 52% share, by our estimates, followed by Maroc at 31% and Etisalat at 13%.
- The impact of Bintel's (headquartered in Bahrain) entry in Gabon has already been felt by incumbents. Our EMEA telecom analyst Mr Martin Mabbutt notes that the 2Q10 results in Gabon for Maroc (31% share) were weak, attributable partly to the increase in price competition brought on by the fourth operator. The strategy lined up by Bintel since its licence acquisition has been that of chasing market share, with a target of 6-8% by end-2010 and a 30% share within the first 10 years. Even Etisalat appears to have cut its on-net rates in recent months.

Exhibit 56. Market shares of various players (Dec-09)



Source: Company reports, Nomura estimates

Exhibit 57. Bharti's market share trends

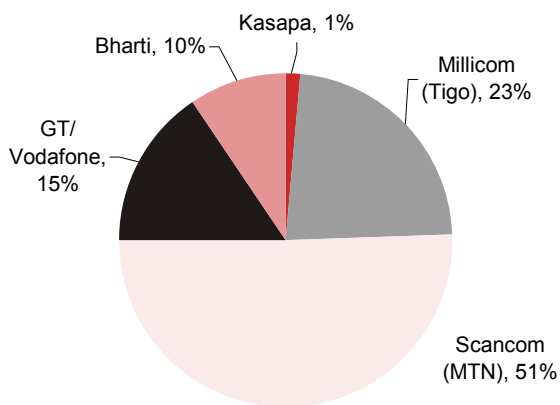


Source: Company reports, Nomura estimates

Ghana

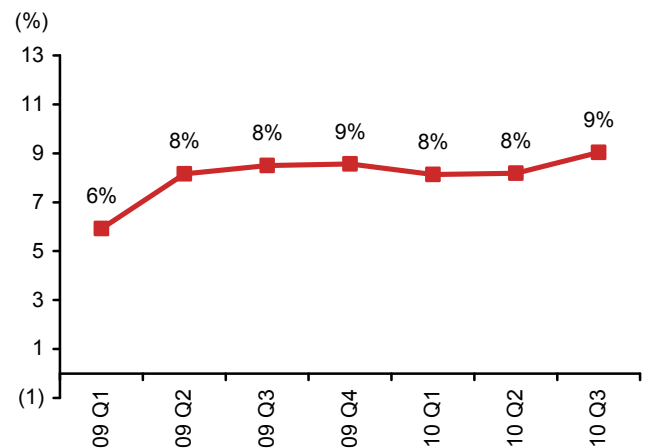
- With 23mn people and 74% penetration, Ghana is one of the more developed telecom markets in Africa. Its GDP per capita (PPP) is US\$1,600. MTN is the market leader with a 51% share, followed by Millicom (Tigo) at 23%. The most recent player (sixth) is Nigeria's Globacom, which entered the market in 2010.
- According to our emerging markets telecom analyst Martin Mabbutt, Ghana faced increased competitive intensity in 2010, with Vodafone still struggling (currently ~15% share) after its acquisition of the incumbent operator (Ghana Telecom), and Millicom fighting hard to win share. MTN has been forced to respond to recent pricing initiatives from both these players. The MOU uptick has been marginal and ARPU has declined for both Millicom and MTN (to ~US\$6-7). Millicom now forecasts lower subscriber adds for the year than it did at the beginning of the year. MNP is being rolled out and we believe this will likely intensify competition further in this market.

Exhibit 58. Market shares of various players (Oct-10)



Source: Company reports, Nomura estimates

Exhibit 59. Bharti's market share trends

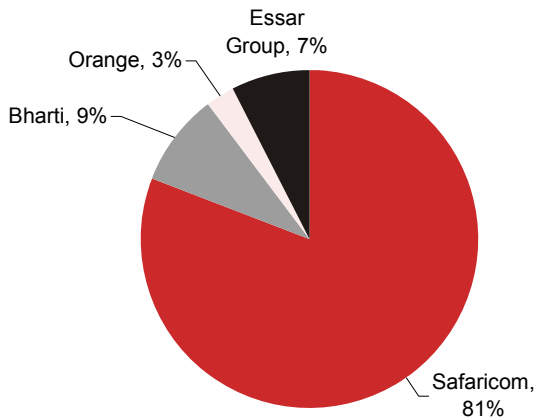


Source: Company reports, Nomura estimates

Kenya

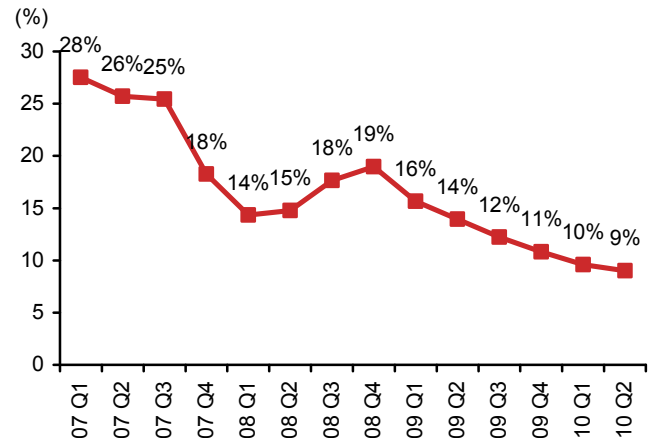
- Following turmoil in 2008, Kenya is now a relatively more stable political and regulatory market within Africa with GDP growth of 4% in 2010 (IMF) and GDP per capita (PPP) of US\$1,800. Wireless penetration is around 50% and Internet penetration is 10%. The competitive landscape is dominated by Safaricom, which commands ~80% share. The Zain operation, which started life outpacing Safaricom in 2000-03, has now fallen far behind – from a high of 44% in 2001, its share has declined to ~10% now. The other two operators, Telkom Kenya and Essar Telecom (Yu), each have a 5% share.
- The reduction in termination charges in August 2010 has been followed by significant tariff cuts. Bharti was the first to cut its voice rate, with tariffs now down 50-60% for both on-net and off-net in the past year. In January 2011, Bharti further cut its on-net, 6am-6pm, rate by another 67%. SMS rates have also trended lower, even before interconnect was reduced, as have international calling and data. Bharti's choice to make Kenya the "test-bed" was probably driven by the presence of only one dominant player and a regulator that was keen to demonstrate that it is supportive of creating competition, in our opinion. We also note that usage was already healthy with minutes doubling y-y in the Jun-10 quarter. We think this likely played into Bharti's choice to test its "minutes factory" model here. Bharti notes it has added 2mn subs and tripled MoU since the initial tariff cut in August.

Exhibit 60. Market shares of various players (Jun-10)



Source: Company reports, Nomura estimates

Exhibit 61. Bharti's market share trends

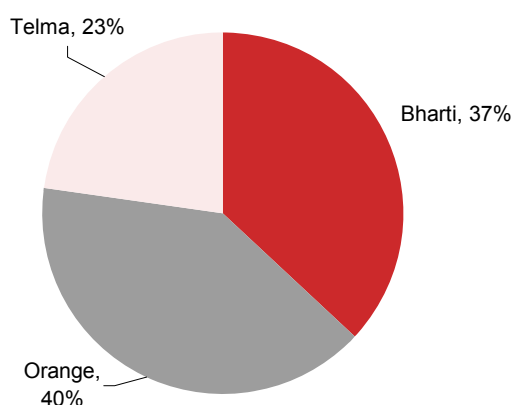


Source: Company reports, Nomura estimates

Madagascar

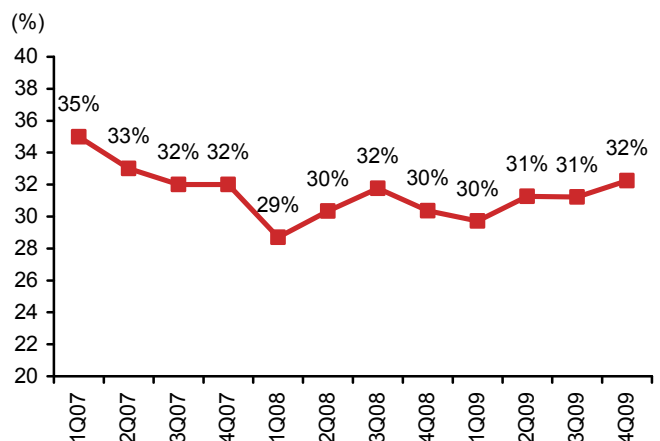
- An island country in Africa, Madagascar weathered a political and economic crisis in 2009; nonetheless, economic growth is expected to resume in 2011, according to the IMF. With a GDP per capita (PPP) of US\$900, it is one of Africa's poorer nations.
- Telecom penetration is still low at 25%, and currently there are only three players – Madagascar is one of the more benign competitive landscapes in Africa. With a 40% share, Orange is the market leader and Bharti is second with a 37% share, on our estimates. State-owned player Telma is the third operator with a 23% share. We think Bharti may have gained share over the past three quarters. A fourth player, Madamobil, was unable to launch services in 2009 because of a licence dispute. ARPUs in this market have declined to US\$3-4, on our numbers. 3G/HSPA networks are available, although adoption so far is likely low. However, with recent domestic and international cable rollouts, we believe that this will likely accelerate.

Exhibit 62. Market shares of various players (Sep-10)



Source: Company reports, Nomura estimates

Exhibit 63. Bharti's market share trends



Source: Company reports, Nomura estimates

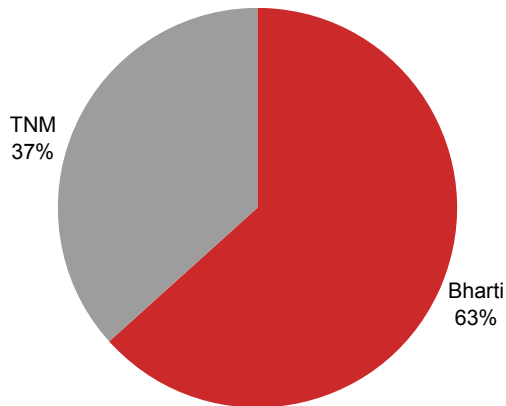
Malawi

- Malawi is one of the smallest and poorest nations, with a GDP per capital of US\$909 (PPP). Amongst its 15mn people, wireless population is low at around 20%, as coverage is limited and around 80% of the population lives in rural areas. Bharti dominates with a 63% share and Telekom Networks Malawi (TNM) has a 37% share. G-Mobile and Comium both have wireless licences – but no live services at this stage. Both 3G and WiMAX are available, and average ARPUs are

around US\$7, on our estimates. The lack of domestic and foreign backhaul has been a constraint, which is now being rolled out (funded by the World Bank). As in Zambia, this market appears to be under rising regulatory scrutiny – the focus is competition, tariffs and quality of service.

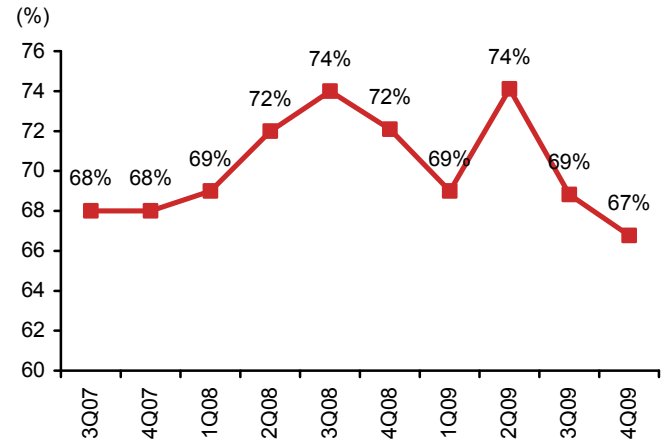
- In the past few months, Bharti appears to have cut peak and off-peak prices by 20-80%, but these are still high at US¢17-33 a minute. SMS rates are US¢6. Some of the plans/ promos available in Malawi appear similar to those available in Niger for example, which highlights that the company may look to extend its best-practices across its other markets.

Exhibit 64. Market shares of various players (Sep-10)



Source: Company reports, Nomura estimates

Exhibit 65. Bharti's market share trends

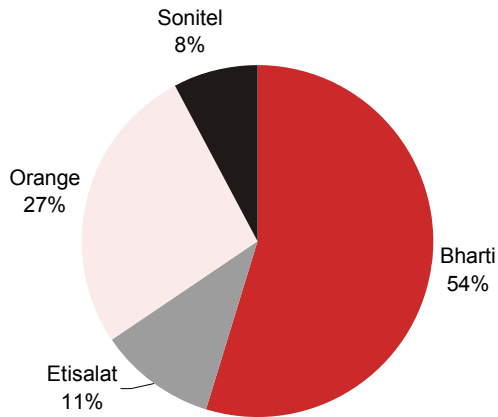


Source: Company reports, Nomura estimates

Niger

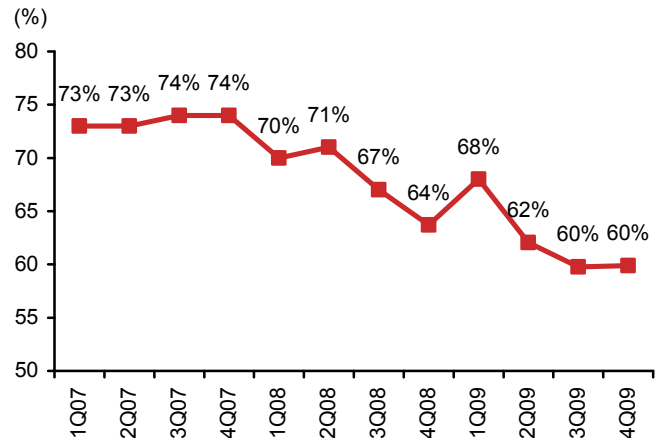
- Even Niger's non-desert land is constantly impacted by droughts – the most recent was in 2009, which led to a 1% decline in GDP, and the IMF estimates this to improve to 3.5-5.0% in 2010-11F. Economic growth is hampered by widespread corruption, inconsistent rules/ regulations, and failed privatization initiatives. GDP per capita is US\$720 (PPP).
- The telecom sector is one of the few sectors that is more liberalized in Niger and saw 6% revenue growth in 2009. Wireless penetration remains low at 21%, and we don't think there is any 3G at this stage (it has been more difficult to collect and validate data for this market). There are four players in the market – Bharti is the No. 1 player with a share of around and about 2m subscribers. Orange is the number 2 player – with a share of about 27%, up from 18% in 2009. Etisalat and Sonitel (state-owned) are the No. 3 and No. 4 players, respectively. We estimate ARPUs are currently US\$7-8 and even after 20-30% price cuts in recent months for both off-net and on-net, average prices remain high at around US¢20 levels, well in-excess of the US¢7 interconnect rates

Exhibit 66. Market shares of various players (Sep-10)



Source: Company reports, Nomura estimates

Exhibit 67. Bharti's market share trends

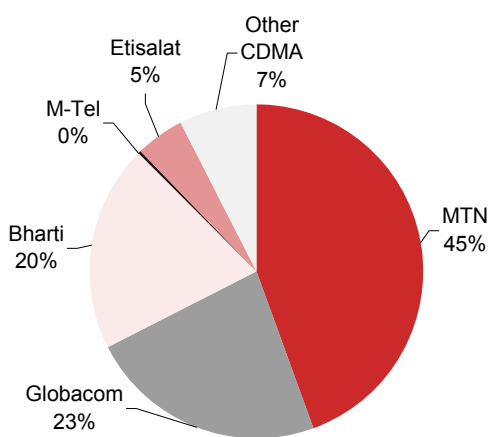


Source: Company reports, Nomura estimates

Nigeria

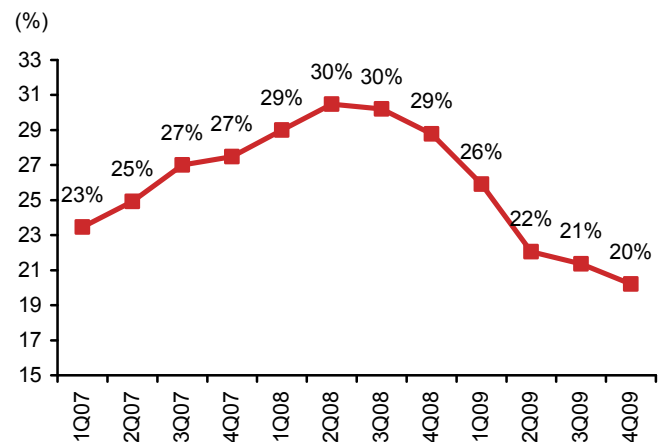
- Despite poor infrastructure and social and political unrest, Nigeria's GDP growth remains strong, at 7.0-7.4% in 2010-11F, according to the IMF. It is Africa's second-largest economy and the eighth-largest oil exporter in the world. Around 50% of its population is estimated to be living below the poverty line. It is the largest telecoms market in Africa, with 85mn subs and 56% SIM penetration, on our estimates. GSM accounts for 93% of the market and MTN dominates with a 45% share. Globacom is No. 2, with roughly a 23% share, and Bharti No. 3, with roughly a 20% share. There are nine players in total.
- The quality of the networks in the country is not up to the standards of those in more-developed countries, and we understand subscribers carry multiple SIMs/handsets for better coverage. MTN in this market generates US\$11 in ARPU, and remarks that the marginal ARPU is around US\$7. Bharti's last reported ARPU was around US\$7 in 2009 (and may have trended lower since then, we believe). We estimate minutes of user at around 70. Following price cuts of 30-50% in late-2010, average prices are still high at US¢8-9 and MNP is expected by May this year.

Exhibit 68. Market shares of various players (Nov-10)



Source: Company reports, Nomura estimates

Exhibit 69. Bharti's market share trends

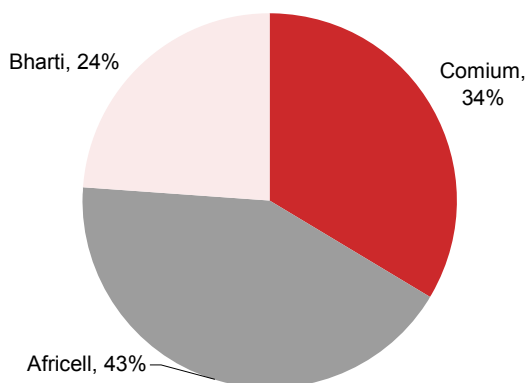


Source: Company reports, Nomura estimates

Sierra Leone

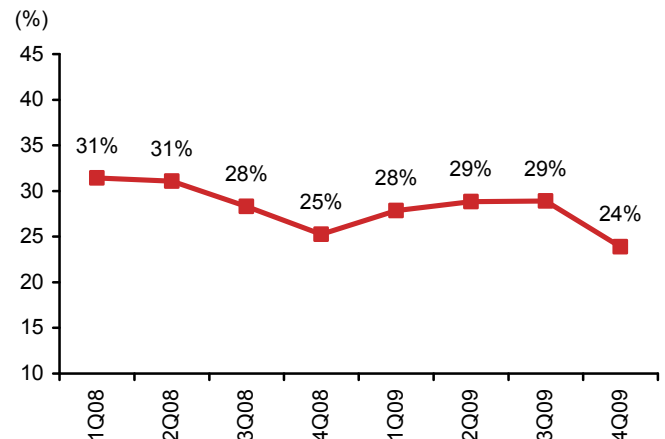
- Sierra Leone is one of the poorest nations in the world with a GDP per capita of US\$800 (PPP). Agriculture is the key contributor to GDP, while mining is 5%, but it accounts for 80% of its exports. Diamonds are a key export item, accounting for 60% of exports. The trade in illicit gems, came to be known as "blood diamonds" for their role in funding conflicts and perpetuating the civil war.
- Pre 2008/09, there were five key players, which is now rationalised to three. Africell is the market leader with a 43% share, followed by Comium with a 34% share and Bharti at number three with a 23% share, on our estimates. The state-owned fixed-line incumbent Sierratel began offering fixed wireless services on CDMA in 2009, but we believe is struggling in the market. We also understand that the regulator had issued two new licenses in 2008 to Cellcom (Israeli telecom player) and Libya's Lap Green, with the latter expecting to launch services in 2010. However, we have not been able to verify the progress on this.
- We believe Sierra Leone is another market where Bharti reduced tariffs last year. In July 2010, Bharti reduced off-net call rates by 32% and subsequently in November, further reduced these to Le 432 (US¢10) per minute, or 36% lower. We understand there has also been a 60% reduction in on-net rates, which are now at Le 324 per minute (US¢8), as well as the introduction of per-second billing.

Exhibit 70. Market shares of various players (Sep-10)



Source: Company reports, Nomura estimates

Exhibit 71. Bharti's market share trends

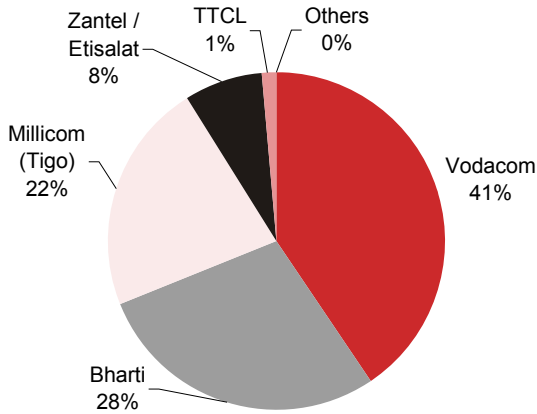


Source: Company reports, Nomura estimates

Tanzania

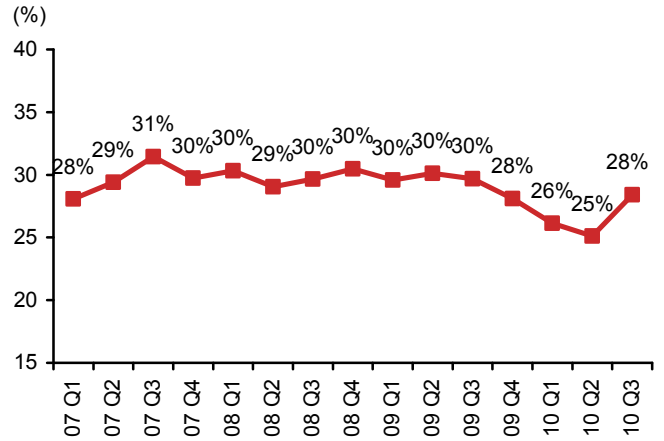
- Tanzania is a relatively stable and diversified economy, with a per capita GDP (PPP) of US\$1,500 and GDP growth of 7% for 2010F according to the IMF. It is a preferred tourism destination and has strong gold production and agricultural exports. We think its population of 44mn and wireless penetration at 48% make it one of the more appealing regional markets, but there are currently seven operators, and an eighth (ExcellentCom) expects to launch this year. Bharti is the No. 2 player, with a 28% share that has been broadly stable in recent years, while Vodacom is the market leader with a 41% share. MoUs are low at 60 and ARPUs are around US\$6.
- Millicom (Tigo) started cutting prices in 2009, reducing them by two-thirds to Tsh1 per second (US¢0.06) and recording 50% growth in EBITDA in subsequent periods. Since then, other operators have lowered their on-net pricing, and Tigo recently cut its pricing by a further 50% (now offering Tsh0.5 per second rates). Bharti has also waded in and now offers rates of Tsh0.25-0.50 per second. Off-net pricing is also coming down (led by Vodacom), and currently appears quite high at US¢22/minute, versus interconnect at US¢7/minute.

Exhibit 72. Market shares of various players (Sep-10)



Source: Company reports, Nomura estimates

Exhibit 73. Bharti's market share trends

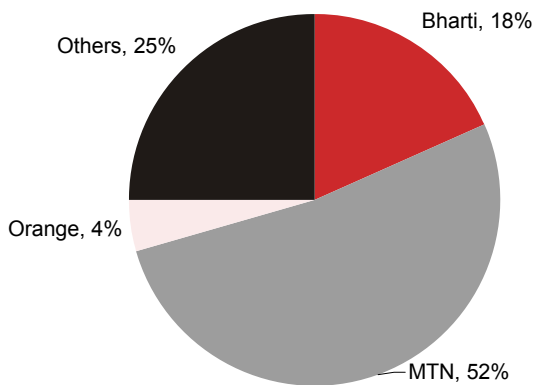


Source: Company reports, Nomura estimates

Uganda

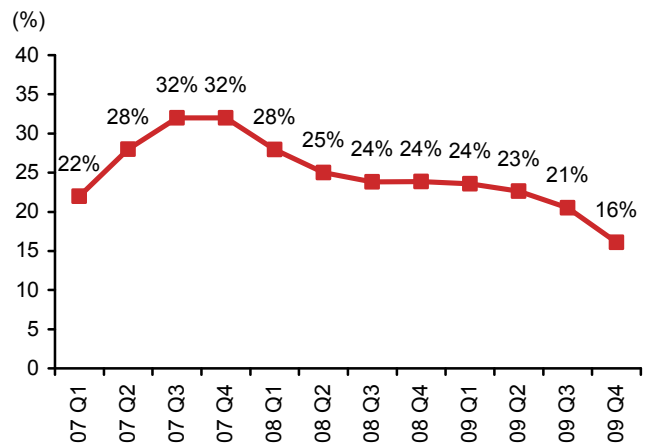
- Within Africa, Uganda is considered one of the more stable nations, with a GDP growth rate expected to grow 6% per year for the next two years, according to the IMF. GDP per capita (PPP) is US\$1,250 (compared with India's US\$3,200), and wireless penetration is around 38% among its 32mn population.
- The Ugandan telecom market is a competitive landscape with five active operators. Of the current players, many have entered only in the past two to three years. MTN has the largest market share with over 50%, and we estimate Bharti is No. 3 with an 18% share. France Telecom (Orange) currently has a 4% share; it entered in 2009 following the purchase of a majority stake in Hits Telecom. The balance, 25%, is held between Uganda Telecom and Warid (which is now 50% owned by another Indian conglomerate, Essar).
- The regulator, UCC, estimates that sector revenue grew 14% in 2009 vs 24% in 2008 (in local currency terms). Over the past few months, there have been 30-40% price cuts for on-net and off-net calls, and further reductions cannot be ruled out, if/when there is a revision to currently high interconnect rates of around UGX131 (US\$0.06).
- Momentum around 3G also built in 2010, in our view, with two new networks going live; we estimate that there are over 500k 3G subs now.

Exhibit 74. Market shares of various players (Mar-10)



Source: Company reports, Nomura estimates

Exhibit 75. Bharti's market share trends

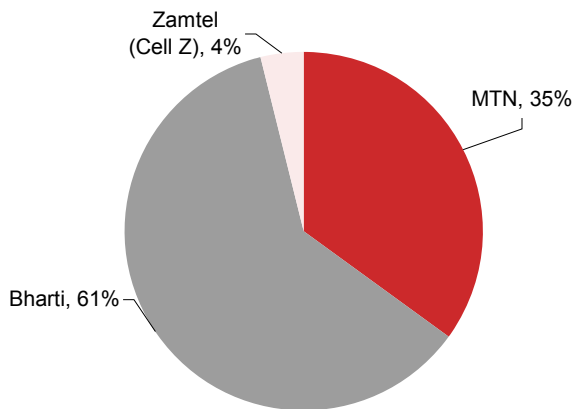


Source: Company reports, Nomura estimates

Zambia

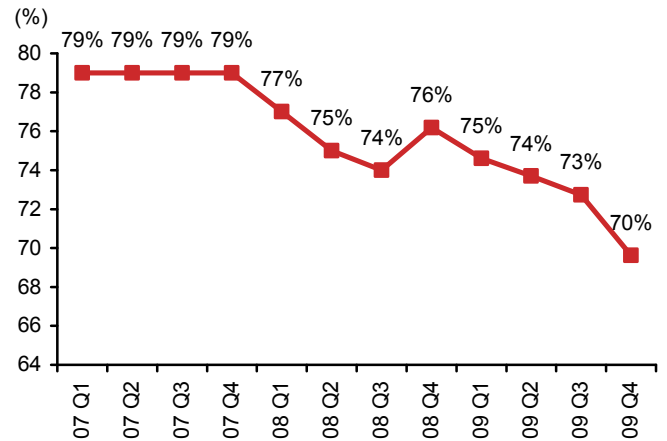
- Led by various economic reforms, Zambia is a reasonably fast growing and more politically stable country, with annual GDP growth expected to be 6.0-6.5% in 2010-11F, as per the IMF.
- Amongst its 13mn people, wireless penetration is low at 38%, where Bharti dominates with a 60% share, followed by MTN at 35% and Zamtel at around 5%. ARPU is around US\$6, and there is no 3G at the moment. A new telecommunication act was enacted in 2009 that gave the regulator more implementation powers (for interconnect, tariff regulation, etc). A more recent development has been a standardization and lowering of interconnect rates (which fell by 25-40% in some cases), as well as liberalization of international gateways, both of which subsequently led to average price drops. We think the risk of further regulatory intervention is high in this market.
- Although there are only three players in the market currently, two of the three have explicit subscriber targets (MTN is targeting 2mn by 1H11 and Zamtel is targeting 2mn in the next two years). 2010 has already seen some reductions in tariffs of 30-50% on average, on our estimates.

Exhibit 76. Market shares of various players (Sep-10)



Source: Company reports, Nomura estimates

Exhibit 77. Bharti's market share trends



Source: Company reports, Nomura estimates

Importance to Bharti

Significance to Bharti

Burkina Faso

- Burkina Faso is a small market in the overall Africa portfolio, contributing 3-5% of subscribers/revenue/EBITDA. Margins in this market have contracted from around 46% in 2007 to 41% in 2009, based on Zain's reported data. We note that the government's plan to introduce one more license could pose some challenges in extracting significant operational efficiencies – we have currently built in some gradual margin recovery to around 45% in FY13F.

Exhibit 78. How does Burkina Faso fit in the Africa portfolio?

(Based on 2009 data from Zain)

Subscribers (mn)	1.54
Revenues (US\$mn)	126
EBITDA (US\$mn)	52
Contribution to	
Subscriber base (%)	4
Revenue (%)	3
EBITDA (%)	5
EBITDA margins (%)	41

Source: Company data

Chad

- Chad is a small market within Bharti's footprint, accounting for just 4-5% of its revenue and EBITDA. Given the duopolistic market, competition is likely to be relatively less; however, Bharti could likely get more competitive to maintain its lead over Millicom. The entry of LAP Green Network could also increase competitive intensity if it decides to enter the wireless segment. Bharti's EBITDA margins are around 40%, on our estimates.

Exhibit 79. How does Chad fit in the Africa portfolio?

(Based on 2009 data from Zain)

Subscribers (mn)	1.21
Revenues (US\$mn)	133
EBITDA (US\$mn)	55
Contribution to	
Subscriber base (%)	3
Revenue (%)	4
EBITDA (%)	5
EBITDA margins (%)	42

Source: Company data

Congo B

- Although it is a small market for Bharti in a regional context, Zain used to dominate this market with around 70% share, but is now running at around 45% share, on our estimates. Zain's profitability has also declined from a peak margin of mid-40% to mid-20% over this period. This, we believe, reflects rising competition from both MTN and Warid since 2007. We are currently only assuming a gradual but moderate recovery to mid-30% margins over the next three years.

Exhibit 80. How does Congo B fit into the Africa portfolio?

(Based on 2009 data from Zain)

Subscribers (mn)	1.41
Revenues (US\$mn)	208.1
EBITDA (US\$mn)	56.3

Contribution to

Subscriber base (%)	3
Revenue (%)	6
EBITDA (%)	5

EBITDA margins (%)	27
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Source: Company reports

DRC

- DRC is the third-largest market for Bharti in terms of subscriber potential within its African portfolio, and this market contributed 6% and 9% of its revenue and EBITDA, respectively. However, margins have been on the decline — from around 26% in 4Q08 to around 20% in 2009 — largely due to price competition in the market and from rural expansion, we believe. Bharti is planning to invest US\$400mn in DRC over the next three years, according to *Global Telecom Business*.

Exhibit 81. How does DRC fit in the Africa portfolio?

(Based on Zain's 2009 report)

Subscribers (mn)	3.57
Revenues (US\$mn)	321.6
EBITDA (US\$mn)	65.9

Contribution to

Subscriber base (%)	8
Revenue (%)	9
EBITDA (%)	6

EBITDA margins (%)	20
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Source: Company reports

Gabon

- Despite accounting for only 2% of its overall subscriber base, Gabon accounts for 7-10% of Bharti's African revenues and EBITDA given the high ARPUs from this market. We expect that ARPUs may come under pressure going forward, as carriers look to defend share in a saturated, yet competitive market.
- Gabon is one of the initial markets in which Bharti is expected to start outsourcing its call centres and other business processes. EBITDA margins used to be as high as 56% back in 2006, and they have since dropped to 39% in 2009. We currently assume modest recovery to mid-40% by FY13F.

Exhibit 82. How does Gabon fit in the Africa portfolio?

(Based on 2009 data from Zain)

Subscribers (mn)	0.94
Revenues (US\$mn)	256
EBITDA (US\$mn)	101

Contribution to

Subscriber base (%)	2
Revenue (%)	7
EBITDA (%)	9

EBITDA margins (%)	39
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Source: Company reports

Ghana

- Ghana is a relatively new market in Bharti's African portfolio – Zain entered in 2008. With around 10% share, this is one of Bharti's weaker markets, where it is the No. 4 player. Bharti expects to invest around US\$200mn in this market, according to management.

Exhibit 83. How does Ghana fit in the Africa portfolio?

(Based on 2009 data from Zain)

Subscribers (mn)	1.60
Revenues (US\$m)	57
EBITDA (US\$m)	(42)

Contribution to

Subscriber base (%)	3
Revenue (%)	2
EBITDA (%)	na
<i>EBITDA margins (%)</i>	<i>(74)</i>

Source: Company reports

Kenya

- Kenya currently contributes 1-5% of subscriber/revenues/EBITDA for Bharti. However, the market size and potential to increase penetration makes this an important market for Bharti we think. Bharti is planning to launch 3G services in 1Q11, which could provide ARPU upside we believe (for Safaricom, data is roughly 30% of ARPU).

Exhibit 84. How does Kenya fit in the Africa portfolio?

(Based on 2009 data from Zain)

Subscribers (mn)	2.09
Revenues (US\$m)	153.8
EBITDA (US\$m)	6.8

Contribution to

Subscriber base (%)	5
Revenue (%)	4
EBITDA (%)	1
EBITDA margins (%)	4

Source: Company reports

Madagascar

- Madagascar is a small market for Bharti, contributing only 1-2% of revenues/EBITDA. EBITDA margins are currently at 20% levels, having declined from mid-30% levels a few years ago. Bharti's market share has been broadly stable in recent years; but in recent quarters, we think the company may even have increased its share as coverage continues to expand. We do not believe Bharti has yet reduced tariffs in this market. Bharti notes that at this stage most subscriber acquisition activity is still focused on urban areas – but similar to Orange, it is now looking to expand coverage by a further 25% (largely to rural areas) in 2011. It aims to increase its subscriber base to 3.2mn from 2.0mn currently.

Exhibit 85. How does Madagascar fit in the Africa portfolio?**(Based on Zain's 2009 report)**

Subscribers (mn)	1.57
Revenues (US\$m)	77
EBITDA (US\$m)	17.5

Contribution to

Subscriber base (%)	1
Revenue (%)	2
EBITDA (%)	2

EBITDA margins (%) **23**

Source: Company reports

Malawi

- Malawi contributes 4-6% of Bharti's subscribers/revenues/EBITDA in Africa, and margins are tracking around mid-40%, on our estimates. We don't see significant upside or downside risk to margins at this stage. Bharti expects to invest over US\$100mn in this market over the next three years to add another 150 towers and expand 3G coverage, which is currently limited to around 20% of population with an aim to increase it to around 30%.

Exhibit 86. How does Malawi fit in the Africa portfolio?**(Based on Zain's 2009 report)**

Subscribers (mn)	1.74
Revenues (US\$m)	154
EBITDA (US\$m)	67

Contribution to

Subscriber base (%)	4
Revenue (%)	4
EBITDA (%)	6

EBITDA margins (%) **44**

Source: Company reports

Niger

- Niger is the fifth-largest market for Bharti by profit contribution, and margins appear to have been steady in the 45-50% range for the past few years. Niger contributes 4-7% in revenues/EBITDA for Bharti Africa. Bharti has stated that it will invest about US\$100mn to improve coverage and quality of network by 2012.

Exhibit 87. How does Niger fit in the Africa portfolio?**(Based on Zain's 2009 report)**

Subscribers (mn)	1.55
Revenues (US\$m)	157
EBITDA (US\$m)	71

Contribution to

Subscriber base (%)	4
Revenue (%)	4
EBITDA (%)	7

EBITDA margins (%) **45**

Source: Company reports

Nigeria

- Nigeria is the largest market in Africa for Bharti and contributes some 35% of Bharti's African revenues and EBITDA. Bharti has been lagging the leader by a significant margin in market-share terms and in recent years has also lost share. In 2009, it lost 2.5mn subscribers. Our current share estimate of 20% assumes a reversal in net add trends in 2010. Margins have declined from around mid-30% levels to low-20% levels, though we expect them to rise to around mid-to-high 20% levels over the next few years. Bharti has stated it could invest as much as US\$600mn in this market over the next three years.

Exhibit 88. How does Nigeria fit in the Africa portfolio?

(Based on Zain's 2009 report)

Subscribers (mn)	14.78
Revenues (US\$m)	1,307
EBITDA (US\$m)	392

Contribution to

Subscriber base (%)	35
Revenue (%)	36
EBITDA (%)	36

EBITDA margins (%)	30
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Source: Company reports

Sierra Leone

- Sierra Leone is the smallest market in Bharti's Africa portfolio, contributing 0-1% to subscribers/revenues/profitability. Annual revenues are around US\$45mn with US\$2-4mn in EBITDA, with low single-digit margins. In 2006, its margins were in the mid-teens. Bharti is looking to invest around US\$25mn to expand coverage from 80% to 95% over the next few years.

Exhibit 89. How does Sierra Leone fit in the Africa portfolio?

(Based on Zain's 2009 report)

Subscribers (mn)	0.56
Revenues (US\$m)	44.3
EBITDA (US\$m)	2.3

Contribution to

Subscriber base (%)	1
Revenue (%)	1
EBITDA (%)	0

EBITDA margins (%)	5
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Source: Company reports

Tanzania

- Tanzania contributes 7-12% of subscribers/revenues/EBITDA and is Bharti's fourth-largest market by EBITDA contribution to Africa. EBITDA margins have been broadly stable at the mid-30% level. We understand Zain has invested US\$500m in the past five years and Bharti intends to invest a further US\$150mn over the next few years.

Exhibit 90. How does Tanzania fit into the Africa portfolio?**(Based on Zain's 2009 report)**

Subscribers (mn)	4.91
Revenues (US\$m)	272.3
EBITDA (US\$m)	92.8

Contribution to

Subscriber base (%)	12
Revenue (%)	7
EBITDA (%)	9

EBITDA margins (%)	34
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Source: Company reports

Uganda

- Uganda contributes 5% of Bharti's subscribers but only 1% in terms of profitability at this stage, on our estimates. This is a competitive market, and profitability has suffered over the past three years — in 2007, Zain was generating EBITDA margins of around 20%, which was down to 12-15% in 2009.

Exhibit 91. How does Uganda fit in the Africa portfolio?**(Based on Zain's 2009 report)**

Subscribers (mn)	1.93
Revenues (US\$m)	99.8
EBITDA (US\$m)	12.3

Contribution to

Subscriber base (%)	5
Revenue (%)	3
EBITDA (%)	1

EBITDA margins (%)	12
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Source: Company reports

Zambia

- For Bharti, Zambia's revenue and EBITDA contribution of around US\$300mn and US\$100mn (in 2009), respectively, make it its second-largest market in Africa (8-12% of revenue/EBITDA). EBITDA margins appear to have trended down from mid-40% in the past three years to around mid-30% now, on our estimates. The company is also looking to spend around US\$150mn to increase its network sites from 600 to over 900 by March of this year.

Exhibit 92. How does Zambia fit in the Africa portfolio?**(Based on Zain's 2009 report)**

Subscribers (mn)	3.08
Revenues (US\$m)	300
EBITDA (US\$m)	128

Contribution to

Subscriber base (%)	7
Revenue (%)	8
EBITDA (%)	12

EBITDA margins (%)	43
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Source: Company reports

Country overviews

Burkina Faso

Exhibit 93. Burkina Faso — an overview**General facts**

Capital	Ougadougou
Languages	French
Area (sq. km)	0.27m
Currency	West African CFA Franc
<i>Pegged with</i>	Euro

Demographics

Population (m)	15.6
Population growth rate (%)	3
- Urban population (%)	20

Telecom statistics

Mobile subscribers (m, 1Q10)	4.1
Mobile penetration (%)	26
ARPU (\$)	6.40

Internet users ('000s)	178
Internet penetration (%)	1

Economic indicators (2010F)

GDP per capita (PPP) (\$)	1,340
GDP growth rate (real) (%)	4
Inflation (%)	2

Source: Wikimap, IMF World Economic Outlook, CIA factbook, Internetworldstats, Nomura research

Economic overview

Burkina Faso's economy grew 3% in 2009, despite the effects of multiple crises (food, oil, financial). Growth is expected to pick up in 2010-11F, at 4-5% per year, according to the IMF. The economy, however, remains vulnerable to external shocks such as prices of commodities and oil, as well as adverse weather conditions, according to African Economic Outlook. We understand that the country's economy is not sufficiently diversified, with dependence on gold and cotton exports.

Burkina Faso is notable among members of the Western African Economic and Monetary Union (WAEMU) for having undertaken the most reforms. Key reforms include: 1) adoption of labour code in 2008 to increase flexibility in the labour market; and 2) reforms in the area of construction permits as well as property transactions.

Recent political developments

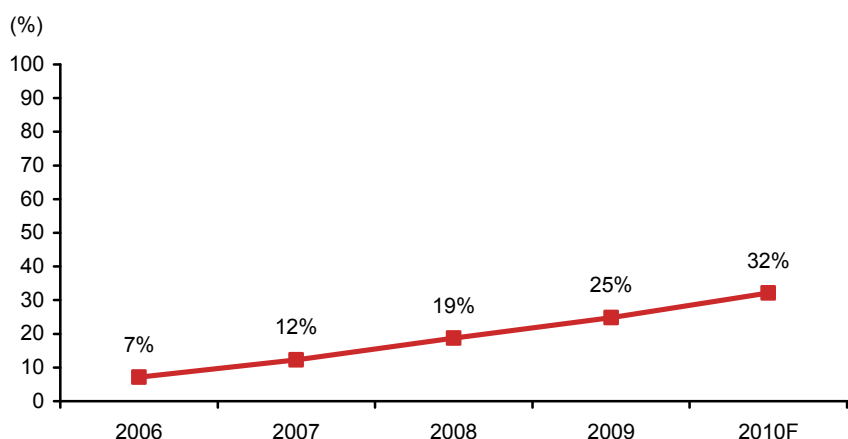
The political situation in Burkina Faso can be considered as fairly stable. The political system is based on democracy; however, the opposition was considered to be fairly weak. A law recognising and defining the status of the opposition was adopted in 2009, followed by a national assembly resolution designating the opposition leader. Burkina Faso's President Blaise Compaoré won the November 2010 polls by a landslide and the next elections are expected in May 2012, which are parliamentary.

(Source: African Economic Outlook, africaneconomicoutlook.org; BBC Country Profile)

Telecom landscape

- With a population of 16mn, Burkina Faso is the eighth-largest market in Bharti's portfolio. Market penetration is 32% (2010F) on Nomura's estimates. There are currently three operators, but the regulator has announced a tender for the fourth license. The market has both GSM and CDMA service providers, predominantly offering 2G and 2.5G services. 3G is offered by Onatel's EV-DO fixed-wireless service.

Exhibit 94. Market penetration



Source: Nomura estimates

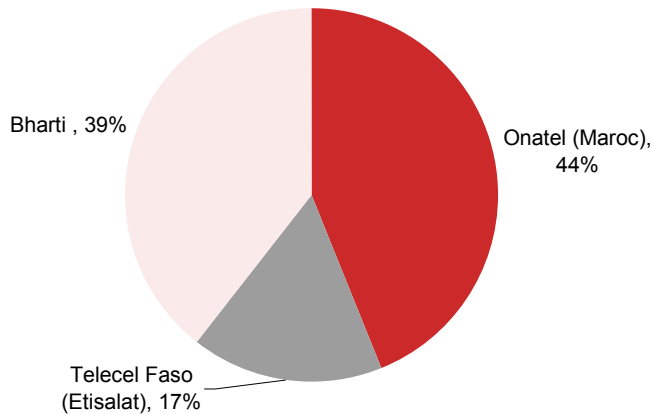
Competition

- The market has three operators, although the regulator has announced a tender for the fourth license recently – unfortunately we have not been able to establish the progress of this license at this stage.
- Onatel (partly privatised incumbent) has a leading market share at 44%. Onatel, jointly owned by the government and Maroc Telecom, operates a GSM network under the brand Telmob. Bharti is the No. 2 player with a share of around 39%, although we believe the company may have lost share in this market in recent quarters.
- Telecel Faso is the No. 3 player owned by Etisalat, which has a majority stake. Etisalat was embroiled in a dispute with its local partner, and we understand that it ceased operational control of this entity from 2008 (according to Etisalat's prospectus dated 12 Nov 2010). However, the dispute was recently resolved in Etisalat's favour, and we believe they could start to focus more on this market in the future.

Exhibit 95. Overview of operators

	Zain	Maroc Telecom/Onatel	Telecel Faso / Etisalat
2G GSM			√
2G CDMA		√	
3G WCDMA			
3G EVDO		√	
Fixed		√	

Source: Nomura estimates

Exhibit 96. Subscriber market share (1Q10)

Source: Nomura estimates

Significance to Bharti

- Burkina Faso is a small market in the overall Africa portfolio, accounting for 3-5% of Bharti Africa's subscribers/revenue/EBITDA.
- Margins in this market have contracted from around 46% in 2007 to 41% in 2009, based on Zain's reported data. We note that the government's plan to introduce one more license could pose some challenges in extracting significant operational efficiencies; we have currently built in some gradual margin recovery to around 45% in FY13F.

Exhibit 97. How does Burkina Faso fit in the Africa portfolio?

(Based on 2009 data from Zain)

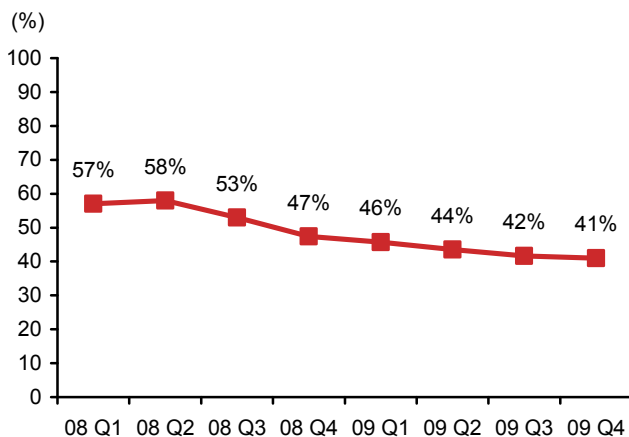
Subscribers (mn)	1.54
Revenues (US\$mn)	126
EBITDA (US\$mn)	52

Contribution to

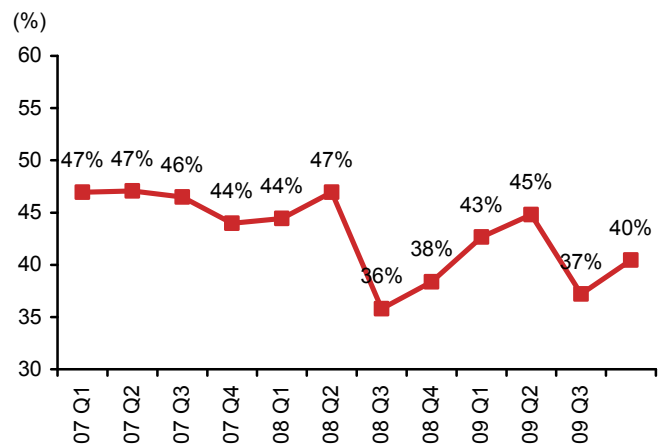
Subscriber base (%)	4
Revenue (%)	3
EBITDA (%)	5

EBITDA margins (%) 41

Source: Company data

Exhibit 98. Market share trends

Source: Company reports

Exhibit 99. Quarterly margin trend pre-acquisition

Source: Company reports

About Maroc Telecom ...

- Maroc Telecom is a subsidiary of the France-based Vivendi group operating in Africa. Maroc derives around 85% of its revenues and 90% of its EBITDA from Morocco. Burkina Faso, together with four other markets in Africa, accounts for the remaining 15%. Our EMEA analyst Mr Martin Mabbutt notes that Maroc has been constantly trying to diversify its revenue streams by buying smaller overseas government-controlled operations in Africa and then turning them around, which seems a sensible M&A strategy. The company entered Burkina Faso in 2006 by acquiring a 51% stake in the state-owned operator Onatel.

Exhibit 100. Maroc — financial snapshot in Burkina Faso

In MADm - IFRS	9m-2009	9m-2010	var.
Revenues (net)	1,255	1,368	+9%
Mobile	849	984	+16%
Fixed and Internet	581	584	+0.6%
Operating income	242	360	+49%
% of revenues	19.3%	26.3%	+7.1pts

Source: Company reports

Exhibit 101. Maroc — operational snapshot in Burkina Faso

Mobile	9m-2009	9m-2010	var.
Customers (000)	1,402	2,122	+51%
ARPU (MAD)	75	57	-25%
Market share*	41%	43%	+2pts
Penetration*	21%	28%	+7pts
Nb of operators	3	3	-
Fixed			
Lines (000)	152	155	+2.6%
Market Share	100%	100%	-
Penetration	1.1%	1.1%	-
Nb of operators	1	1	-
Internet			
Customers (000)	22	25	+18.1%

Source: Company reports

About Etisalat in Burkina Faso ...

Telecel Faso is the third-largest player with a 17% share. Etisalat owns Telecel Faso and has a 68% stake. From 2008 to 2010, Etisalat was embroiled in a legal dispute with its partner Planor Afrique and, therefore, lost management control over the Burkina Faso operations (according to a company prospectus dated 12 Nov 2010). Following the resolution of its dispute, we believe Etisalat could begin to refocus on this market. (*Gulf News*, "Etisalat wins dispute over Burkina Faso subsidiary," 6 October 2010.)

Regulatory overview

- Tender for a fourth license for fixed and mobile services including 3G: the regulator, for the first time, has announced for an international tender for a combined fixed/mobile licence, including 3G. The licence will be valid for ten years; bids were due by 19 October 2010.
- Subscriber verification: as of September 2010, the regulator has banned the sale of SIM cards without identifying the subscribers of mobile operators.
- National backbone project: this is one of the government initiatives aimed at creating a fibre optic backbone network through a public-private partnership. In the first phase, this project is expected to cover 45 provinces, which would be subsequently extended to rural headquarters in the second phase. The regulator also proposes the creation of a virtual landing point Ouagadougou. The project is expected to take shape in 2011.
- Five African countries – Benin, Burkina, Mali, Niger and Chad – have signed an agreement to coordinate the management of radio spectrum. The agreement particularly provides a settlement process for spectrum use along national borders where interference can be at its worst. (*Cellular News*, “Five African Countries Agree to Coordinate Radio Spectrum Policies,” 21 November 2010.)

Exhibit 102. The authorities

Regulator	Autorite Nationale de Regulation des Telecommunications (ARTEL)	www.artel.bf
Ministry	Ministère des postes et Télécommunications	www.mpt.bf

Source: Nomura research

International bandwidth

- Being landlocked, Burkina Faso primarily used satellite links for its international connectivity. Arrival of submarine cables to neighbouring countries like Ghana has helped international connectivity. Ghana's connectivity has improved from 1 to 2 with connectivity from the Glo-1 and Main One cables.

Exhibit 103. International cable systems

Cable system	Reach	Status
SAT3-WASC	Portugal, Spain, Senegal, Côte d'Ivoire, Ghana, Benin, Nigeria, Cameroon, Gabon, Angola, South Africa	In operation
Glo-1 (Globacom)	Nigeria, Ghana, Senegal, Mauritania, Morocco, Portugal, Spain, UK	In operation
Main One	Portugal, Ghana, Nigeria, South Africa	In operation

Source: Nomura research

Chad

Exhibit 104. Chad — an overview



General facts

Capital	N'Djamena
Languages	French, Arabic
Area (sq. km)	1.2mn
Currency	CFA Franc
Pegged with	Euro

Demographics

Population (mn)	10.38
Popn growth rate (%)	2
- Urban population (%)	27

Telecom statistics

Mobile subscribers (mn, as of 3Q10)	2.7
Mobile penetration (%)	23
ARPU (\$)	7

Internet users ('000s)	187
Internet penetration (%)	2

Economic indicators (2010F)

GDP per capita (PPP) (\$)	1,650
GDP growth rate (real) (%)	4
Inflation (%)	6

Source: Wikimap, IMF World Economic Outlook, CIA Factbook, Internetworldstats, Nomura research

Economic overview

Chad, a semi-desert country rich in gold and uranium, became an oil exporting nation in 2003. Oil now accounts for around 50% of GDP, based on the *African Economic Outlook*. The global financial crisis has affected the oil sector – GDP declined 1.5% in 2009. Growth is expected to recover to 4% in 2010F, according to IMF estimates.

Private sector development in Chad has been held back by insufficient infrastructure and lack of quality public services. In order to improve the business climate, the government adopted a national charter on investment and passed a law to create a national agency to promote investment and exports. These measures aim to modernise tax systems, customs benefits and other mechanisms that promote private investment. The government has designed a SNRP II, a poverty-reduction strategy (Stratégie nationale de réduction de la pauvreté deuxième generation) to be implemented between 2008 and 2012.

Key political facts

Chad's post-independence history has been marked by instability and violence. On 13 August 2007, an agreement was signed between the ruling party and opposition to strengthen the democratic process in Chad. This led to the formation of the election commission in July 2009; following which, the Presidential and Parliamentary elections are now expected in 2011.

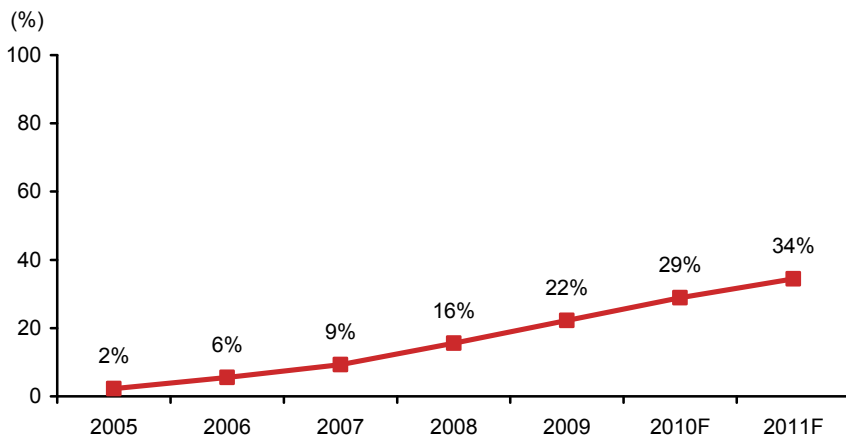
(Source: *African Economic Outlook* – www.africaneconomicoutlook.org)

Telecom landscape

- Chad is the fourth-smallest nation in Bharti's portfolio by population, but the fifth-largest nation in Africa by land size. Market penetration is only around 26% (3Q10), on our estimates, with ARPU at around US\$7.

- The mobile networks in the country are still at 2.5G, and 3G hasn't been introduced. These currently provide the only broadband-like services in the country apart from direct satellite access.

Exhibit 105. Market penetration



Source: Nomura research and estimates

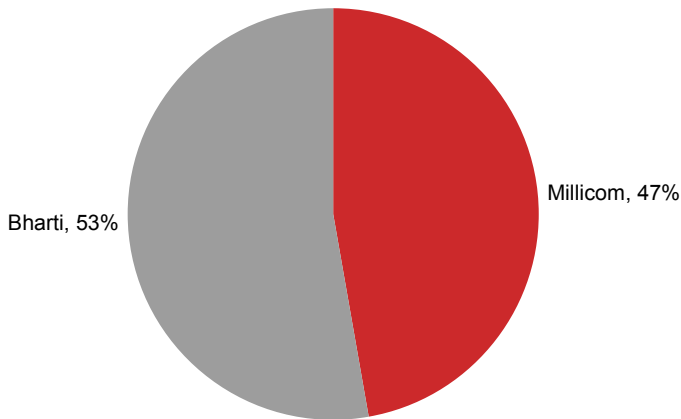
Competition

- The mobile sector in Chad is a duopoly dominated by Bharti and Millicom. We believe Millicom has gained share on Zain's operations in 2009 with its share moving from ~35% to nearly half of the market in 3Q10, on our estimates.
- The third player was a national telco and fixed-line operator, Sotel Tchad (ST), which was in partnership with Orascom Telecom; in 2004, legal disputes between the shareholders led to operations being terminated. Since then the government has been planning to privatise ST. In November 2010, the Libyan state-owned firm LAP Green Network acquired a majority stake in ST for US\$90mn. The deal gives the Libyan firm a 60% stake in Sotel Tchad. The deal came with a commitment by the Libyan company to invest up to US\$100mn to boost Sotel's network. (Source: *Wireless Federation*, "Chad government sells 60% stake in ST," 3 November, 2010)

Exhibit 106. Market penetration

	Bharti Airtel	Millicom Tigo	Sotel Tchad
2G	✓	✓	✓
3G			
CDMA			✓
Fixed			✓
Ownership	Bharti (100%)	Millicom (100%)	LAP Green networks (60%)

Source: Nomura

Exhibit 107. Subscriber market share (3Q10F)

Source: Nomura estimates

Significance to Bharti

- Chad is a small market within Bharti's footprint, accounting for 4-5% of revenue and EBITDA. Millicom has been gaining share in 2009 and to some extent in 2010, in our view. We think Bharti is likely to be more aggressive to retain its leadership position. Moreover, there is also the entry of LAP Green networks and, we therefore believe competition could rise looking ahead.

Exhibit 108. How does Chad fit in the Africa portfolio

(Based on Zain's 2009 reports)

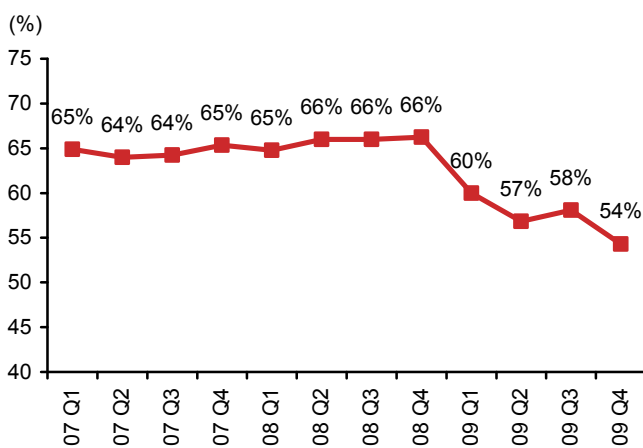
Subscribers (mn)	1.21
Revenues (US\$m)	133
EBITDA (US\$m)	55

Contribution to

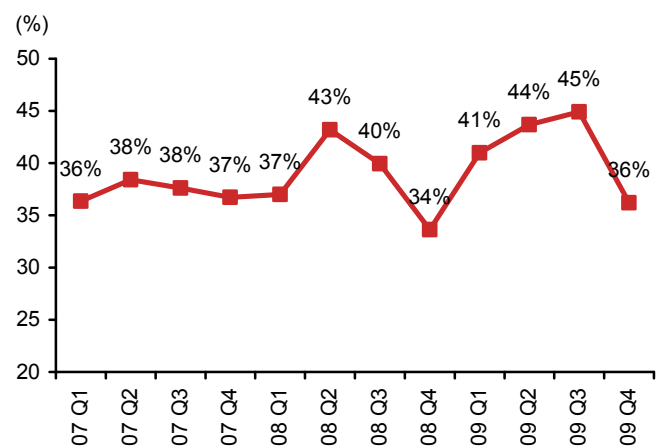
Subscriber base (%)	3
Revenue (%)	4
EBITDA (%)	5

EBITDA margins (%)	41
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Source: company reports

Exhibit 109. Bharti – market share trends

Source: Company reports

Exhibit 110. Bharti – EBITDA margin trends

Source: Company reports

About LAP Green Networks ...

LAP Green is the telecom arm of the Libyan African Investment Portfolio (LAP), and it has been acquiring a significant portfolio across Africa. LAP Green appears to have the greatest access to significant resources within LAP. Even back in 2006 when LAP Green was set up, it had an initial capital of US\$5.5bn. LAP Green reckons the African telecom space will be dominated by five to six large names in the longer term and expects consolidation within the sector in the interim, and presumably aims to take advantage of those trends. It is also looking at operations outside of Africa as well and recently made a bid for Telecom Serbia. It has indicated (on its website) that prospective new opportunities are being monitored in Equatorial Guinea, DRC, Burundi, Tanzania and Ethiopia.

Recent announcements include the signing of a US\$300mn finance package with Industrial and Commercial Bank of China in 2009 to fuel its expansion plan in Africa, and to fund its capex plans in the current operations (Source: Telegeography.com, 16 November, 2009). In February 2010, the company bought an 80% stake in Gemtel Telecom based in South Sudan (Source: *The Observer*, 3 February, 2010). Most recently, it purchased a 60% stake in Sotel (Chad) with a commitment to invest a further US\$100mn in the network.

Exhibit 111. Overview of LAP Green

Presence	Stake	Inv.	Brand	Comments
Uganda	62%	n/a	UTL	One of the lowest cost service providers; Cut rates recently in line with Zain and MTN cuts
Rwanda	80%	USD 100m	Rwandatel	Launched operations in Dec 08. Has 536k subs, and is the leader in data and internet services
Niger	60%	n/a	Sonitel	n/a
Zambia	75%	USD 257m	Zamtel	Purchased in June 2010. Committed spend of \$62m for network expansion. Looking to cross the 1m subs by end 2010
Ivory Coast	75%	n/a	Oricel Green	n/a
South Sudan	80%	n/a	Gemtel	Not yet launched operations
Sierra Leone	n/a	n/a	Ambitel	Not yet launched operations
Togo	n/a	n/a	n/a	Not yet launched operations
Chad	60%	USD 90m		

Source: Nomura research

Regulatory overview

- The regulator has listed the following as its agenda on its website; the government also created a National ICT plan in 2007, which also includes the below.
 - Satisfying the growing demand for telecommunications services and provide access to the largest number of people;
 - Building a national fibre loop connected to the international undersea cable to SAT3;
 - Expanding the capacity of the Internet gateway and creating access points within the country;
 - Developing rural telephony with ICTs.
- The regulator set a date of 31 December 2010 for registration of all SIM cards sold by mobile operators on their network for collecting and storing the identification details of all subscribers. Mobile operators will be required to disconnect all unregistered SIM cards.

Exhibit 112. The authorities

Regulator	Office Tchadien de Regulation des Telecoms (OTRT)	www.otrt.td/
Ministry	Ministère de Postes et Télécommunications	www.tit.td/

Source: Nomura research

Infrastructure/ international bandwidth

- Chad still lacks a national fibre backbone infrastructure and international fibre access, according to our understanding. Currently, satellite remains the primary mode for national and international connectivity. However, the World Bank-funded Central African Backbone (CAB) project was approved in 2009, and this is expected to bring connectivity to Chad.

Congo

Exhibit 113. Congo — an overview



General facts

Capital	Brazzaville
Languages	French (official), Lingala and Monokutuba
Area (sq. km)	0.34mn
Currency	Central African CFA franc (XAF)
Pegged with	EUR

Demographics

Population (mn)	4.02
Popn growth rate (%)	2.8
- Urban population (%)	61

Telecom statistics

Mobile Subscribers (mn)	3.0
Mobile penetration (%)	76
ARPU (\$)	11

Internet users ('000s)	245
Internet penetration (%)	6.1

Economic indicators (2010F)

GDP per capita (PPP) (\$)	4,500
GDP growth rate (real) (%)	11
Inflation (%)	5

Source: Wikimap, IMF World Economic Outlook, CIA factbook, Internetworldstats, Nomura research

Economic overview

The Republic of Congo, or Congo Brazzaville, is one of sub-Saharan Africa's main oil producers, and the economy is heavily reliant on this commodity. Congo's economy grew by 7.5% in 2009 and is expected to grow by 11%, according to the IMF. We understand that Congo B. has made significant progress in restoring internal political peace and applying reforms launched under the three-year programme agreed with the IMF as part of the Poverty Reduction and Growth Facility (PRGF). Private-sector growth is hampered by a large informal economy, complicated bureaucracy and dilapidated infrastructure.

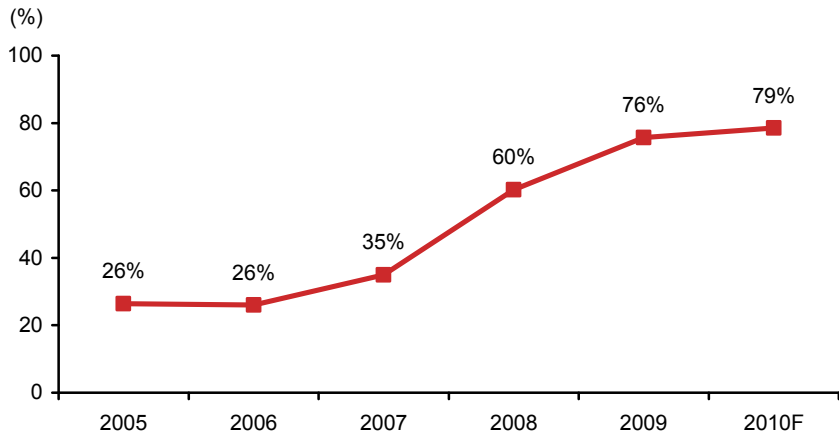
Key political facts

President Denis Sassou Nguesso is one of Africa's longest-serving leaders, having first come to power three decades ago and he was re-elected for another seven-year term in July 2009. After the 2009 presidential elections, Congo Republic's next elections are in 2012, which are legislative.

(Source: African Economic Outlook - <http://www.africaneconomicoutlook.org> and BBC Country profile)

Telecom landscape

- Congo B is one of the smaller telecom markets with a population of around 4mn, but with around 80% wireless penetration. Its high GDP per capita levels are also reflected in one of the higher ARPUs in Africa at around US\$11 based on MTN's reported ARPU. There isn't evidence of 3G rollout in this market.

Exhibit 114. Market penetration

Source: Company reports, Nomura estimates

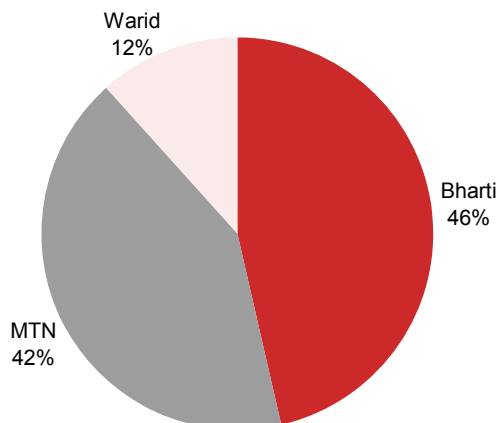
Competition

- There are three incumbent operators – Bharti, MTN and Warid – while the fourth operator, Bintel only entered in 2009. Bharti is the market leader with a 46% share on our estimates, which declined from a peak of 70% in 2007.
- A fourth GSM license was issued to Equateur Telecom Congo, a subsidiary of Bintel (a Bahrain based telecom operator) in 2009 and it launched its operations under the brand name 'Azur' only in September 2010; hence, we believe it currently has a negligible market share.
- We expect competition to remain strong in this market, but do not forecast an ongoing market share loss for Bharti going forward.

Exhibit 115. Current operators

	Bharti	MTN	WARID	Bintel
2G	✓	✓	✓	✓
3G				
CDMA				
Fixed	✓			

Source: Nomura research

Exhibit 116. Subscriber market share (2009)

Source: Nomura estimates

Significance to Bharti

- Although it is a small market for Bharti in a regional context, Zain used to dominate it with a share of around 70%, but is now running at around a 45% share, on our estimates. Profitability has also declined from a peak margin of mid-40% to mid-20% over this period. This is a reflection of rising competition from both MTN and Warid since 2007. We are currently only assuming a gradual but moderate recovery to mid-30% margins over the next three years.

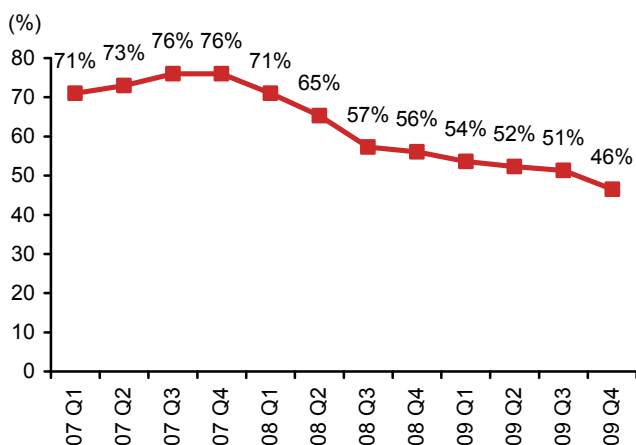
Exhibit 117. How does Congo B fit in the Africa portfolio

(Based on Zain's 2009 reports)

Subscribers (mn)	1.41
Revenues (US\$m)	208.1
EBITDA (US\$m)	56.3
Contribution to	
Subscriber base (%)	3
Revenue (%)	6
EBITDA (%)	5
EBITDA margins (%)	27

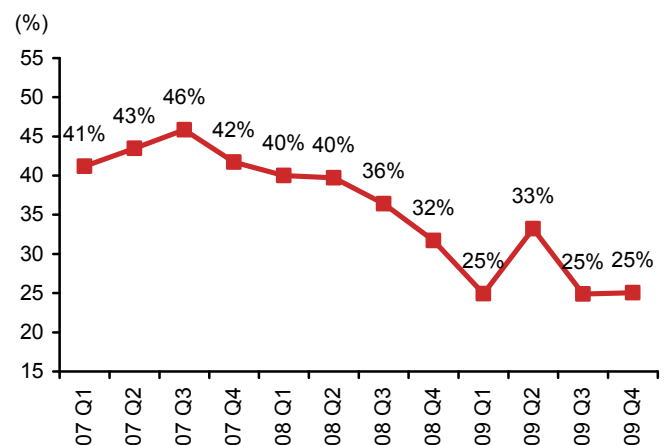
Source: Company reports

Exhibit 118. Bharti – market share trends



Source: Company reports

Exhibit 119. Bharti – EBITDA margin trends



Source: Company reports

Regulatory overview

- New Interconnect rate:** The interconnection termination rate was reduced from FCFA 75 (US\$0.15) to FCFA 50 (US\$0.09) on 1 July, 2010, in line with the agreement signed between all operators in December 2008.
- Subscriber identification:** The government has decided to institute the identification of all subscribers from January 2011. The identification process should be completed by December 2011.

DRC

Exhibit 120. DRC — an overview



General facts

Capital	Kinshasa
Languages	French (official), Lingala, Kikongo, Swahili, Tshiluba
Area (sq. km)	2.3mn
Currency	Congolese franc (CDF)
Pegged with	USD

Demographics

Population (m)	69
Popn Growth Rate	3.2%
- Urban population	34%

Telecom statistics

Mobile Subscribers (m, as of 3Q10F)	10
Mobile penetration	15%
ARPU (\$)	5.60

Internet users ('000s)	365
Internet penetration	0.5%

Economic indicators (2010F)

GDP per capita (PPP)	\$340
GDP Growth Rate (real)	5%
Inflation	15%

Source: Wikimap, IMF World Economic Outlook, CIA factbook, Internetworldstats, Nomura research

Economic overview

DRC, the third-largest country in Africa, has one of the lowest per capita incomes in the world, and 80% of its population is below the poverty line, according to a Millicom investor presentation. The country was ranked as the second most difficult country in the world to do business in the 2010 World Bank's Doing Business report. DRC's economy relies heavily on mining. Much economic activity also occurs in the informal sector (part of the economy that is not monitored or taxed by the government) and is not reflected in GDP data. An uncertain legal framework, corruption and lack of transparency in government policy are continuing long-term problems, according to the *African Economic Outlook*.

The slump in mineral resource prices and the closing or downsizing of many mines had a devastating impact on the DRC economy in 2008 and 2009. However, growth is expected to recover through 2010 and 2011 (on IMF estimates).

Key political facts

The next presidential and legislative elections are likely in November 2011. The December 2005 constitution referendum paved the way for multi-party democracy, and the last election in 2006 was important because it gave hope for sustainable peace after two bloody wars between 1996 and 2003.

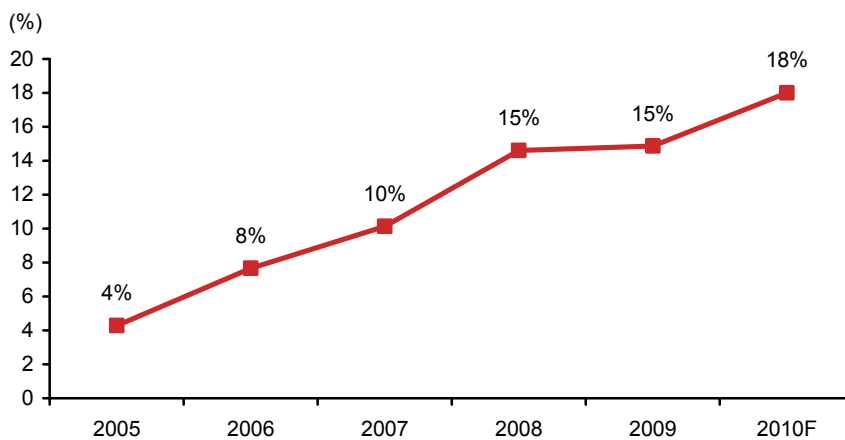
The political and security situation improved in 2009, but the situation is still fragile and DRC is still seeking stability. The Parliament approved during 2009 the budget for 2010, an elections law, a decentralization measure, army reform and changes to the judicial system.

(Source: Vodacom, Millicom presentation, *African Economic Outlook* - <http://www.africaneconomicoutlook.org>)

Telecom landscape

- Among Bharti's Africa portfolio, DRC is the second-largest country, with a population of 69mn, but also the one with the lowest penetration (15%). Despite this, we think DRC could be one of the more challenging markets to turn around for Bharti given the political instability, poor affordability as well as rising competition. Average ARPU is at around US\$5-6.
- The market is primarily on 2G. CDMA EVDO is available in Kinshasa (the capital), and small wireless networks using WiMAX also exist.
- The economic slump in 2008/2009 also led to the depreciation of the local CDF. Vodacom notes that this has adversely impacted the affordability of mobile offers, which are charged for in US dollars. The Congolese franc saw a 40% decline against the US dollar in 2009, but began to stabilize in 2010 (*Reuters, 1 September, 2010*).

Exhibit 121. Market penetration (2010F)



Source: Nomura research and estimates

Exhibit 122. Challenges and focus areas, highlighted by Millicom

2009-2010 KEY CHALLENGES: “#1 IN KBC”

1. Enhance network quality
2. Talent development
3. Keep costs under control, improve EBITDA
4. Sustain pricing & product leadership
5. Segmented marketing and growth of targeted other revenue streams (VAS, International business, corporate)
6. Grow POS capillarity and penetration of non traditional outlets
7. Legal and taxation in a difficult environment
8. Multi currency environment with USD and CDF used

Note: KBC refers to Kinshasa Bass Congo region

Source: Millicom presentation

Competition

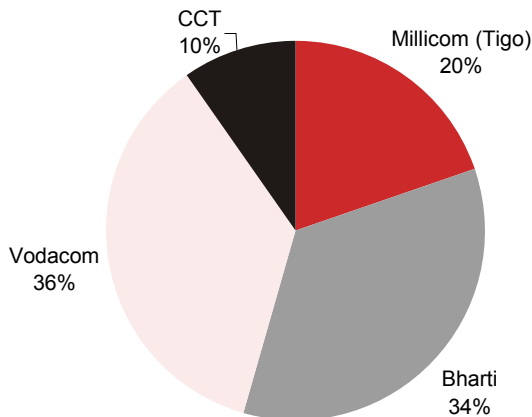
- There are four main players in the market – Vodacom, Bharti, Millicom and Congo Chine Telecom (in which state operator OCPT has a 49% stake).
- During the liberalisation in 2001, the government issued 16 licenses, but the market was forced to consolidate due to lack of spectrum availability, leaving four dominant players.
- Vodacom in an investor presentation (from its 2009 Analyst Day) stated that DRC is one of the highly competitive markets in Africa, where the focus is largely on low-tariff offerings.

Exhibit 123. Current operators

	Bharti	Millicom (Tigo)	Cong Chine Telecom	Vodacom
2G	✓	✓	✓	✓
3G		✓		

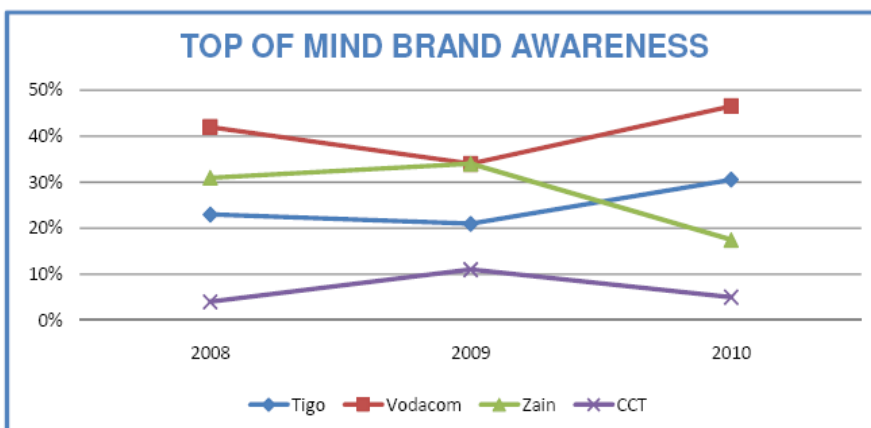
Source: Nomura research

Exhibit 124. Subscriber market share (3Q10F)



Source: company reports, Nomura estimates

Exhibit 125. Top of mind brand awareness



Source: Millicom presentation, 4 June, 2010

Significance to Bharti

- DRC is the third-largest market for Bharti in terms of subscriber potential within the African portfolio, and this market contributed 9% and 6% of its revenue and EBITDA, respectively, based on 2009 reported data. However, margins have been

on the decline from around 26% in 4Q08 to around 20% in 2009, which we attribute to price competition in the market and rural expansion.

- Bharti is planning to invest US\$400mn in DRC over the next few years ("Airtel plans a US\$400mn DRC investment," *Global Telecom Business*, 13 December, 2010). The company's plans include expanding coverage to rural areas.

Exhibit 126. How does DRC fit in the Africa portfolio

(Based on Zain's 2009 report)

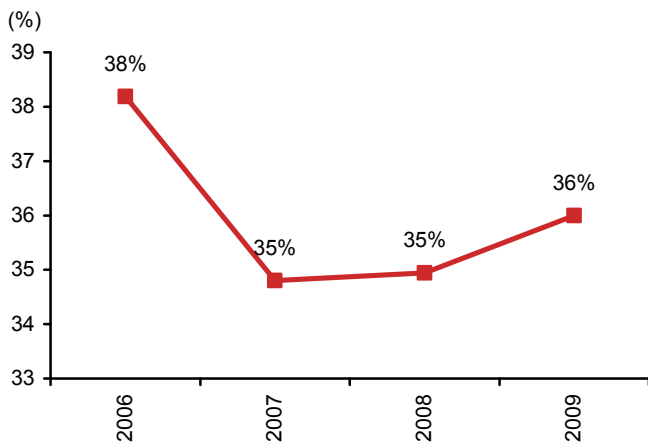
Subscribers (mn)	3.57
Revenues (US\$m)	321.6
EBITDA (US\$m)	65.9

Contribution to

Subscriber base (%)	8
Revenue (%)	9
EBITDA (%)	6
EBITDA margins (%)	20

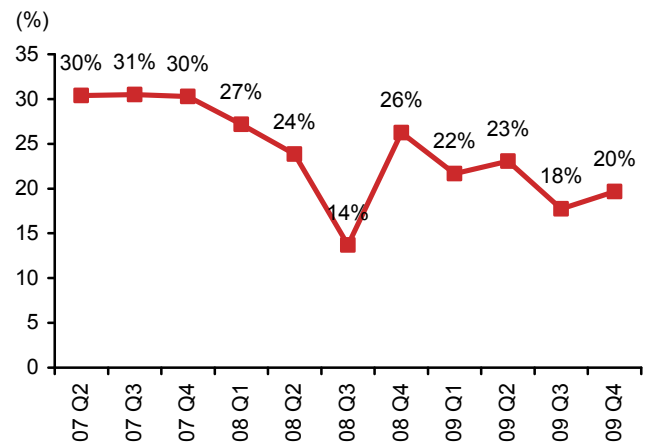
Source: Company reports

Exhibit 127. Bharti – market share trends



Source: Company reports

Exhibit 128. Bharti – EBITDA margin trends



Source: Company reports

About Millicom ...

Millicom (covered by our EMEA analyst Martin Mabbutt) is one of the leading players in Africa, with presence in seven markets, and it competes with Bharti in Ghana, DRC, Tanzania and Chad. Tanzania is its biggest market in terms of subscriber numbers at ~5mn, and DRC is its fourth-largest market by subscribers at ~2mn.

- Martin Mabbutt believes Millicom remains a strong performer in the African markets. It has steadily built market share, rising from 20% in 1H07 to 32% in 1H10, with customers increasing to 14.1mn from 3.9mn. Revenues have grown about mid-20% for the past two years. Underlying margins have grown to 40.9% in the most recent quarter, nearing the point where we believe it may be hard to push them up too much further.
- Millicom has been among the leaders in the industry in terms of developing VAS. These are for the most part simple products designed to increase apparent affordability and ease of ownership rather than sophisticated data services. Within its African footprint, VAS comprises 9% of recurring revenues, with around half of that from SMS. Penetration of data services is little more than 10% of the base at present. Based on its experience in Latin America with similar levels of wealth, Millicom believes it has substantial upside from VAS, enabling it to maintain ARPU.

- Cost savings on the agenda: Millicom's management is from a FMCG environment and therefore seems less wedded to infrastructure than those with a telco background. Millicom is looking to save on opex and capex through tower sharing arrangements, such as the one it entered in Ghana. It is also looking for network-sharing opportunities in its 3G coverage to bring down its operational expenses.

Exhibit 129. Overview of Millicom

:: Overview

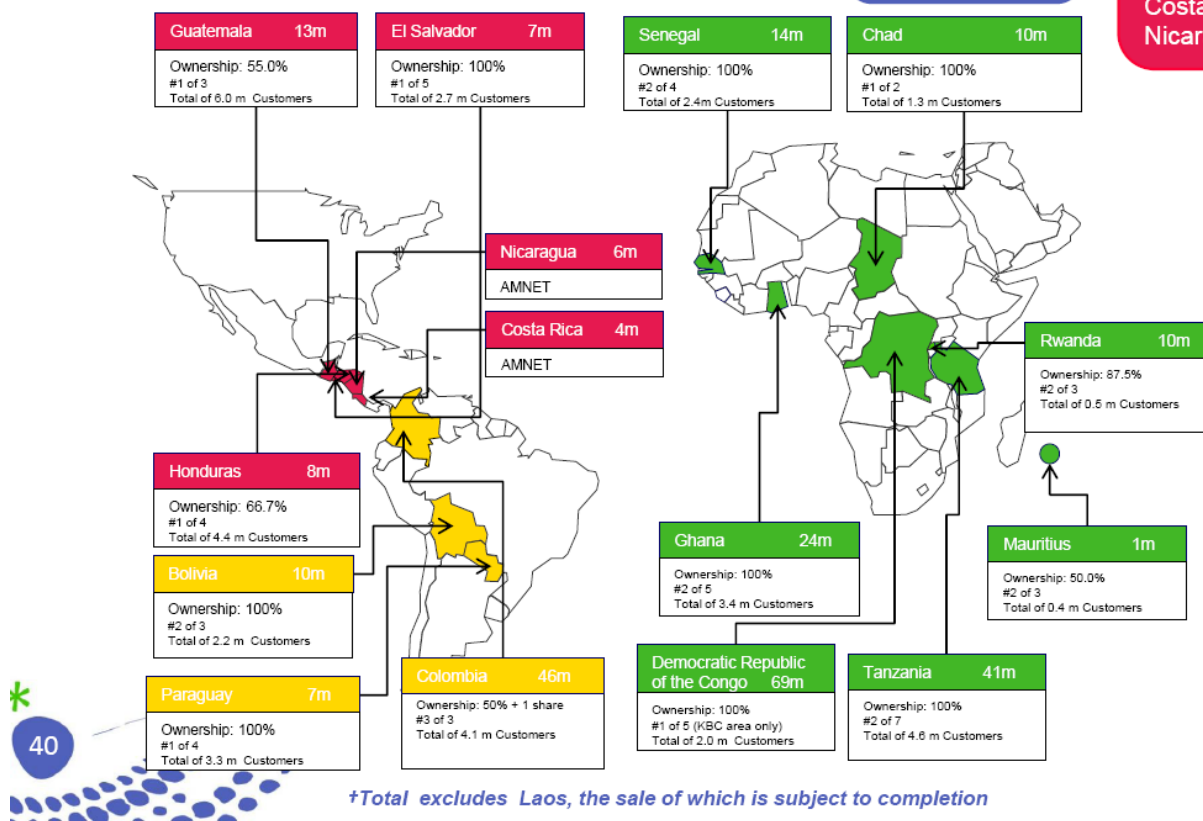
Central America:
28 m

South America:
63 m

Africa*:
169 m

Mobile operations' pops under license*†:
260m

Amnet: 38m
Guatemala 13m
El Salvador 7m
Honduras 8m
Costa Rica 4m
Nicaragua 6m



Source: Company presentation

Regulatory overview

- Subscriber registration is being implemented by the regulator: In December 2009 a new customer registration decree was issued, which requires due process to be followed on individual customer information requests prior to penalties being imposed.
- 3G auction process was expected to begin in 2010, but the process is yet to begin.

Exhibit 130. The authorities

Regulator: Autorite de Regulation de la Poste et des Telecommunications du Congo (ARPTC)

www.arptc.cd

Source: Nomura research

Infrastructure

- There is no national fibre optic backbone in the country; satellite is the primary means of connectivity.

- There are currently three backbone projects that the private sector has proposed to the Congolese Postal and Telecommunications Office (OCPT). Siemens has proposed to install a national telecommunications network; Ericsson has proposed to install a network in Kinshasa; and the West Africa Festoon submarine cable system (WAFS), managed by Telkom, has proposed to create an access point to the SAT3 cable. So far, we understand the government has not committed itself to any of these projects.

Gabon

Exhibit 131. Gabon — an overview



General facts

Capital	Libreville
Languages	French (official), Fang, Myene, Nzebi, Bapounou/Eschira, Bandjabi
Area (sq. km)	0.27m
Currency	Central African CFA franc (XAF)
Pegged with	Euro

Demographics

Population (mn)	1.50
Popn growth rate (%)	1.5
- Urban population (%)	85

Telecom statistics

Mobile Subscribers (mn, 2010F)	1.7
Mobile penetration (%)	115
ARPU (\$)	15-18
Internet users ('000s)	99
Internet penetration (%)	6.6

Economic indicators (2010F)

GDP per capita (PPP) (\$)	14,865
GDP Growth Rate (real) (%)	5
Inflation (%)	3

Source: Wikimap, IMF World Economic Outlook, CIA factbook, Internetworldstats, Nomura research

Economic overview

Following a recession in Gabon in 2009, with a 1.4% decline in GDP, a recovery to 5% GDP growth is expected in 2010, according to the *IMF World Economic Outlook (Oct 2010)*. Around 60% of contributions to GDP come from mining and oil, according to the *African Economic Outlook*. Private sector development enjoys a favourable environment; this is supported by the establishment of an agency to promote private investment as well as growth of SMEs and SMIs. The country enjoys a higher wealth per population in Africa. However, there exists distorted income distribution and many of its people live in poverty (35%).

Key political facts

Gabon is one of the more stable countries in West Africa, according to *BBC*. Following the death of previous President Omar Bongo in June 2009, an early presidential election was organised in August, won by Ali Bongo, the son of Omar Bongo. The ruling party – the Gabonese Democratic Party (PDG), has been in power since 1968, despite political liberalization and introduction of a multiparty system in 1991.

(Source: *African Economic Outlook* - <http://www.africaneconomicoutlook.org> and BBC Country profile)

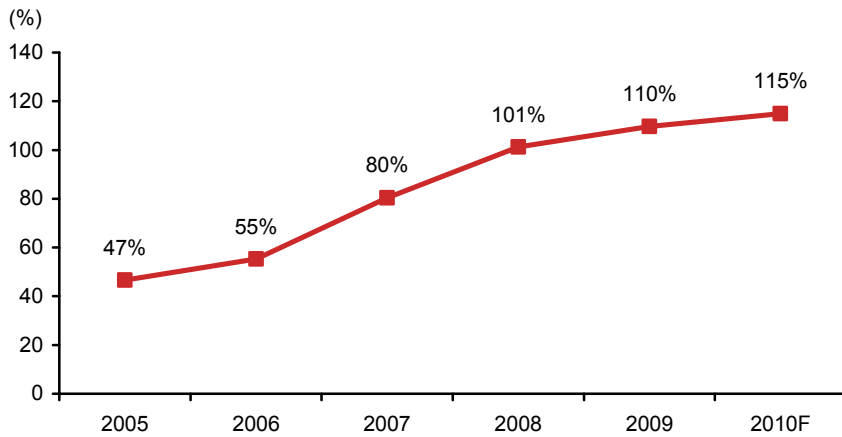
Telecom landscape

- Gabon is one of the most mature markets in Africa with penetration of around 115%. A three-player market previously, competition has increased since the entry of the fourth player in 2009. We understand the ARPUs in this market are high at around US\$15-US\$18, which is one of the highest on the continent. The Zain business used to register ARPUs of around US\$25 previously (now at around US\$18-US\$20 on our estimates). Maroc's (No. 2 player) recent ARPU is around US\$9, which has

trended down from US\$14, some due to a 15% currency depreciation seen this year (2010) and also competition from Bintel, we understand.

- In contrast to wireless, fixed line/broadband remains underpenetrated. Only in 2010 that Gabon decided to tender a 3G license.

Exhibit 132. Market penetration



Source: Nomura research and Nomura estimates

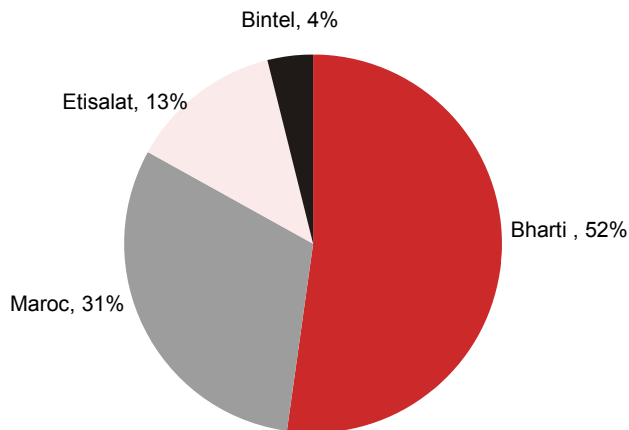
Competition

- Bintel entered the local market in 2009 and launched operations in 4Q09. We estimate its market share will likely remain below 5% at this stage. Bharti is the market leader here with a share of about 52% (from 56% in Dec 2009). (See *brief profile of Bintel below*).
- The entry of Bintel's impact on Gabon has already begun to be felt by incumbents. Our EMEA telecom analyst Mr Martin Mabbutt notes that the 2Q results in Gabon for Maroc were poor, attributable partly to the increase in price competition brought on by the fourth operator. The strategy lined up by Bintel since its licence acquisition has been that of chasing market share, with a target of 6-8% by the end of 2010 and a 30% share within the first 10 years.

Exhibit 133. Current operators

	Bharti	Maroc/Gabon Telecom	Etisalat (Moov)	Bintel
2G	✓	✓	✓	✓
3G				
3.5G				
CDMA				
Fixed		✓		

Source: Nomura research

Exhibit 134. Subscriber market share (2010F)

Source: Nomura estimates

Significance to Bharti

- Despite accounting for only 2% of its overall subscriber base, this market accounts for 7-10% of revenues and EBITDA, respectively, given the high-ARPU nature of this market. However, with the entry of the fourth operator, we believe ARPU pressure could intensify going ahead. Bharti is the market leader with a share of about 52%. In our view, defending/gaining share is likely to be a challenge, given the >100% penetration.

Exhibit 135. How does Gabon fit in the Africa portfolio

(Based on Zain's data for 2009)

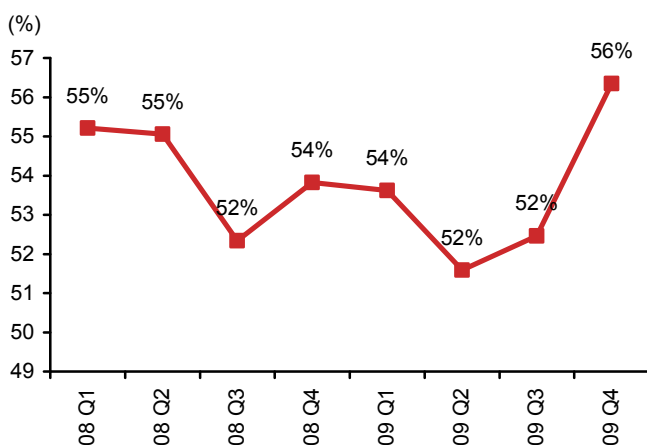
2009

Subscribers (mn)	0.94
Revenues (US\$m)	256
EBITDA (US\$m)	101

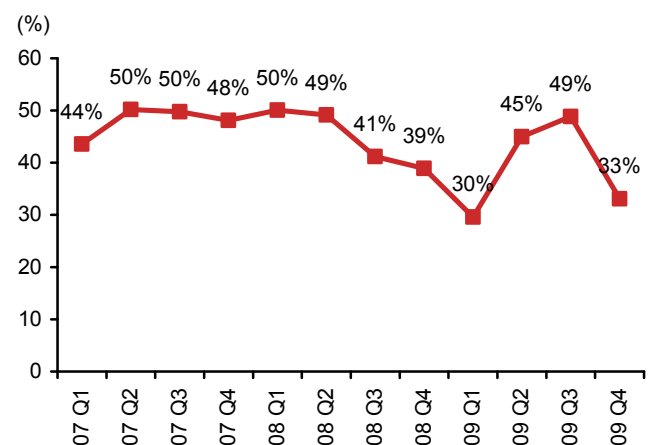
Contribution to

Subscriber base (%)	2.2
Revenue (%)	7.0
EBITDA (%)	9.4
EBITDA margins (%)	39.4

Source: Company reports

Exhibit 136. Bharti – market share trends

Source: Company reports

Exhibit 137. Bharti – EBITDA margin trends

Source: Company reports

About Bintel ...

- Bintel is a telecom operator headquartered in Bahrain, but with interests in different countries in Africa and in Switzerland. According to the company, in early 2009, Bintel pledged a US\$250mn investment by 2011 in the Middle East and Africa region to upgrade its infrastructure, as well as to expand its geographical reach and service portfolio, with an aim to enter at least three markets. It has since made investments in licences in Gabon and Congo Brazzaville, to add to its existing operations in Central African Republic and Somalia.

Exhibit 138. Overview of Bintel

Countries	Licence	Brand	Comments
Central African Republic	GSM	Nationlink	Entered market in 2007 through acquisition. On last published statistics, in 1Q08, it had a 12% subscriber market share with 0.6m subscribers
Gabon	GSM	Azur	Won a 15 year licence in 1Q09, launched operations in 4Q09 with an estimated first year capex of \$50m and capacity of 0.1m lines. Licence has provision to provide high speed data services as well
Somalia	GSM	Nationlink	Launched operations in mid 2008
Congo Brazzaville	GSM	Azur	Won the licence in Dec 2009 through its subsidiary Equateur Telecom Congo; launched operations in Sep 2010
Switzerland	n/a	Telefonique	Majority shareholder. The firm is a Swiss based international carrier and holds a Wimax licence as well

Source: Company reports

Regulatory overview

- A campaign to identify the subscribers of all mobile operators was launched by the regulatory body (ARTEL). The initial deadline of July was extended to August 2010. Around 900k subs have so far been identified and 172k are pending.
- The government is currently in the process of issuing 3G licenses and had sought bids from companies by the end of September 2010. We do not believe the final awards have been announced as yet.

Ghana

Exhibit 139. Ghana — an overview



General facts

Capital	Accra
Languages	English (official), regional - Asante, Ewe, Fante
Area (sq. km)	0.24 mn
Currency	Ghanaian Cedi

Demographics

Population (m)	23.40
Popn Growth Rate	1.9%
- Urban population	50%

Telecom statistics

Mobile Subscribers (m, as of Oct-10)	16.8
Mobile penetration	72%
ARPU (\$)	6
Data as % of ARPU	8%
Fixed subs	0.31
Fixed penetration	1%
Internet users ('000s)	1,297
Internet penetration	5.5%

Economic indicators (2010F)

GDP per capita (PPP)	\$1,610
GDP Growth Rate (real)	5%
Inflation	11%
Current 10-yr bond rate	13.50%

Source: Wikimap, IMF World Economic Outlook, CIA factbook, Internetworldstats, Ministry of Communications, NCA

Economic overview

Ghana's GDP growth has been stable at around 5-6% pa over the past five years and the economic outlook is expected to improve on the back of global recovery, public investment in the oil sector, and revenues from anticipated new oil discoveries, based on the *African Economic Outlook*. Nevertheless, the country is dependent on few primary commodities, which could be a source of vulnerability. Exports constitute a significant part of Ghana's GDP but are not diversified in terms of products and destinations.

The government's objective is to make the private sector the engine of growth and it has continued to implement policy reforms to lower trade barriers, cost of doing business, and promote greater efficiency among local entrepreneurs.

Key political facts

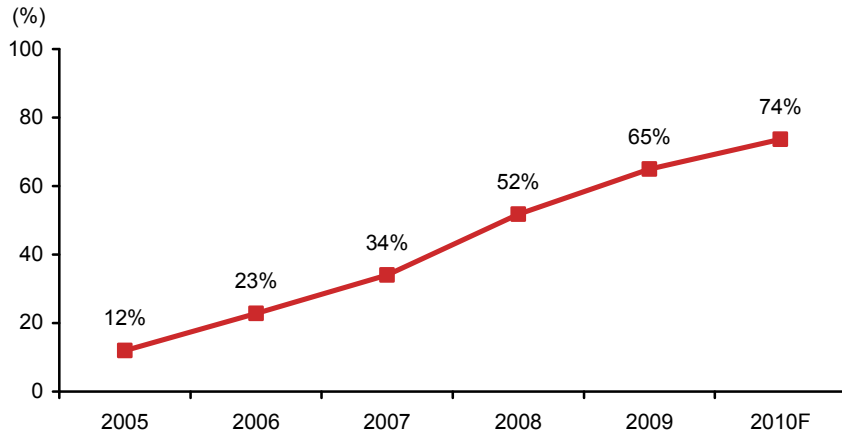
The political environment in Ghana can be classified as stable and peaceful. The country has a multi-party democracy system since 1992. At the most recent election in 2008, the candidate from the opposition National Democratic Congress (NDC) party won the presidential elections and there was a smooth and peaceful transfer of power in January 2009, from the incumbent party to the opposition party.

(Source: *African Economic Outlook*, <http://www.africaneconomicoutlook.org/>)

Telecom landscape

- Ghana is a reasonably developed telecom market, with cellular penetration of around 74% (2010F). Ghana was a frontrunner in the sub-Saharan region with Internet/ADSL connectivity by 1992; the privatisation of the state operator Ghana Telecom in 1996 further led to liberalisation of the telecom market.

Exhibit 140. Market penetration – Ghana



Source: NCA, Nomura estimates

- Network evolution stage → 3G was launched in 2008, and since then, operators like MTN and Bharti have upgraded the networks to 3.5G.
- Internet user penetration is still low at around 6% of the population, but we believe the introduction of wireless and 3G mobile broadband technologies should accelerate the adoption rates.

Exhibit 141. Opportunities and challenges in Ghana as identified by MTN

Opportunities	Challenges
<ul style="list-style-type: none"> • Rural area penetration 	<ul style="list-style-type: none"> • Downward pressure on tariffs
<ul style="list-style-type: none"> • Data usage and MTN Business Solutions 	<ul style="list-style-type: none"> • Obtaining Site permits for new sites
<ul style="list-style-type: none"> • Market leadership 	<ul style="list-style-type: none"> • High SIM boxing challenges (International termination)
<ul style="list-style-type: none"> • Mobile Money 	<ul style="list-style-type: none"> • Cash cow perspective
<ul style="list-style-type: none"> • Offshore oil connectivity opportunities 	<ul style="list-style-type: none"> • Increased Utility cost

Source: MTN presentation

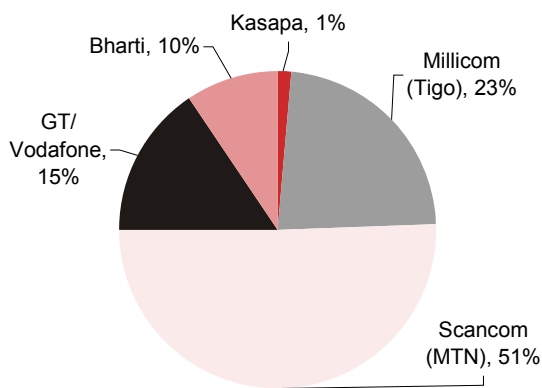
Competition

- Ghana is one of the more competitive markets with six operators – MTN dominates with a 51% share, followed by Millicom (Tigo) at 23%. Bharti now has a 10% share and only entered the market in 2008. The most recent player (6th) is Nigeria's Globacom, which entered in 2010.
- According to our emerging markets telecom analyst Martin Mabbutt, Ghana faced increased competitive intensity in 2010, with Vodafone still struggling after its

acquisition of the incumbent operator and Millicom fighting hard to win share. MTN has been forced to respond to recent pricing initiatives of both these players. The MOU uptick has been marginal and ARPU has declined for both Millicom and MTN (to ~US\$6-7), with the latter now forecasting lower subscriber additions for the year than it did at the beginning of the year. MNP is being rolled out and this is likely to intensify competition further in this market we think.

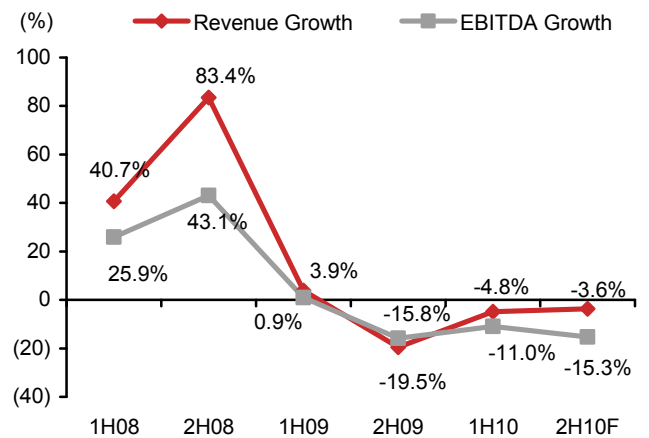
- The local press has highlighted several issues that were confronting Globacom's efforts to roll out its network and launch its services. However, late last year, the Ministry of Trade and Industry announced that Globacom was free to do business in Ghana, ending speculation that that it may exit the country. We expect it to replicate its cheap price model, as rolled out in Nigeria, to gain customers – which could potentially lead to market volatility (Telecom Firms At War, *Business Guide*, 6 December 2010).

Exhibit 142. Market share (Oct-10)



Source: Nomura estimates

Exhibit 143. MTN's revenue, EBITDA trends



Source: Company reports, Nomura estimates

Exhibit 144. Current landscape

	Bharti Airtel	Kasapa/Expresso	Tigo/Millicom	MTN/Scancom	Ghana Telecom /Vodafone	Glo Mobile
2G	✓	✓	✓	✓	✓	
3G	✓	✓	✓	✓	✓	
3.5G	✓			✓		
CDMA		✓				
Fixed	✓				✓	
Foreign Owner	Bharti	Sudan Telecommunications	Millicom (100%)	MTN (100%)	Vodafone (70%)	Globacom (Nigeria) entered in 2010

Source: Company data, Nomura research

Exhibit 145. Competition overview

	MTN	TIGO	VODAFONE	ZAIN/Bharti	KASAPA/Espresso
Launch date/Re-launch	1996 (Spacefon) 2007 (re-launch)	1992 (Mjobitel) 2006 (Tigo)	(OneTouch) 2009 (re-launch)	1997 (Westel) 2008 (relaunch)	1998 (Celtel) 2003 (re-launch)
Subscribers	8.7m	3.4m	2.0m	1.3m	0.28m
Market share	56%	22%	13%	8%	1%
Initiatives	<ul style="list-style-type: none"> • MTN Zone • Mobile Money • Value Offers – FnF, VIPER, Free night calls, • MTN Pay4me • Caller Tunes • CLIR/So CLIR • DSTV Mobile • Call me back • Me2U • Data Bundle Offers • SMS Bundle offers • Blackberry Service • 3.5G 	<ul style="list-style-type: none"> • Smart Talk • Tigo No.1 • TIGO SOS – negative talk time • Tigo my control-PAYG top up on PM • Blackberry Service • SMS Bundle Offers 	<ul style="list-style-type: none"> • Vodafone World – Roaming Service • Talk n Talk Promo – up to 75% bonus on recharge • 42% Tariff Reduction – 8Gp • Great Networks Great Deals – ULCH Sales • Blackberry Launch (Sept'10) • Vodafone Broadband 	<ul style="list-style-type: none"> • Zain Easy on your pocket – (Payback/F&F/Free Night Calls) • Zain Happy Days – money back • ZAP – mobile money • Zain Caller Tunes • Internet Modem Offers • 3.5G 	<ul style="list-style-type: none"> • Free Night Calls • Bonus on incoming CDMA

Source: MTN presentation

Exhibit 146. Overview of tariffs offered by various players

(in Ghanaian Cedi)	MTN	Tigo	Vodafone	Zain	Kasapa	Industry Average	Industry Average (in Usc)
On Net	0.10	0.15	0.14	0.08	0.10	0.11	7.71
Other Local Networks	0.10	0.16	0.14	0.08	0.15	0.13	8.60
Nigeria*	0.19	0.20	0.30	0.36	0.21	0.25	17.08
South Africa*	0.44	0.35	0.86	0.39	0.36	0.48	32.55
SMS-On Net	0.04	0.04	0.04	0.04	0.04	0.04	2.74
SMS-Other Networks	0.05	0.05	0.04	0.04	0.04	0.04	3.03
SMS-IDD**		0.11	0.08		0.06	-	-
MMS	0.18	0.212	0.19	0.18	--	0.19	12.89
Data (per MB)	0.195	1.0	0.2	0.2	0.1	-	-

Source: NCA, Nomura research

Ghana's significance to Bharti

- Ghana is a relatively new market in Bharti's African portfolio – Zain entered in 2008. With a share of about 10%, this is one of Bharti's weaker markets, where it is the No. 4 player. Moreover, the entry of the sixth player as well as launch of MNP could make it a challenging market in the near future. Bharti expects to invest around US\$200mn in this market, according to management.
- The revenue contribution is around 2% and this business is still not EBITDA positive, on our estimates.

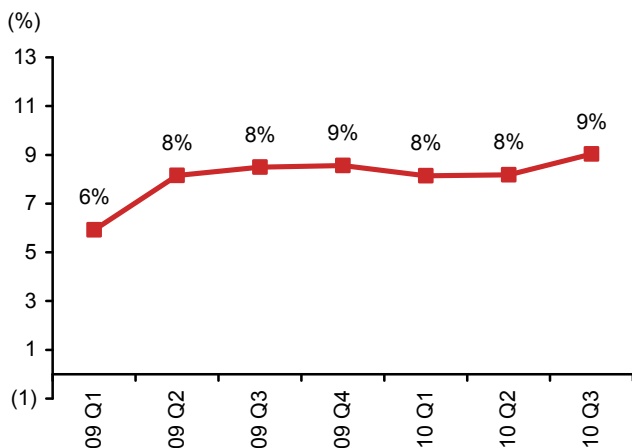
Exhibit 147. How does Ghana fit in the Africa portfolio

(Based on Zain's 2009 reports)

Subscribers (mn)	1.60
Revenues (US\$m)	57
EBITDA (US\$m)	(42)
Contribution to	
Subscriber base (%)	3
Revenue (%)	2
EBITDA (%)	na
EBITDA margins (%)	(74)

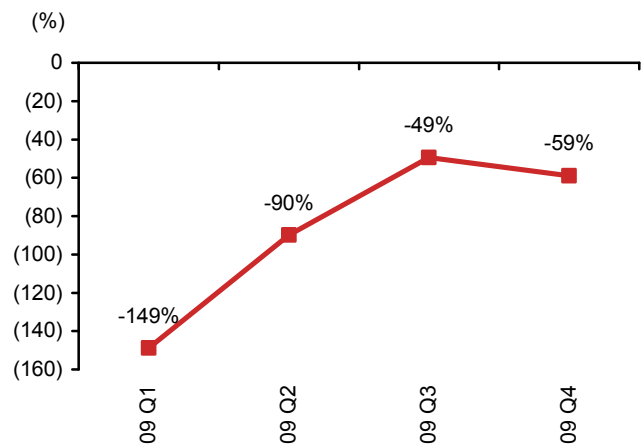
Source: Company reports

Exhibit 148. Bharti – gaining share



Source: Company reports

Exhibit 149. Margins – moving closer to breakeven



Source: Company reports

Infrastructure

- This is one of the few African markets that has seen tower divestments; first from Millicom's sale to Helios in Jan 2010 and MTN's sale to ATC in Dec 2010.
- MTN Group sold 51% of its telecom towers and base stations (1,876 BTSs) in Ghana to America Tower Corporation (ATC). According to the transaction, ATC is expected to pay ~US\$220mn for the 51% stake. The remaining 49% will be held by a private company to be called Tower Co Ghana, which will also be managed by ATC on behalf of themselves and MTN.
- Millicom sold 720 towers in Ghana sold to Helios for a figure of \$100mn.
- The international bandwidth was previously offered by only one player – Ghana Telecom, through its ownership in SAT-/WASC. Two new cable systems, Glo-1 and Main One, went live in 2009 and 2010. Moreover, several players are also rolling out national fibre backbone networks in the country and this bodes well for broadband, in our view.

Regulatory overview

- The regulator has implemented mandatory subscriber registration before activation from 1 July 2010. This was expected to lead to a slowdown during the second half of the year, although this is likely to be a short-term issue.
- The government introduced a levy on international call termination in Ghana in June 2010 in order to raise revenues; this move has slowed the volume growth of incoming traffic and has had a detrimental impact on the operators.
- MNP implementation is expected to occur in 2011 in order to encourage healthy competition. The regulator has already selected the MNP vendors — Porting Access of Netherlands and its local partner CIS-Ghana Limited for implementation.
- The regulator is carrying out a consultation process for award of spectrum for BWA services. Up to five licenses could be auctioned — three slots of 30 MHz blocks for operators using unpaired spectrum and two slots of 2 x 15 MHz blocks for operators using paired spectrum. (Source: NCA, IT Edge News).

Exhibit 150. The authorities

Regulator	National Communications Authority	www.nca.org.gh
Ministry	Ministry of Communications	www.moc.gov.gh

Source: Nomura research

Kenya

Exhibit 151. Kenya — an overview



General facts

Capital	Nairobi
Languages	English (official), Kiswahili (official)
Area (sq. km)	580,367
Currency	Kenyan shilling (KES)
<i>Pegged with</i>	

Demographics

Population (mn)	39.7
Popn Growth Rate	2.6%
- Urban population	22%

Telecom statistics

Mobile Subscribers (m, Jun-10)	20.1
Mobile penetration	51%
ARPU (\$)	4.00
MoU	100
Internet subscriptions (m)	3.1
<i>Of which Broadband</i>	1%
Internet penetration	7.8%
Internet users (mn)	7.8

Economic indicators (2010F)

GDP per capita (PPP)	\$1,784
GDP Growth Rate (real)	4%
Inflation	4%
Current 10-yr bond rate	11%

Source: Wikimap, Nomura research

Economic overview

Kenya's economy went through a troubled period in 2009 due to the post election disruption in 2008, poor rainfall and the global slowdown. However, *IMF World Economic Outlook (2010)* suggests a recovery for GDP growth to 4% in 2010, helped by the stimulus that was enacted in 2009. Kenya is also expected by the *African Economic Outlook* to benefit from factors such as: 1) further integration of the East African Community — a majority of Kenya's exports is to the EAC and is dependent on growth in EAC; and 2) free movement of labour and capital. Agriculture is a key contributor to GDP at 25% and this sector employs more than 50% of Kenya's labour force, according to the *African Economic Outlook*. Roughly half of the population lives below the poverty line.

Key political facts

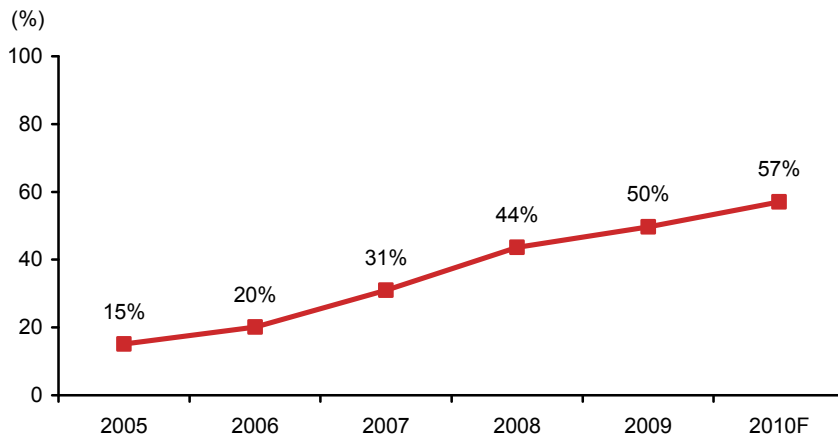
The election in 2008 saw incumbent President Mwai Kibaki come back to power with a narrow lead, which led to allegations of electoral manipulation from the opponent and was followed by a period of violence, humanitarian crisis as well as disruption of economic activity, leading to decline in investor confidence. Kenya's next presidential and parliamentary elections are expected in December 2012. We understand the call for a constitutional review has been ongoing since 1991.

(Source: African Economic Outlook, africaneconomicoutlook.org)

Telecom landscape

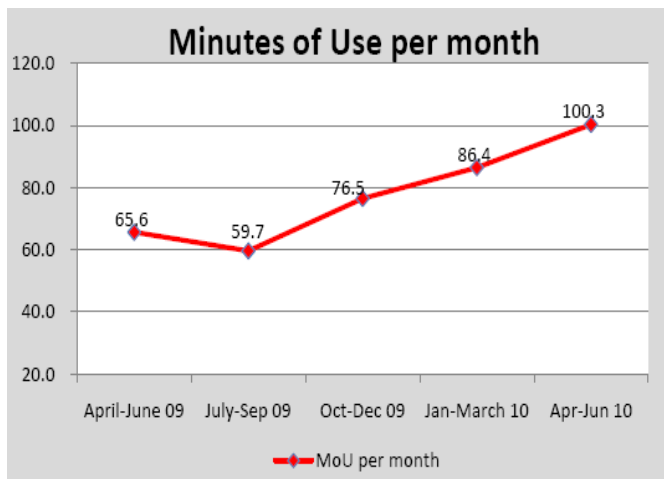
- With a population of around 40mn, Kenya is the fourth-largest market in Africa for Bharti. Wireless penetration is 50% with ARPU of US\$4 and MoU of US\$100. Usage appears to be rising with total minutes almost doubling y-y in the Jun-10 quarter based on regulator's data.
- The incumbent Safaricom has a market share of about 80%. Moreover, Kenya is touted as a model market for mobile banking, which was vitalised by Safaricom's M-PESA product.
- We understand Safaricom is the only player which has deployed a 3G network. Following a lower 3G permit fee in June this year, both Telkom Kenya (Orange) and Bharti were also awarded licenses.
- As shown in exhibits below, mobile traffic, usage and data take-up rates have improved consistently over the past 12 months.

Exhibit 152. Market penetration



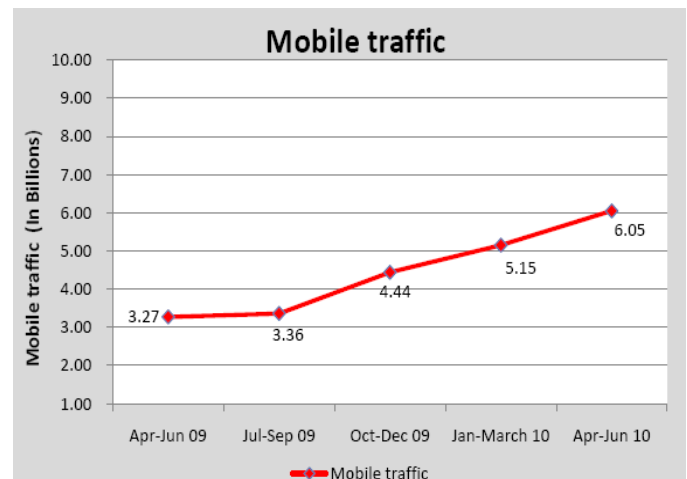
Source: Company reports, Communications Commission of Kenya, Nomura estimates

Exhibit 153. MoU trends in Kenya



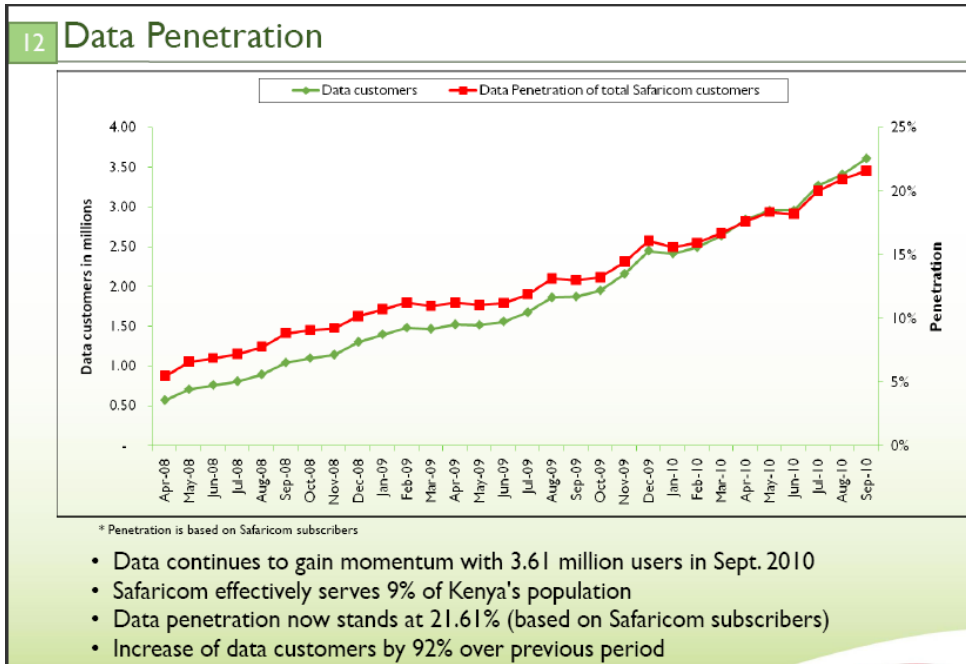
Source: Communications Commission of Kenya

Exhibit 154. Total minutes across all networks



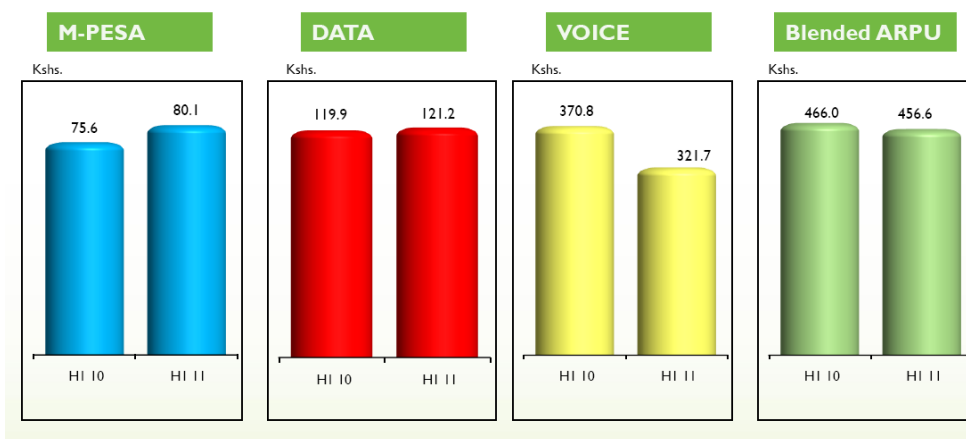
Source: Communications Commission of Kenya

Exhibit 155. Data customer trends seen at Safaricom



Source: Safaricom investor road show presentation

Exhibit 156. Data ARPU trends at Safaricom



Source: Safaricom investor road show presentation

Competition

- The Kenyan telecom competitive landscape is dominated by Safaricom, which commands roughly an 80% share. The Zain operation, which started life outpacing Safaricom in 2000-03, has now fallen far behind. Zain's market share in Kenya has declined gradually from a high of 44% in 2001 to 9-10% now, on our estimates.
- The other two operators, Telkom Kenya (Orange) and Essar Telecom (Yu), each have a 5% share and average ARPU is US\$4.
- Bharti's choice to make Kenya the "test-bed" was probably driven by the presence of only one dominant player (Safaricom) and a regulator that was keen to demonstrate that it is supportive of creating competition. We also note that overall usage growth was already healthy with minutes doubling y-y based on regulator data, and this likely played into Bharti's choice to test its "minutes factory" model, we think.
- The regulator has initiated some efforts to lower Safaricom's dominance, including MNP (which is now expected to be launched in April 2011) and lowering of

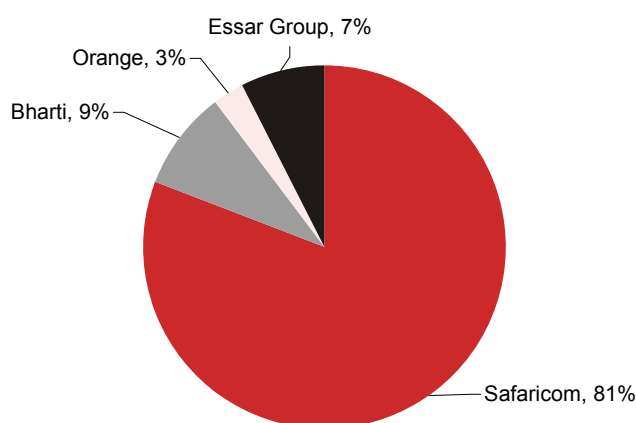
interconnect rates, which has allowed tariffs (voice/SMS/international calling) to fall by 50-90% in the last few months.

Exhibit 157. Current operators

	Safaricom	Bharti	Orange/ Telkom Kenya	Essar Group (Yu)
2G	✓	✓		✓
3G	✓			✓
CDMA				✓
Fixed				✓

Source: Company data, Nomura research

Exhibit 158. Subscriber market share (Jun-10)



Source: Communications Commission of Kenya

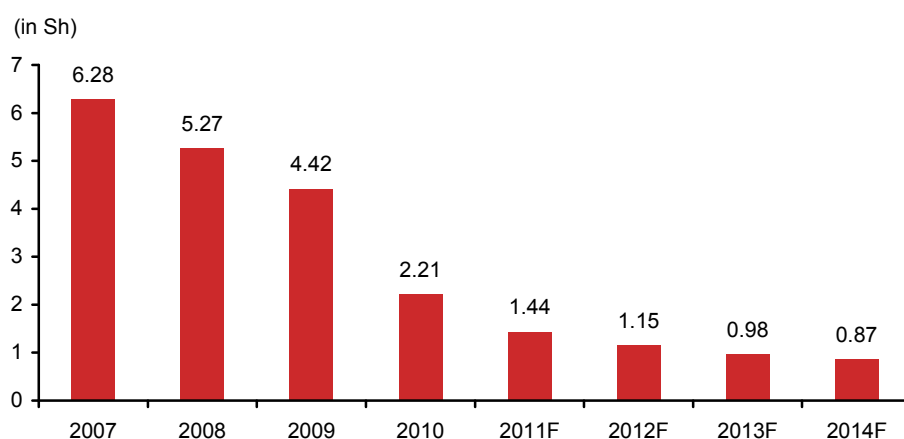
Intense pricing continues... partly helped by lower IC

- The Kenyan market has seen some intense tariff cuts since Aug-2010, although we note this was led, in part, by a reduction in interconnect rates.
- According to the interconnect review in August 2010, the local regulator, Communications Commission of Kenya (CCK), reduced mobile interconnect prices by 50% — from Sh4.42 (~US¢5) to Sh2.21 (US¢3, effective 1 September). The rates will progressively decline by another 35%, 20% and 15% pa in 2011-2013 with an implied rate of Sh0.87 by 2014. SMS interconnect has also been lowered to Sh0.6 by the CCK, from Sh2. This is expected to further fall to Sh0.05 by 2013, based on the new interconnect regime.
- Bharti was the first to trigger lower tariffs, reducing voice rates by 50% and SMS by 80% across various networks in August 2010. Safaricom, the market leader was previously charging a slight premium over competitors, we think, and lowered its tariffs by 50-60% after Bharti's cut. Since then, we understand rates have fallen across the four players in SMS (~Sh3.5/5 for on-net/off-net to as low as Sh0.2 for on-net and ~Sh1 for off-net), international voice and mobile data (this was led by Safaricom). Bharti recently noted that it has added 2mn subscribers since the price cut in Aug 2010, and that MoU has tripled since. (Source: Reuters, 'Bharti Kenya adds 2 mln users after price cuts,' 13 Jan 2011)
- 2008 also saw some steep price cuts (from ~Sh12 to Sh8 by Zain). Following this offer, Zain sank into losses (EBITDA margins fell to -15% from 16% in 2007) despite adding ~1mn subs. Zain subsequently pulled back these low tariff offers, we understand. We also understand many of the new subscribers gained by other players who offered similar tariff cuts were eventually lost, as they retained their old number (Safaricom, we think) and from the pull of VAS. (Source: Business Daily Africa, 'Zain shakes telecoms market with rock-bottom call tariffs,' 18 Aug 2010).

Exhibit 159. Some of the price moves in the Kenyan market

Time	Event	Details
Aug 2010	50-80% cut by Bharti	Voice tariffs cut by 50% to Sh3, SMS by 80% across all networks; Bharti's tariffs are the lowest.
Aug 2010	IC lowered by 50%	Regulator cuts interconnect by 50% to Sh2.21 effective September. CCK tells telcos to lower rates by 50%
Aug 2010	Telkom Kenya reacts Month long offer from Safaricom	On-net calls at Sh2 from Sh4, off-net calls Sh4 from Sh8, SMS at Sh1-2 Safaricom launches month long promo on voice – Sh2 for on-net and Sh3 for off-net (vs Sh8 previously)
Aug 2010	Bharti launches low RCVs Safaricom cuts SMS rate	Bharti launches Sh5, Sh10 recharge to make it more affordable. Safaricom launched similar RCVs in 2009 Introduces new SMS bundles (Sh20 for 100 SMS), with lowest effective price per msg of 20 cents; Prev price Sh3 per SMS vs Sh1-2 charged by Bharti, Telkom Kenya
Oct 2010	Cuts to int'l rates	Bharti cuts to Sh3 (-41%), Essar's Yu cuts to Sh2.5 (-50%). Orange cuts to Sh3 (from Sh8)
Oct 2010	Safaricom cuts int'l by 90%	Safaricom cut rates to USA/China/India to Sh3 from Sh25
Nov 2010	Safaricom intros permanent call rates	Safaricom introduces permanent voice rates at Sh3 for on-net, Sh4 for off-net
Nov 2010	Safaricom cuts data rates	Safaricom cuts data rate from Sh3.3/MB to Sh1.42/MB (for 700MB usage). Others offered lower rates, for smaller usage (100MB)
Jan 2011	Bharti cuts on-net 6am-6pm	Bharti cuts on-net rates to Sh1 (from Sh3) for 6am-6pm

Source: Nomura research, Press articles

Exhibit 160. Implied interconnect trajectory

Source: CCK, Business Daily Africa, Zain shakes telecoms market with rock-bottom call tariffs, 18 Aug 2010

Exhibit 161. Voice tariff reduction since Aug-2010

(in Sh)	Before cuts		After cuts		Chg %	
	On-net	Off-net	On-net	Off-net	On-net	Off-net
Orange	4	6	2	4	(50)	(33)
Safaricom	6	10	3	4	(50)	(60)
Zain	6	8	3/1 (6am-6pm)	3	(50) to (80)	(63)
Yu	4	6	3	3	(25)	(50)

Source: Nomura research, Press articles

Exhibit 162. SMS tariff reduction since Aug-2010

(in Sh)	Before cuts		After cuts		Chg %	
	On-net	Off-net	On-net	Off-net	On-net	Off-net
Orange	3.5	3.5	1	2	(71)	(43)
Safaricom	3.5	5	0.2	1	(94)	(80)
Zain	3.5	3.5	1	1	(71)	(71)
Yu	3.5	3.5	0.5	0.5	(86)	(86)

Source: Nomura research

Exhibit 163. International call rates reduction

(in Sh)	BEFORE CUT	AFTER CUT	chg %
Orange	8	3	(63)
Safaricom	25	3	(88)
Zain	5.1	3	(41)
Yu	4.95	2.49	(50)

Source: Business Daily, Safaricom slashes international call charges by 90 p.c., 20 Oct 2010

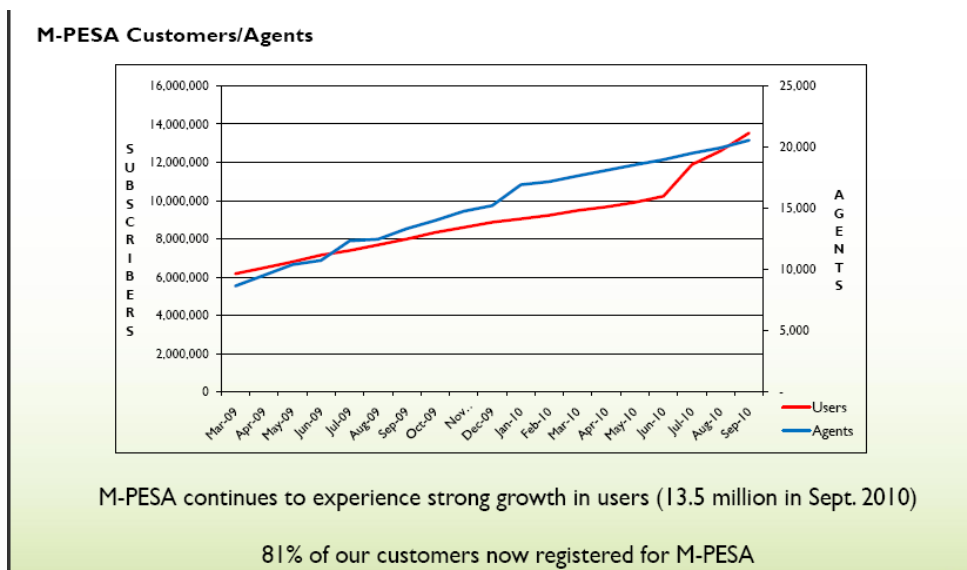
Exhibit 164. Mobile data tariff reduction

(in Sh per MB)	Before	After	Chg%	Bundle size
Orange		2.5		100 MB
Safaricom	3.3	1.42	(57)	700 MB
Zain		2.5		100 MB
Yu		1.5		100 MB

Source: Nomura research, All Africa, Safaricom Shifts Price War to Internet Market, 9 Nov 2010

Mobile banking in Kenya ...

- Kenya has been hailed as a pioneer in the mobile banking space and this has turned out to be a solid revenue contributor and also a differentiator for market leader Safaricom. Safaricom launched mobile banking under the brand M-PESA in 2007. Currently, 80% of its subscribers are registered for mobile banking, contributing ~12% of its revenues. We understand it has also begun to contribute to profitability. All other operators also have similar offerings — Zain's Zap, Essar's Yu Cash and Telkom Kenya's recently launched Iko Pesa.
- We believe competition could expand into this arena as well. Safaricom is upgrading its services to maintain its differentiation. Some of the improvements lined up include expansion of transaction limit to Sh50K from Sh35K and a reduction in the minimum transaction amount from Sh200 to Sh100. (Source: Kenya Broadcasting Corporation, 'Safaricom upgrading its mobile banking services,' 30 Sep 2010)

Exhibit 165. M-PESA overview

Source: Safaricom presentation (1H11)

Significance to Bharti

- Kenya currently contributes 1-5% of Bharti's subscriber/revenues/EBITDA, based on Zain's 2009 report. However, the market size and potential to increase penetration makes this an important market for Bharti, in our view.
- Following the reduction in mobile termination rate (MTR) in this market, Bharti has passed on this benefit to subscribers leading to a 60% decline in off-net tariffs, where we understand customer traction has been good so far. In a recent press article, the company has noted that it has added 2mn subscribers and tripled MoU since the initial cuts, although it does not disclose specifics on MoU. (Source: Reuters, Bharti Kenya adds 2 mln users after price cuts, Reuters, 13 Jan 2011)

- Bharti Kenya's Managing Director Rene Meza has stated that the Kenyan business aims to become the No. 1 player in Kenya within three to four years. Over the next 18 months, it intends to invest US\$345mn in expanding Internet coverage to rural areas and rolling out 3G. (Source: Bloomberg, 'Zain Kenya Plans to Overtake Safaricom in Mobile Market by 2014, CEO Says,' 23 Sep 2010)
- Bharti is planning to launch 3G services in 1Q11 (Source, Bloomberg, 'Bharti Airtel's Kenyan Unit Plans 3G Rollout in First Quarter,' 23 Nov 2010). For Safaricom, data is roughly 30% of ARPU (voice+data, not including M-PESA) and this could be an opportunity for Bharti as well.

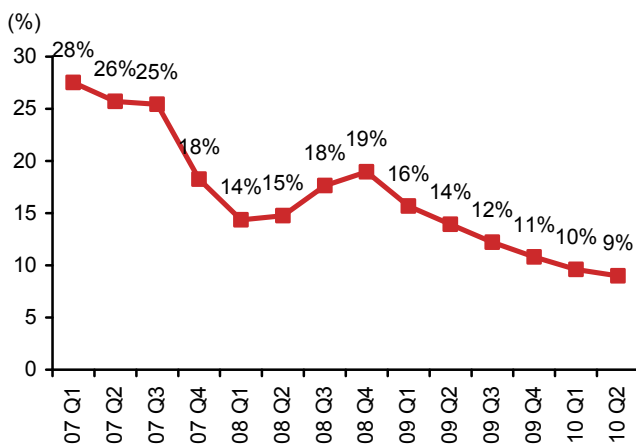
Exhibit 166. How does Kenya fit in the Africa portfolio

(Based on Zain's 2009 report)

Subscribers (mn)	2.09
Revenues (US\$m)	153.8
EBITDA (US\$m)	6.8
Contribution to	
Subscriber base (%)	5
Revenue (%)	4
EBITDA (%)	1
EBITDA margins (%)	4

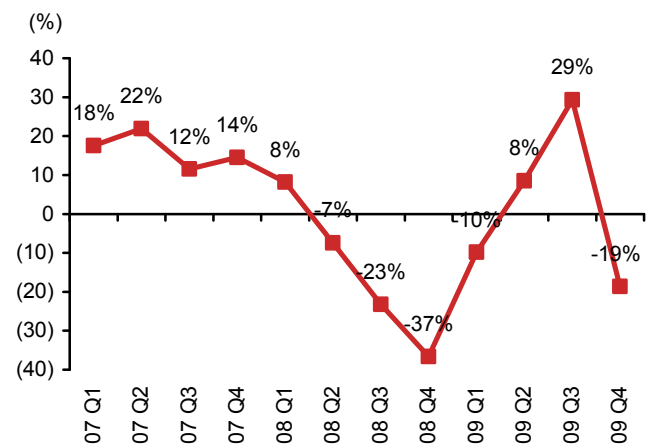
Source: Company reports

Exhibit 167. Bharti - Market share trends



Source: Nomura research, Communications Commission of Kenya

Exhibit 168. EBITDA margin trends



Source: Company reports

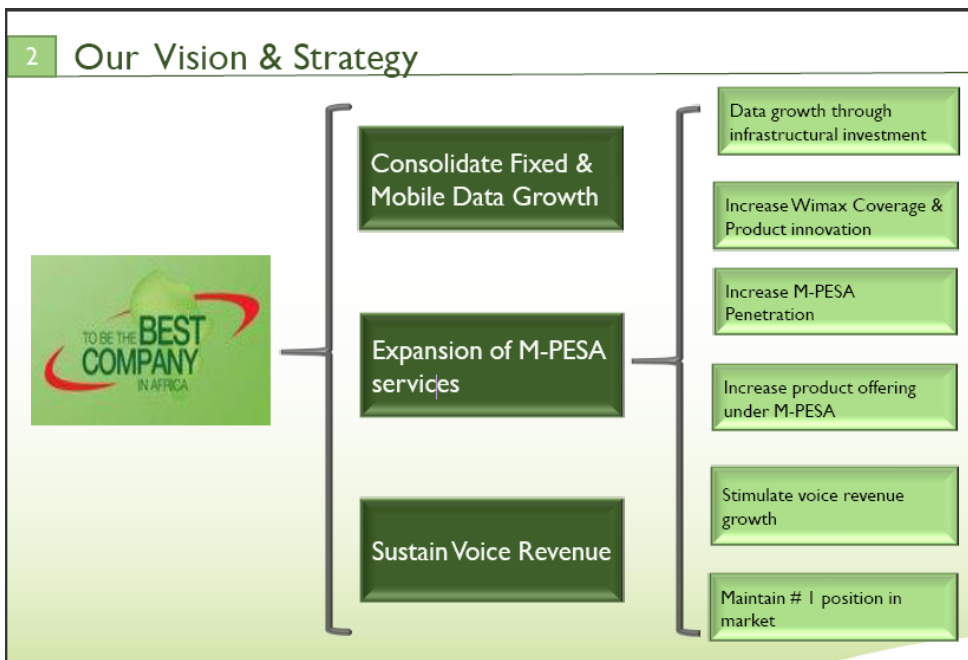
About Safaricom ...

Safaricom enjoys a dominant position in the Kenyan market but is likely to face a tough second half as the market endures a major price reduction with, as yet, limited elasticity. Our EMEA analyst Mr. Martin Mabbutt notes that while the near-term looks tough, he believes that: 1) its strong brand built upon its leadership in network quality, and 2) the strength of its M-PESA money transfer product, should see it fare well over the longer-term. We highlight his recent views on Safaricom (SAFCOM KN), which he rates a BUY (for further details, please refer to his note *African near-term growth outlook problematic*, published on 3 December 2010).

- **Safaricom's market share is coming under pressure but we do not believe it will relinquish its dominant position.** Vigorous competition at the end of 1HFY11 saw Safaricom relinquish 1.6pp of market share, ending the period at 76.7%. Tariff pressures have been intense in the past few months, and we expect ARPU to decline from KSH456 to KSH374 for the second half. We believe this would allow for a 25% drop in voice revenues, a 50% tariff cut and 0.5x elasticity. Over time, we believe elasticity will rise closer to 0.8-0.9x.

- **M-PESA a driver of improved profitability and customer allegiance:** Safaricom has over 80% of its subscriber base as registered subscribers of M-PESA. It has started to contribute positively with EBITDA margins beginning to improve. M-PESA contributed 11.2% to revenues at 1H FY11.
- **Leadership in data offerings:** Safaricom is well ahead of the competition in terms of data offerings and up until now has been the only operator with a 3G licence in the region. Incremental revenues from 3G and Wimax should be instrumental in mitigating the decline from voice revenues. Data revenues now make up almost 24% of group revenues and grew by 55.5% in 1H. This is an area where competitors may struggle to compete for some considerable time given the differentials in network capability and the strength of the Safaricom brand.
- **Investing in networks:** Following a recent regulator study which ranked Safaricom poorly in QoS, Safaricom has stated it could invest US\$125mn in networks (Source: East African, 'Safaricom to spend \$125m on upgrade,' 3 January 2011)

Exhibit 169. Safaricom — vision and strategy



Source: Company presentation (1H11), Nomura research

Regulatory overview

- **Number Portability:** The Communications Commission of Kenya (CCK) appears to have postponed the introduction of MNP to 1 April 2011 as the country's network operators are unprepared.
- **Interconnect Review:** In September 2010, the CCK concluded an interconnect review and reduced mobile termination rates by 50% effective 1 July 2010. (The new MTR for voice is Sh2.21 (or US\$2.73). It also recommended a glide-path which will see rates fall by 80% from current levels by 2014. SMS interconnect has been recently set at Sh0.6 from Sh2 previously.
- **Lower 3G permit fee:** The CCK announced in June 2010 that it had reduced the price of 3G permit to US\$10mn from US\$25mn to allow entry of more operators. Following which, both Telkom Kenya and Bharti were awarded licenses.
- **Universal service fund:** The CCK is carrying out a study to support implementation of the universal service fund (USF); the USF is a fund which is collected from all operators at the rate of 1% of annual gross revenues or lower. (Source: Bharti's 2Q report)

- **Standard of service:** In November, the CCK released a report ranking the standard of service of different operators in the market. The report ranked Safaricom among the lowest and Bharti Airtel as the best. (Source: The East African, 'Safaricom to spend US\$125m on upgrade,' 3 January, 2011).

Exhibit 170. The authorities

Regulator	CCK - Communications Commission of Kenya	www.cck.go.ke
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Source: Nomura research

Infrastructure

In 2009, two fibre optic cables landing into Kenya came into operation providing international connectivity to the country: 1) the East African Marine System (TEAMS) cable (a government of Kenya initiative); and 2) the SEACOM cable, which significantly improved the country's international bandwidth capacity.

Valuation: Our DCF-based price target is based on a WACC of 9% and a terminal growth rate of 3%.

Downside risks to our price target include stronger-than-expected competition and unfavourable regulatory developments related to various fees and charges. Upside risks include benign competition and faster-than-anticipated stability in pricing.

Madagascar

Exhibit 171. Madagascar — an overview



General facts

Capital	Antananarivo
Languages	English (official), French (official), Malagasy (official)
Area (sq. km)	0.59mn
Currency	Malagasy ariary (MGA)

Demographics

Population (m)	21.3
Popn Growth Rate	3.0%
- Urban population	29%

Telecom statistics

Mobile Subscribers (m)	5.4
Mobile penetration	25%
ARPU (\$)	\$3-4
Internet users ('000s)	320
Internet penetration	1.5%

Economic indicators (2010F)

GDP per capita (PPP)	\$911
GDP Growth Rate (real)	-2%

Source: Wikimap, IMF World Economic Outlook, CIA factbook, Internetworldstats, Nomura research

Economic overview

The political crisis in 2009 impacted the economy adversely in many ways: it led to the suspension of external aid and this curtailed infrastructure investment and development in the country. Growth in the private sector, as well as overall business activity, was hampered by this crisis. Most importantly, the progress which had previously been made in the areas of poverty reduction, education, and so on, was undermined, according to the *African Economic Outlook*.

According to the IMF, the economy is likely to have continued to contract in 2010, with a potential recovery in 2011 underpinned by an improving political situation.

Agriculture (fishing and forestry) represents 25% of GDP and employs 80% of the population. The World Bank estimates that 70% of Malagasy live on less than US\$1 per day.

Madagascar is rich in wildlife and, by virtue of its being an island, most of its wildlife species are unique and are not found elsewhere in the world; however, poverty, and demand for agricultural land are now eroding its forests.

Key political facts

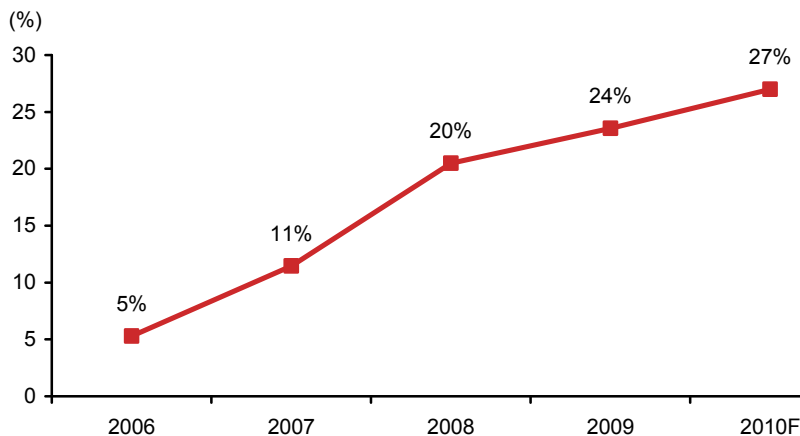
Madagascar gained independence from the French in 1960. Since then, its economic progress has been volatile and mixed. The political situation still appears unstable, with this round of instability beginning with a change in president in 2009. The previous president, Ravalomanana, stepped down in early 2009 over disputes and protests, and the presidency was conferred on the mayor of Antananarivo (Madagascar's capital). However, with the ongoing disputes there is currently a power-sharing agreement between the two, which has yet to be resolved.

(Source: *African Economic Outlook* - <http://www.africaneconomicoutlook.org> and BBC Country profile)

Telecom landscape

- Madagascar is an island nation with a population of around 21mn, and wireless penetration is still low at 27%, on our estimates. Madagascar has three key operators: Orange, which is the market leader with a 40% share; Bharti is the second-largest player, with a 37% share; and state-owned Telma (Telecom Malagasy) has a 23% share. A fourth player was expected to launch in 2009, but does not appear to have done so yet.
- The market has 3G/HSPA. Telma was the first to launch 3G/HSPA in 2009, and at that point was expecting to price 3G at the same levels as EDGE services. Orange also notes that it offers 3G services and could look to expand coverage on key cities.
- Internet penetration is still very low. Two new international cables were added in recent years – Lion and Eassy and the operators are also investing in a national fibre backbone for international bandwidth connectivity.
- ARPU's in this market were at around US\$5 in 2009 (as reported by Zain). More recent metrics from Orange suggest these could have declined to US\$3-4.

Exhibit 172. Market penetration



Source: Nomura research and estimates

Exhibit 173. The authorities

Regulator Office Malagasy d'etudes et de Regulation des Telecommunications (OMERT)

<http://www.omert.mg>

Source: Nomura research

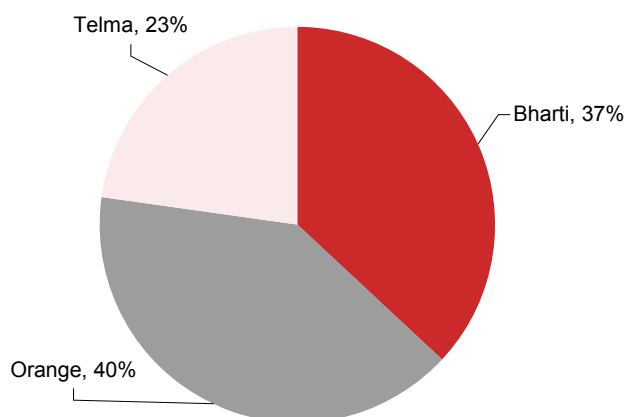
Competition

- With three players in the market, and a fourth one yet to launch, and penetration at 25%, we think competition may not be as intense as in some other African markets we have reviewed. The fourth player, Madamobil, had planned to enter the market with CDMA in 2009, but we understand that it has not been able to launch services due to a government order suspending its license. This was contested by Madamobil, but we believe that the company has not yet been able to launch services. Nevertheless, Madamobil appears to have serious intentions for this market and aims to invest US\$300mn over the next five years. (*Madamobil goes to court over withheld authorisation, Telecom Paper, 12th April 2010*)
- We have been unable to find evidence on price cuts yet. Bharti notes that at this stage most of the subscriber acquisition activity is still focused on urban areas. (*Bharti Airtel Says it Plans to Expand Madagascar Network Coverage by 25%, Bloomberg, 14th Dec 2010*)

Exhibit 174. Current operators

	Bharti	Orange (France Telecom)	Telma
2G	✓	✓	✓
3G		✓	✓
CDMA			✓
Fixed			✓

Source: Nomura research

Exhibit 175. Subscriber market share (3Q10F)

Source: Company reports, Press articles, Nomura estimates

Significance to Bharti

- Madagascar is one of Bharti's smaller markets, contributing 1-2% of revenue and EBITDA. EBITDA margins are currently at 20% levels, having declined from mid-30% levels a few years ago; however, Bharti's market share appears to have been broadly stable for the past three years, potentially with some share gain in 2010, on our estimates.
- We understand that the company is planning to expand coverage by around 25% in 2011 by investing around US\$50mn over the next two years, and over this period it is in turn aiming to increase its subscriber numbers to around 3.2mn from 2mn now. (*Bharti Airtel Says it Plans to Expand Madagascar Network Coverage by 25%*, Bloomberg, 14th Dec, 2010).
- It is also looking at mobile banking opportunities in the country as it expands its reach into rural customers.

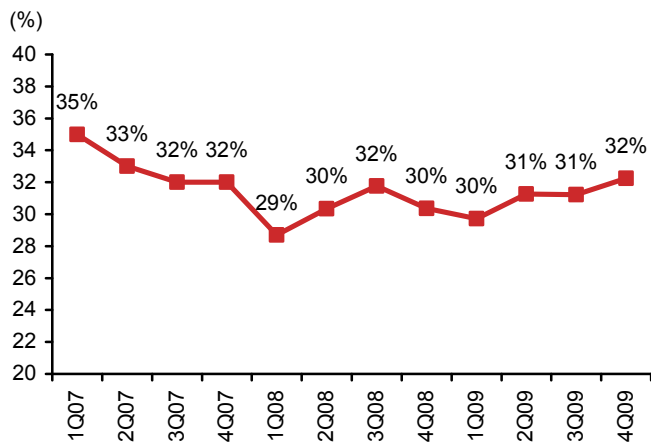
Exhibit 176. How does Madagascar fit in the Africa portfolio?

(Based on Zain's 2009 report)

Subscribers (mn)	1.57
Revenues (US\$ mn)	77
EBITDA (US\$ mn)	17.5
Contribution to	
Subscriber base (%)	1
Revenue (%)	2
EBITDA (%)	2
EBITDA margins (%)	23

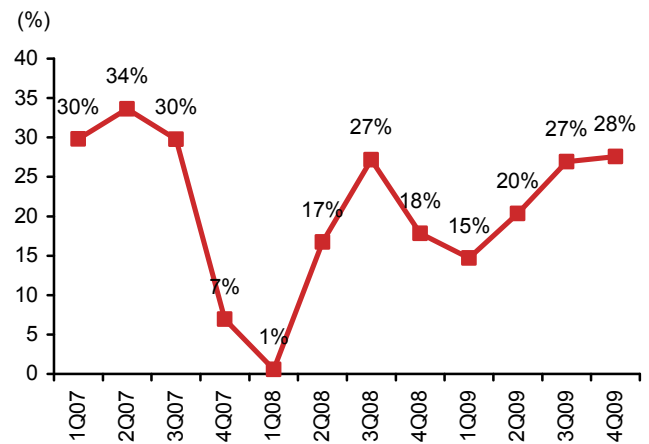
Source: Company reports

Exhibit 177. Bharti – market-share trends



Source: Nomura research

Exhibit 178. Bharti – EBITDA margin trends



Source: Company reports

About Orange Madagascar...

- Orange Madagascar is 72% owned by France Telecom and started operations in 1997. It offers both 2G and 3G services and we estimate that it has a 40% share in this market. As of 2009, Orange had around 65% population coverage, a distribution network of 136 stores, and 25,000 retailers. The company states that its strategy has largely been on offering low tariffs, while maintaining quality.
- Orange notes that in addition to voice and SMS, services like mobile radio have been successful. Orange has also recently extended its mobile banking offering – Orange Money – in this market. Orange also offers business customers services such as fleet management. (*Orange Expands Mobile Money Platform to Three More Countries, 25th May 2010, Cellular News*)
- Orange expects to focus on internet offerings and is investing in 3G and a national backbone network to connect to international bandwidth through LION (operated by a consortium including France Telecom).

About Madamobil ...

- Madamobil, which planned to enter this market with CDMA/EVDO services, is owned by Life Telecom Holdings (a telecom investment and management firm based in the Netherlands) in partnership with TECOM Investments (a subsidiary of Dubai Holdings, one of the largest institutional investors in the Middle East).
- Madamobil had noted that its first phase of network rollout was close to completion back in 2009. The company had hoped to launch in the capital city and from there expand services, although we believe this has been delayed and it is not clear if they have launched services at this stage.
- Press reports suggest that there was a government order suspending its operating license due to non-repayment of debts of the former holder of this license. Madamobil has contested this, and this has essentially caused the delay in launch. Madamobil has intentions to invest US\$300mn over the next five years in this market (*Madamobil goes to court over withheld authorisation, Telecom Paper, 12th April 2010*).

Malawi

Exhibit 179. Malawi – an overview



General facts

Capital	Lilongwe
Languages	English (Official), Chichewa 57 (Official), Chinyanja, Chiyao, Chitumbuka
Area (sq. km)	0.12 m
Currency	Malawian Kwacha (MWK/MK)

Demographics

Population (m)	15
Popn Growth Rate	2.8%
- Urban population	19%

Telecom statistics

Mobile Subscribers (m, 3Q10F)	3.0
Mobile penetration	20%
ARPU (\$)	~ 7
Internet users ('000s)	716
Internet penetration	4.8%

Economic indicators (2010F)

GDP per capita (PPP)	\$909
GDP Growth Rate (real)	6%
Inflation	8%

Source: Wikimap, IMF World Economic Outlook, CIA factbook, Internetworldstats, Nomura research

Economic overview

Malawi witnessed GDP growth of 7.5% in 2009 and the economy is expected to grow by 6% p.a. in 2010-11F, as per the IMF. The economy is largely dependent upon agriculture (35% of GDP) and around 80% of the population still resides in rural regions. Malawi is also reliant on foreign aid – although this has been declining as a proportion of GDP over the years. Poverty is a key issue in Malawi, with GDP per capita (PPP) one of the lowest in the continent. Malawi has made some progress in tackling poverty – the government estimates that poverty headcount has fallen from 52% in 2005 to 40% in 2009. However, progress in areas of education, gender equality, improving maternal health has been limited. HIV/AIDS is a key issue in this country (12% of population are estimated to be positive), and a programme to tackle this problem was initiated in 2004.

Key political facts

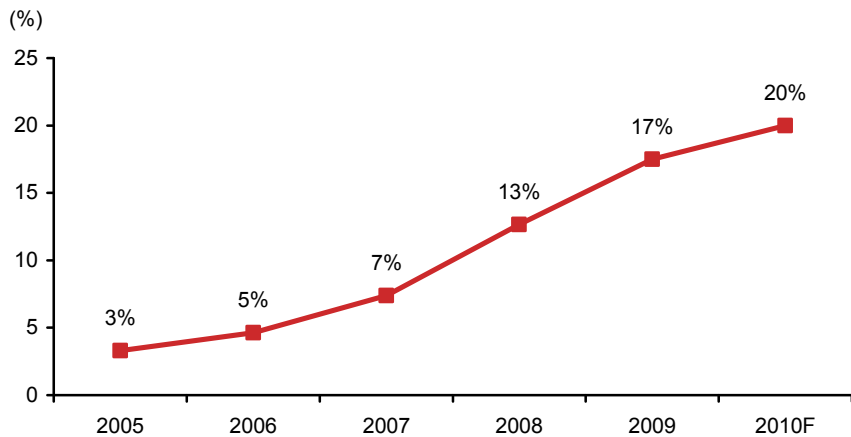
Malawi saw its first democratic elections in 1994. The recent May 2009 presidential and parliamentary elections were viewed as peaceful giving President Bingu wa Mutharika and the Democratic Progressive Party (DPP) a mandate for the second term. The majority enjoyed by DPP allowed it to pass the 2009/10 national budget as well as several bills pushed forward from its previous tenure. However, the President has also passed some bills which allow him to: 1) decide the time of next elections and 2) also allow him to fire the Vice President, which are deemed controversial.

(Source: *African Economic Outlook* - <http://www.africaneconomicoutlook.org> and BBC Country profile)

Telecom landscape

- Despite its small land size relative to other African markets, Malawi has a population of 15mn with wireless penetration at around 20%, on our estimates. Zain last reported ARPUs of around US\$8, and we estimate these are now around US\$7.

Exhibit 180. Market penetration



Source: Nomura research and estimates

- **Mobile:** The market has only two operational mobile players – Bharti with a share of 63% and Telekom Networks Malawi (TNM, which is the mobile arm of incumbent fixed line player MTL) with 37%. G-Mobile was awarded a third mobile licence but is yet to launch services. A fourth licence was issued in December 2010 to Comium Malawi with a view to increase competition in this market. Comium Group is a Lebanese firm with telecom interests in nine African markets.
- **Fixed-line:** The fixed line space has seen some liberalization as well – the incumbent was privatised in 2006 and in 2008, a second player, Access Communications (ACL), was awarded a licence; ACL offers services on CDMA2000.
- **3G/broadband/Internet:** 3G was launched by both Bharti and TNM in 2010. There are around 15 ISPs in the country, but high bandwidth costs have remained a hurdle for growth. A national fibre optic backbone is being implemented as is connectivity to international bandwidth under the World Bank funded regional communications infrastructure programme (RCIP), which should allow it to reduce traffic costs.
- Several ISPs are now rolling out WiMAX. Broadband is also available from EV-DO networks of MTL and ACL.
- **Regulations:** Based on some of the statements made by the regulator at the start of 2010, it appears that the Malawian telecom market could undergo some regulatory overhaul. Areas that have been highlighted include: 1) an overall review of regulatory framework; 2) competition; 3) tariff regulation; 4) quality of service; and 5) ensuring rollout obligations are met etc. The regulator has acted on several of these including the issue of a forth licence, publication of quarterly QoS reports. Interconnect regime has also been recently changed we understand. Although we are unable to verify progress on some aspects, we believe regulatory risks remain to the upside in this market.

Competition

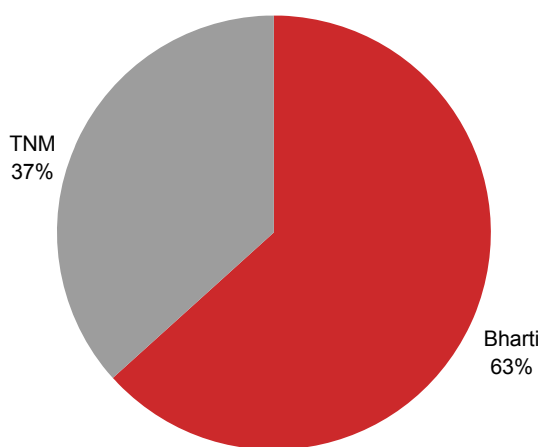
- The mobile market in Malawi has largely been a duopoly with Bharti dominating the market with a 63% share, on our estimates. TNM has the remaining share of 37%.
- The regulator has noted the need for the introduction of more operators to increase competition, bring tariffs down and also improve quality of service. The fourth mobile licence was issued in 2010 to Comium Malawai of the Lebanese Comium group. (*C-Mobile finally gets Malawi's fourth mobile licence, 5th December 2010, malawi.world-countries.net*)
- The regulator issued a third licence to G-Mobile (Globally Advanced Integrated Mobile Networks Limited) in 2009. However, we understand G-Mobile has failed to meet the rollout obligations. In Sep-2010, the regulator made a move to revoke the licence issued to G-Mobile due to this; however, we understand the court has prevented the regulator from revoking licences. G-Mobile is expected to launch services in June 2011. (*G-Mobile 'can't believe' Vuwa's gripe, mulls suing, the Maravi Post, 11th January 2011*).

Exhibit 181. Overview of players

	Zain	MTTL/ TNM	G-Mobile	Access Communications
2G	✓	✓	✓	
3G	✓	✓		
CDM		✓		✓
Fixed		✓		

Source: company reports, Nomura research

Exhibit 182. Subscriber market share (3Q10F)



Source: Nomura estimates

Bharti's price initiatives in Malawi

- **Tariff reductions:** In October 2010, Bharti launched a unified prepaid plan "Chezani" – offering discounts of 22% in peak hours (from standard rate of K51 per minute or US¢33) and as much as 80% in off-peak hours (from standard rate of K26 per minute or US¢17). SMS rates were also reduced by 38% from K16 to K10 (US¢6). (*Zain cuts tariff by 56%, to erect 150 towers, The Nation , 13th Oct 2010*)
- **Reduction in price of SIM cards:** The cost of SIM cards have also been reduced twice – from K390 (US\$2.5) to K250 (US\$1.7), which was further cut to K150 (US\$1). (*Zain Malawi reduces service, product charges, bizcommunity.com, 31st Aug 2010*).
- **Money back offer on Ultra low cost handsets:** Similar to Niger, Bharti also has a 'get a free mobile phone' promo – basically a money back offer, which credits the cost of the phone as airtime and thereby, allowing subscribers an opportunity to

own an Ultra Low Cost Handset (ULCH). We understand Huawei may be the supplier for these phones (*Zain Malawi to connect telecom services to rural areas by 2013, Digital Journal, 28th Oct 2010*)

- **Free access to certain websites:** Bharti following launch of 3G allows for free access to some websites such as BBC, Twitter, Facebook, we understand. (*Mobile users welcome 3G in Malawi, bizcommunity.com, 1st Oct 2010*).

Exhibit 183. Bundle tariff offered by Bharti

Bundle name	Price(MK)	Bundled minutes	Regular rate (MK per min)	Price per unit on this offer (MK per min)	Implied discount	Time window for promo rates	Validity period (Days)
Chezani 50	50	10	24.6	5	-80%	11:00 pm - 6:00 am	2
Chezani 100	100	20	24.6	5	-80%	11:00 pm - 6:00 am	5
Chezani 400	400	10	51.26	40	-22%	6:00 am - 6:00 pm	2
Chezani 800	800	20	51.26	40	-22%	6:00 am - 6:00 pm	5
Chezani 1200	1200	40	51.26/24.60	30	avg -26%	6:00 pm-11:00 pm	2
Chezani 3000	3000	100	51.26/24.60	30	avg -26%	6:00 pm-11:00 pm	

Source: Company website – www.africa.airtel.com/malawi, Nomura research

Significance to Bharti

- Malawi contributes 4-6% of Bharti's subscribers/revenues/EBITDA in Africa. From a competitive standpoint, this should be a relatively easier market – Bharti is the leader with 63% and there are only two operational players currently. Bharti's margins have been in the mid- to high-40's in the past, and we expect the company to maintain these at around 40% levels.
- Bharti expects to invest over US\$100mn in this market over the next three years, according to management. Included in its expansion plan are: 1) addition of another 150 towers in the next 12 months; and 2) expansion of 3G coverage. Bharti also intends to double its coverage in terms of number of towers by 2013. (*Zain Malawi to connect telecom services to rural areas by 2013, Digital Journal, 28th Oct 2010; Zain cuts tariff by 56%, to erect 150 towers, The Nation , 13th Oct 2010*)
- Bharti launched 3G in Oct 2010. We understand 3G coverage at the time of launch was at 21% of its existing market coverage, (77 out of 360 towers) and Bharti had targeted to expand this to 30% of its network by the end of the year. (*Mobile users welcome 3G in Malawi, bizcommunity.com, 1st Oct 2010*).

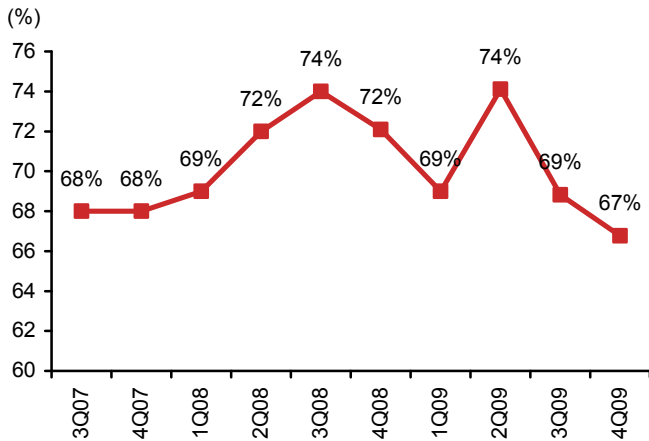
Exhibit 184. How does Malawi fit in the Africa portfolio

(Based on Zain's 2009 report)

Subscribers (mn)	1.74
Revenues (US\$m)	154
EBITDA (US\$m)	67
Contribution to	
Subscriber base (%)	4
Revenue (%)	4
EBITDA (%)	6
EBITDA margins (%)	44

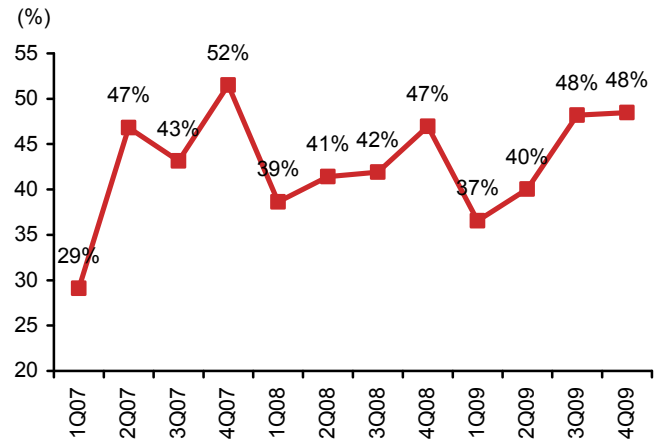
Source: Company reports

Exhibit 185. Bharti – market share trends



Source: Company reports, Nomura estimates

Exhibit 186. Bharti – EBITDA margin trends



Source: Company reports

About TNM and MTL ...

- MTL is the incumbent fixed line operator in Malawi. 2006 saw the privatisation of the state-owned operator with the government selling an 80% stake to Telecom Holdings Limited, which was a consortium of Malawian investors. The government owns 20% of MTL. MTL in turn owns 40% of the mobile player TNM and indigenous Malawian investors trading as MTL Mobile own the remaining 60%. (*Company website*)
- We estimate TNM has roughly a 37% share in the wireless market. TNM launched 3G in March 2010 with services such as video calling and mobile broadband. The company in its recent earnings release notes that it intends to expand 3.5G mobile broadband services to all major urban areas in the near term. TNM also has been offering subsidised low cost handsets to increase subscriber uptake. (*TNM Malawi launches 3G services, Wireless Federation, 17th March 2010*)

Regulatory overview

The Board Chairman, in Malawi Communication Regulatory Authority (MACRA) publication *Scale (Vol 2 Issue 2, March 2010)* highlighted several areas of work. We highlight the same here, although progress on some of the aspects highlighted here hasn't been verified.

- **Review of Communication Act of 1998:** The regulator began a review of the Communication Act No. 41 of 1998. MACRA notes that this is an "on-going" process and the regulator has received feedback through consultations with various stakeholders. The aim of this review is to make sure the regulatory framework is conducive at all times to all stakeholders. (*Scale, Vol 2 Issue 2, published by MACRA*).
- **Tariff regulation:** MACRA's website notes that tariff regulation forms part of the core mandate of the Authority. In an interview, the Director General notes that, despite MACRA's empowerment in this area, the enforcement hasn't been forthcoming and hence operators haven't really offered reasonable tariffs. Towards this direction, the regulator subsequently licensed a fourth operator and interconnect was also reviewed, we understand. (*Scale, Vol 2 Issue 2, published by MACRA*).
- **New interconnect regime – Sender Keeps All:**
 - We understand the previous interconnects allows operators to charge US¢4 for interconnection – this was established in 2004 by MACRA and valid for 12 months until operators could mutually decide on suitable rates.

- MACRA then proposed the new interconnection law called “Sender Keeps All” (SKA) – basically allowing the operator from whose network the call is originating to keep all revenues. We are not clear when this was introduced.
- Subsequently, Bharti (Celtel at that time) and TNM obtained an injunction against the SKA regime; but this has been overruled as of Dec-2010. MACRA expects that operators could likely comply with this ruling and adopt this regime. (*Injunction lifted on MACRA interconnection law, 10th Jan 2011, bizcommunity.com; Court rules for MACRA in interconnection dispute (Malawi), 12th Jan 2011, Wireless Federation*).
- **Change in currency for tariff plans:** AS of 1st August 2010, the telcos were asked to charge subscribers in the local currency vs charging in US\$ as they were previously doing.
- **The Universal Access Pilot Project** was launched in September, 2009. The aim is to provide basic ICT services to the rural and underserved areas of Malawi, by establishing Internet and telephony services in five development corridors. (*Scale, Vol 2 Issue 2, published by MACRA*)
- **Licence revision to include penalty for failure to meet rollout obligations:** MACRA was also in the process of revising operators’ licences to include penalties for: 1) failure to roll out services in given areas; 2) failure to roll out after the issuance of a new licence; and 3) offering poor service. *Scale, Vol 2 Issue 2, published by MACRA*)
- **Quality of service:** The regulator notes that ensuring service quality is a priority. To this end, MACRA publishes QoS reports on a quarterly basis; although it is not clear if penalties have been implemented. *Scale, Vol 2 Issue 2, published by MACRA*)

Niger

Exhibit 187. Niger — an overview



General facts

Capital	Niamey
Languages	French (Official), Hausa, Fulfulde, Gulmancema, Kanuri, Zarma, Tamasheq (National)
Area (sq. km)	1.27m
Currency	West African CFA Franc (XOF)
Pegged with	EUR

Demographics

Population (m)	15.7
Popn Growth Rate	3.7%
- Urban population	16%

Telecom statistics

Mobile Subscribers (m)	3.1
Mobile penetration	21%
ARPU (\$)	7-8

Internet users ('000s)	116
Internet penetration	0.7%

Economic indicators (2010F)

GDP per capita (PPP)	\$720
GDP Growth Rate (real)	4%
Inflation	3.4%

Source: Wikimap, IMF World Economic Outlook, CIA factbook, Internetworldstats, Nomura research

Economic overview

Niger's economy is heavily dependent on agriculture, which was impacted by severe droughts in 2009 – and this primarily led to a GDP decline of 1% in 2009. IMF estimates suggest some recovery through 2010-11 at 3.5-5.0%. The country is also a leading producer of uranium. We understand Niger's business climate is still not in favour of developing a competitive private sector – the key hurdles being, widespread corruption, inconsistent rules and regulations and the way they are applied. The government's early privatisation initiatives gained little traction and since then these initiatives appear to have been halted. However, some sectors – such as mobile telephony and overland transport – have opened up more to competition in recent years.

Key political facts

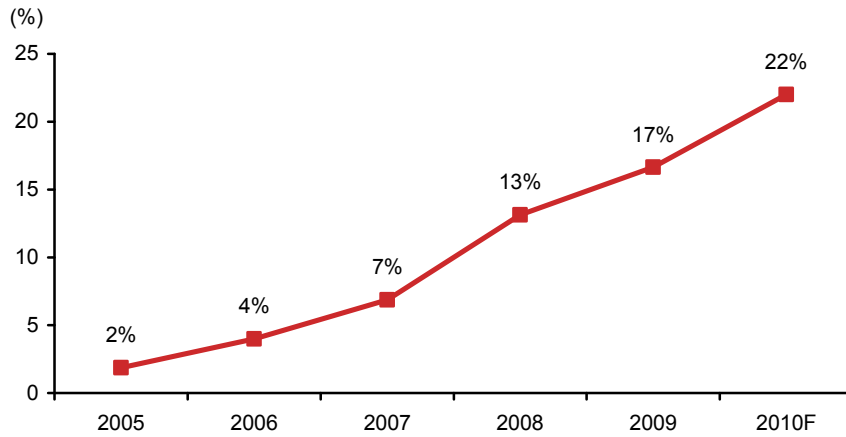
Niger has been in a state of political turmoil since 2009, when incumbent President Tandja changed the constitution in order to remain in power for three years beyond the end of his term. This was achieved by dissolving parliament and the constitution. This led to a military coup led by Major Salou Djibo in 2010 – and President Tandja was deposed. Major Djibo became leader of the Supreme Council for Restoration of Democracy (as the military government called itself) and has also become the interim head of state; the coup leaders have promised to restore “constitutional order” and conduct presidential elections.

(Source: *African Economic Outlook* - <http://www.africaneconomicoutlook.org> and BBC Country profile)

Telecom landscape and competition

- The telecom sector is one of the few sectors, which is liberalized in Niger and saw 6% revenue growth in 2009. The country had 2.6mn subscribers as of 2009 and we estimate this has grown to 3.1m subscribers, representing 21% wireless penetration. We haven't found evidence of 3G in this market yet.
- Niger's telecom market has about four players – Bharti is the No. 1 player with around a 55% share – it notes it has over 1.6m subscribers. Orange is the No. 2 player – with around a 27% share from ~18% in 2009. The company claims around 42% population coverage with plans to expand this to about 75% in 2011. It is also hoping to lead in Internet services and has plans to launch WiMAX in the country. Etisalat and Sonitel are the No. 3 and No. 4 players, respectively. Sonitel is the state-owned player and its mobile arm operates as Sahelcom.
- According to Zain's last report, ARPUs in this market were around US\$10 – we believe this was partly due to the low penetration in the market as well. We estimate this has since declined to US\$7-8
- There appear to have been around 20-30% price cuts in recent months for both off-net and on-net (some details have been difficult to validate), but pricing overall remains high at around US¢20 levels, well in excess of the US¢7 interconnect rates.
 - **On-net:** On-net rates have come down by ~20% from 125 francs to 100 francs per minute (US¢21), according to Bharti's Niger website. Some plans offer different peak/off-peak rates ranging from 1 franc per second to 3 franc per second or 60-180 francs per minute. Orange's off peak/off-peak tariffs appear to be lower, ranging from 30 franc to 100 franc (on a per minute basis).
 - **Off-net:** Bharti notes off-net rates have been reduced by 33% from 195 francs to 130 francs (US¢27) per minute. Orange also offers off-peak rates of 130 franc, largely at par with Bharti's.
 - **Termination rates:** We understand national call termination rates are 35 francs per minute (US¢7) based on Bharti's Niger website – and this appears to be bilaterally decided.
 - **ULCH promotion (August 2010):** Bharti has also launched some bundled offers whereby the upfront payment for the SIM/or connection is offered back as airtime credits for subsequent usage – 1) for 3,500 francs, the subscriber gets a SIM and a phone, and credits for the whole upfront amount and 2) a SIM for 500 francs, whereby the same amount is also offered as a credit.
 - Bharti was also offering free internet access between 11:00PM and 9:00AM. (15th -21st November 2010)

(Source: www.africa.airtel.com/niger, www.orange.ne)

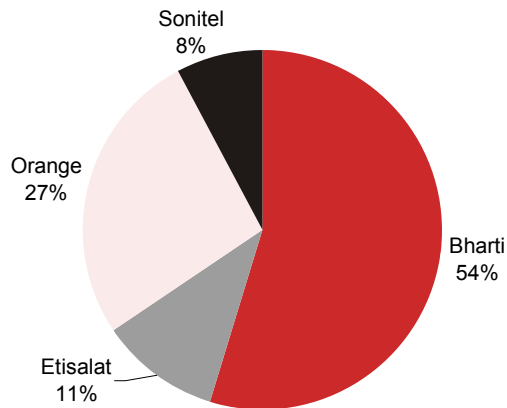
Exhibit 188. Market penetration

Source: Nomura research, Nomura estimates

Exhibit 189. Current operators

	Zain	Etisalat	Orange	Sonitel
2G	✓	✓	✓	✓
3G				
CDMA				
Fixed			✓	✓

Source: Nomura research

Exhibit 190. Subscriber market share (3Q10F)

Source: Nomura estimates

Exhibit 191. Sample tariffs for Bharti and Orange

	Bharti		Orange	
	In Franc	In US¢	In Franc	In US¢
On-net	~100 per min	21 per min		
On-net based on peak/off-peak	1F-3 5F per sec	13-44 per min	30-100 per min	6-21 per min
Off-net	130 per min	27 per min	130 per min	27 per min
SMS On-net			20	4
SMS Off-net			45	9

Source: Company website, Nomura research

Significance to Bharti

- Niger is the fifth-largest market for Bharti by profit contribution and margins appear to have been steady at 45-50% range for the past few years. Niger contributes 4-7% in revenues/EBITDA for Bharti Africa.
- Bharti has stated that it will invest about US\$100mn to improve coverage and quality of network by 2012. (*Bharti to invest US\$100 mn in Niger by 2012, 4th July 2010, The Economic Times*)

Exhibit 192. How does Niger fit in the Africa portfolio

(Based on Zain's 2009 report)

Subscribers (mn)	1.55
Revenues (US\$m)	157
EBITDA (US\$m)	71

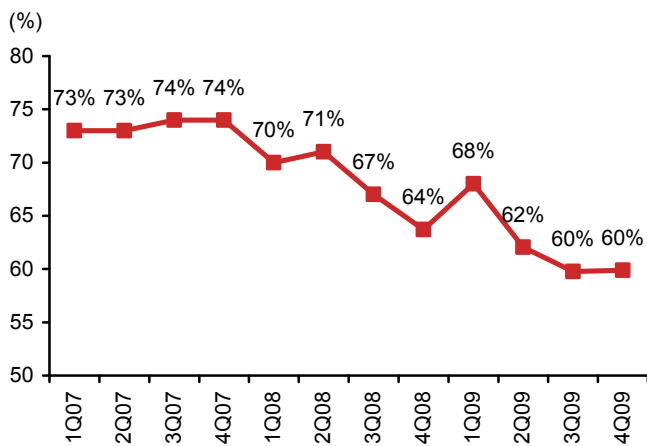
Contribution to

Subscriber base (%)	4
Revenue (%)	4
EBITDA (%)	7

EBITDA margins (%) **45**

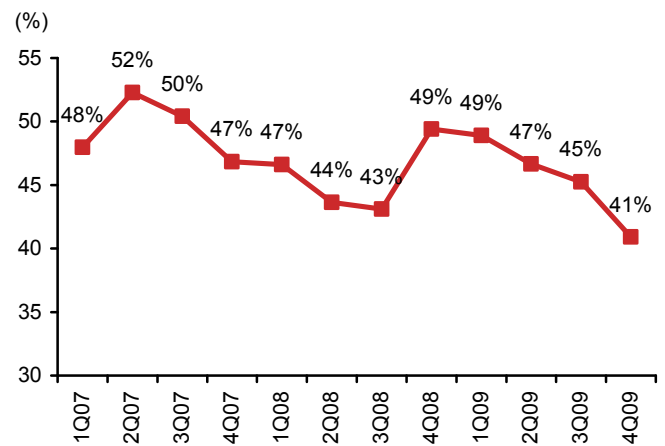
Source: Company reports

Exhibit 193. Bharti – market share trends



Source: Company reports, Nomura estimates

Exhibit 194. Bharti – EBITDA margin trends



Source: Company reports

Regulatory overview

- **Subscriber's identification:** The Regulator earlier decided that the subscribers' identification should be completed by August 28, 2010. However, given the difficulties encountered in completing registration, we understand all operators have requested an extension to the deadline.
- **Agreement on spectrum management:** Five African countries (Benin, Burkina, Mali, Niger and Chad) have signed an agreement for spectrum management. The agreement provides a settlement process for spectrum use along national borders where interference can be at its worst. (*Five African Countries Agree to Coordinate Radio Spectrum Policies, 21st Nov 2010, cellular News*)
- **Increase in taxes on mobile networks:** According to Reuters, Niger could impose new taxes on telecom networks to help fund government spending. A government spokesperson noted "The contribution from telecoms to the budget has been weak up to this point, despite the enormous resources of the telecoms operators", although did not mention further details on the same. (*Cellular News, Niger Plans to Raise Taxes on Mobile Phone Networks, 10th January 2011*)

Nigeria

Exhibit 195. Nigeria – an overview



General facts

Capital	Abuja
Languages	Official - English, National - Hausa, Yoruba, Igbo (Ibo)
Area (sq. km)	0.92m
Currency	Naira (NGN/₦), Kobo (1/100 of NGN)

Demographics

Population (m)	152
Popn growth rate	2.0%
- Urban population	48%

Telecom statistics

Mobile subscribers (m, Nov-10)	85
Mobile penetration	56%
ARPU (US\$)	\$7-11
Internet users ('0s)	43,982
Internet penetration	29%

Economic indicators (2010F)

GDP per capita (PPP)	\$2,400
GDP growth rate (real)	7.4%
Inflation	12%

Source: Wikimap, IMF World Economic Outlook, CIA factbook, Internetworldstats, NCC, Nomura research

Economic overview

Nigeria is Africa's second-largest economy and the eighth-largest oil exporter in the world. We understand that reforms initiated in recent years have allowed the country to withstand the crisis — the economy grew by slightly less than 7% in 2009 and is expected to grow a further 7.0-7.4% in 2010-11F, according to the IMF. Oil accounts for about 32% of GDP (second-highest contributor), 80% of fiscal revenues, and 95% of exports. Agriculture was the leading contributor to GDP in 2009, accounting for 36.5% of GDP. However, the country is still seen as having inadequate infrastructure. It also appears to be lagging on the human development front – 50% of its population is estimated to be living below poverty level (2008 estimate) and progress on halving poverty by 2015F (a Millennium Development Goal) has been slow, according to *African Economic Outlook*.

Key political facts

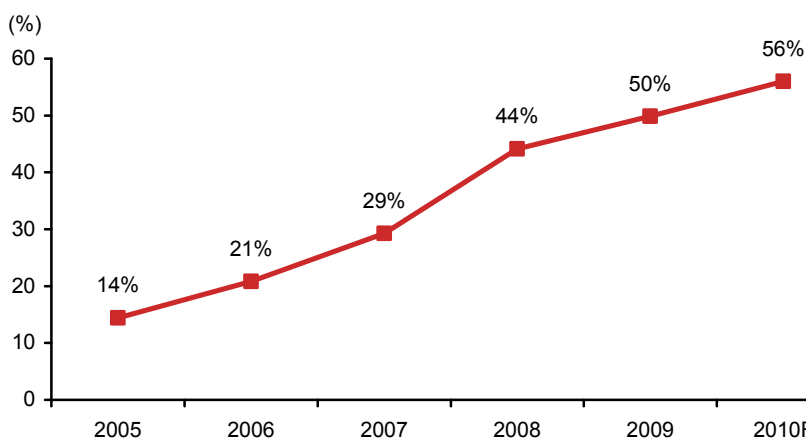
The Niger delta area has been conflict stricken in the past, with militants targeting the oil industry in particular. In 2009, the government struck a deal with the militants and a cease fire has been declared. Presidential and state level elections are set to happen in 2011F. Separately, Nigeria was offered a temporary seat on the UN Security Council in 2009, and this could allow it to play a role in a global context.

(Source: *African Economic Outlook* - <http://www.africaneconomicoutlook.org> and BBC Country profile)

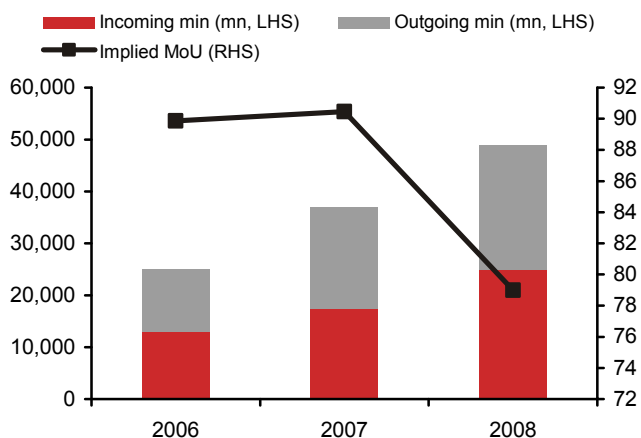
Telecoms landscape

- Nigeria overtook South Africa a couple of years ago to become the largest telecom market (by subscribers) in Africa, with 85mn subs currently and 56% penetration, on our estimates. MTN estimates real penetration in Nigeria is overstated by around 20%, owing to the use of multiple SIMs. 2008 was a strong year for subscriber additions, with the country leapfrogging from 29% penetration to around 45%, adding around 23m subscribers. Net adds slowed in 2009-10 to 10-12mn pa., on our estimates.
- The mobile market has both GSM and CDMA, with GSM accounting for 93% of the market, according to data from Nigerian Communications Commission (NCC). CDMA has been losing subscribers since 2009 and is only 7% of the mobile market (as of Nov 2010), vs 10% previously.
- The mobile market is quite competitive, with nine players in total, of which five offer GSM and four CDMA. MTN is the market leader, with a 45% share, on our estimates (48% share in GSM). Globacom is No. 2, with roughly a 23% share, and Bharti No. 3, with roughly a 20% share, on our estimates.
- The quality of the networks in Nigeria is not up to the standards of those in more-developed countries, and therefore subscribers carry as many as four SIMS/handsets for network coverage, according to the President of Telecom Companies of Nigeria. MTN in this market is currently generating US\$11 in ARPU (down from US\$12 in 2009), and MTN notes that the marginal ARPU is US\$7. Bharti's last reported ARPU was around US\$7 in 2009 (and we believe this may have trended lower since then). We estimate monthly minutes of use are around 70. Total minutes grew by 30-40% in 2008-09, but MoUs declined in 2009, likely due to multi SIM usage and penetration into segments with lower affordability (Bharti's Nigerian Unit Cuts Mobile-Phone Call Rate 50%, Bloomberg, December 2010).
- We understand 3G is offered by the top-3 GSM players and Etisalat now has a 3G licence through the acquisition of another firm in Dec 2010. More recently, Globacom launched an LTE network in Lagos and key cities for corporate customers. (*LTE Network Launches in Nigeria, Cellular News, 12 Jan, 2011*)
- The fixed-line market appears even more competitive, with 16 operators having active subscribers as of December 2009.

Exhibit 196. Market penetration



Source: Nomura research and estimates

Exhibit 197. MoU trend in Nigeria

Source: NCC, Nomura estimates

Exhibit 198. Opportunities and challenges as identified by MTN – June 2010

Opportunities	Challenges
<ul style="list-style-type: none"> Rural area penetration Strong brand Industry leader Strong demand Capex rollout 	<ul style="list-style-type: none"> Poor infrastructure Increasing competition from PTOs Devaluation of local currency Dependence on oil production and revenue Political uncertainty

Source: MTN presentation

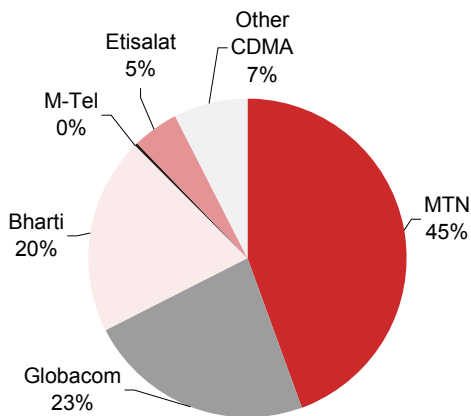
Competition

- The mobile market is quite competitive – with nine players in total, of which five offer GSM and four CDMA. MTN is the market leader by a considerable margin, with a 45% share, on our estimates (48% share in GSM). The Zain operation has been underperforming MTN for many years in Nigeria, which we attribute partly to a lack of capital investment by Zain. Bharti/Zain is the No. 3 player in this market, with roughly a 20% share, on our estimates. It lost around 2.5m subscribers in 2009, although our current market share estimates assume a reversal in net adds trends.
- Globacom is No. 2, with a 23% share. Of the 5 GSM players, Etisalat appears to be the latest entrant, entering the market in 2007 and has around a 5% share. Nomura's EMEA analyst Martin Mabbutt notes that Globacom and Etisalat are aggressive competitors and likely to match or replicate Bharti's moves in this market. Etisalat has stated it is seeking to spend up to US\$500mn in 2011 and aims to double its customer base in the same period. The company recently acquired a 3G licence through the acquisition of another player in the market. (Etisalat Aims to Double Nigerian Subscriber Base in 2011, *Cellular News*, 11 Nov, 2010; *Etisalat Nigeria Acquired 3G License*, *Cellular News*, 2 Dec, 2010)
- M-Tel is the fifth GSM player, with an insignificant share, and is the mobile arm of state-owned fixed line player Nitel. The government has looked to privatise this, but we understand the latest efforts to do so have not yet come to fruition.
- The regulator, with a view to lowering tariffs and increasing competition further, lowered interconnect in 2009 and is in the process of launching MNP, which is expected by the regulator to go live by May. Although we believe MNP is likely to have a limited impact given the predominance of multi SIMs, it could nevertheless heighten competitive intensity. (*Nigeria telecom operators register 11m SIMs*, *IT News Africa*, 26 Jan, 2011)

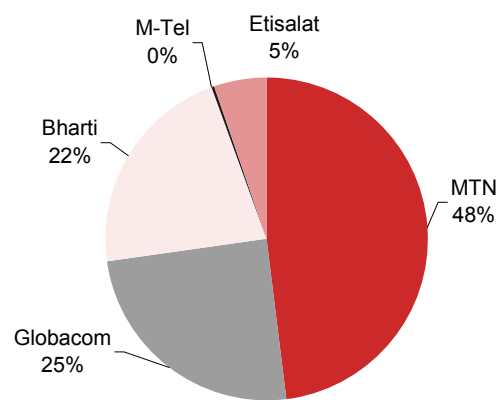
Exhibit 199. Overview of players

	MTN	Globacom (Glo Mobile)	Bharti	Etisalat (EMTS)	M-Tel	Telkom (Multi-Links)	Starcomms	Visafone Limited	Reliance Telecoms (Reltel)
2G	✓	✓	✓	✓	✓				
3G	✓	✓	✓	✓					
CDMA						✓	✓	✓	✓
Fixed	✓					✓	✓	✓	✓

Source: Company reports, Nomura research

Exhibit 200. Subscriber market share for mobile GSM+CDMA (Nov-10F)

Source: Company reports, Nomura estimates

Exhibit 201. Subscriber market share for GSM (Nov 2010)

Source: Company reports, Nomura estimates

Price initiatives from various players in Nigeria

- The market has also seen some tariff moves starting at end-2010; however, we note players have a number of plans with varying benefits and several of these bundle free minutes offers rather than featuring a direct lower rate per minute. Following a recent slew of plans, call rates currently seem to be ~25Kobos per second, or N15 per minute (Usc8-9 per minute; one Kobo is 1/100th of Naira).
- Bharti launched the '2 Good' tariffs, which offer calls at 20Kobo per second, or N12 per minute after the first minute. The first minute is charged at the rate of 60Kobo per sec (or N36 per minute). We understand prevailing tariffs previously were N30-60, and this represents a discount of ~50% on average, on our estimates. (*New low call rate for local and US calls, 29 December, 2010, bizcommunity.com*)
- In August, MTN announced a plan which lowered rates from 50Kobo to 25Kobo based on length of call. More recently, in Jan 2011, MTN introduced three other plan variants: MTN Magic Number; MTN Talk-On and MTN Family & Friends. Magic Number offers free calls to one MTN number free for a month. Talk-on offers rates of 25Kobo per second and Family and Friends offers a rate of 20Kobo for 6 MTN numbers and 1 off-net, as well as 1 international number. (*MTN Reduces Call Tariffs, All Africa, 21 Jan, 2011*)
- Etisalat also cut rates by 50% on its "easylife" package, which has a daily access charge of N20, while Glo, in addition to providing similar rates, is offering an additional 20% of recharge value as free airtime. (*Of lower telecom tariffs in 2011, 31 December, 2010; GSM Providers in Fierce Battle, All Africa, 24 Jan, 2011*)

Significance to Bharti

- Nigeria is the largest market in Africa for Bharti and contributes 35% of African revenue and EBITDA. Bharti has been lagging the market leader by a significant margin and in recent years has also lost share in this market. In 2009, Bharti saw a net loss of subscribers of 2.5mn. Our current market share estimate of 20% assumes a reversal in net adds trends in 2010F.
- The other players, Globacom and Etisalat, are understood to be equally aggressive; Nigeria is also the primary market for Globacom, while Etisalat has used tariff offerings as a means to gain share. Etisalat recently stated its intention to spend as much as US\$500mn in this market in 2011F and nearly double its subscriber base in that time.
- Margins in this market have declined from mid-30% levels to 20% now, although we expect these to rise to around mid-to-high 20% levels over the next few years.

- Bharti has stated that it could invest as much as US\$600mn over the next three years in this market.

Exhibit 202. How Nigeria fits in the Africa portfolio

(Based on Zain's 2009 report)

Subscribers (mn)	14.78
Revenues (US\$m)	1,307
EBITDA (US\$m)	392

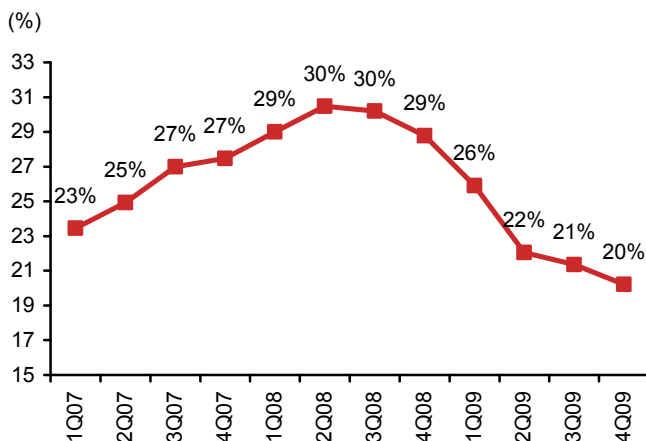
Contribution to

Subscriber base (%)	35
Revenue (%)	36
EBITDA (%)	36

EBITDA margins (%) **30**

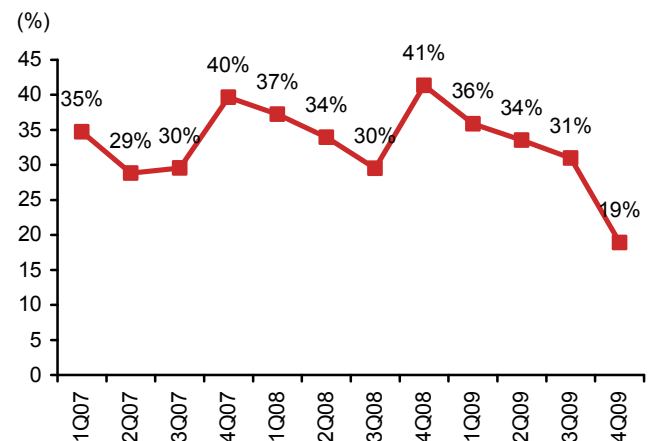
Source: Company reports

Exhibit 203. Bharti – market share trends



Source: Company reports, Nomura estimates

Exhibit 204. Bharti – EBITDA margin trends

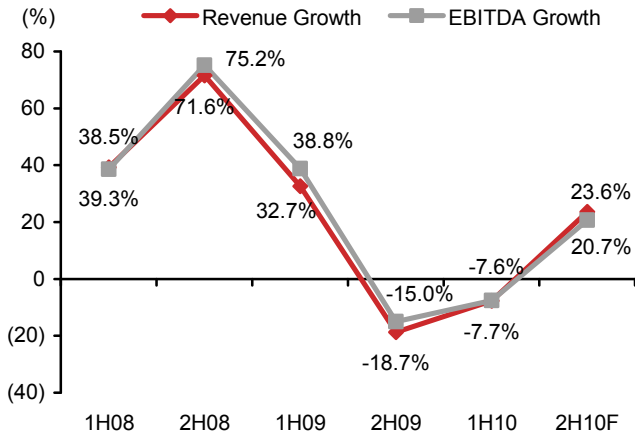


Source: Company reports, Nomura estimates

About MTN Nigeria

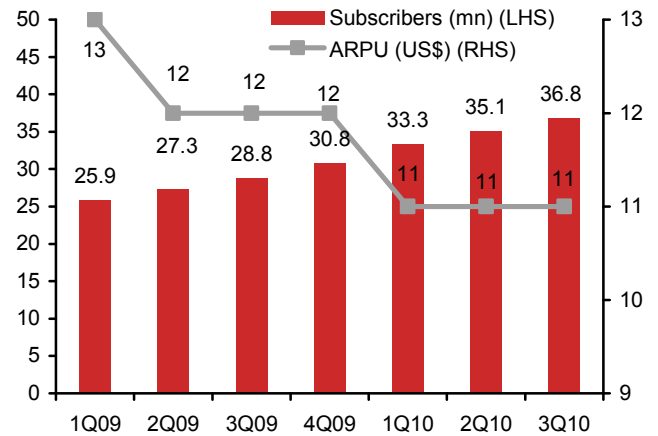
- MTN is a market leader in Nigeria by a considerable margin, with a share of 45%, on our estimates. Zain has been underperforming MTN for many years in Nigeria, which we attribute in part to a relative lack of capital spending by Zain. MTN still spent a significant amount of capex – 30% of sales in 2009 – despite the strength of its existing network.
- MTN generates EBITDA margins of over 61% in this market and has ARPUs of US\$11.
- According to our EMEA analyst Martin Mabbutt, MTN's network quality and coverage set it apart from its competitors. In 3G, it had 1,422 sites at the end of 3Q10, compared with less than 500 for Zain and Globacom, its two principal challengers. Moreover, MTN has invested more heavily in its fibre backbone, which helps its competitive edge. MTN claims coverage of 84% of the country's geography and 85% of its population. MTN believes there are 35mn (~22% of population) potential subscribers still to be reached by the network.

Exhibit 205. MTN: revenue and EBITDA trends



Source: Company reports, Nomura estimates

Exhibit 206. MTN: subscriber and ARPU trends

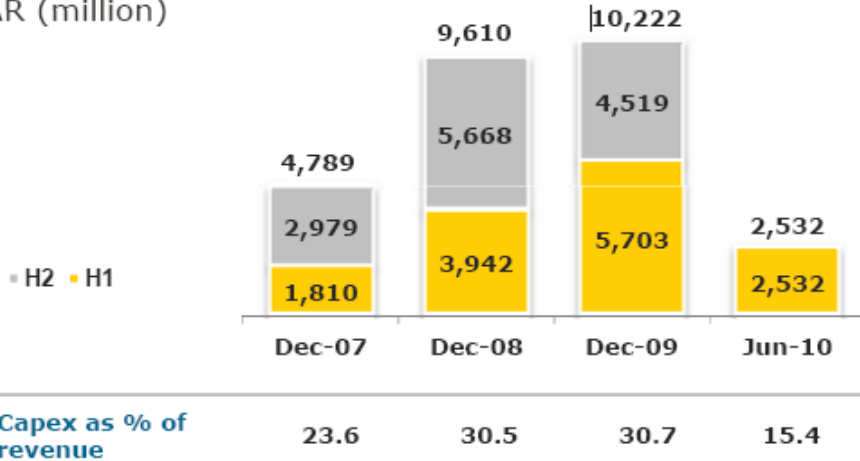


Source: Company reports, Nomura estimates

Exhibit 207. MTN: capex trends in Nigeria

Capex

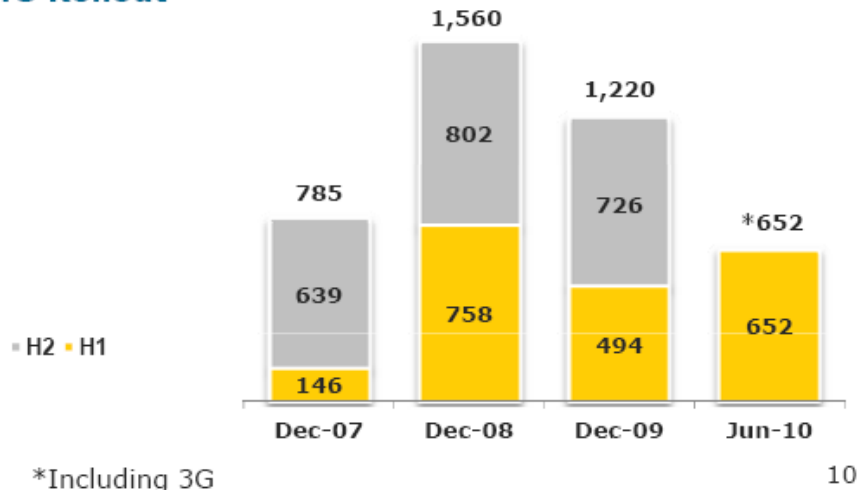
ZAR (million)



Source: MTN presentation June-2010

Exhibit 208. MTN: BTS rollout

BTS Rollout



Source: MTN presentation June-2010

About Globacom

Globacom is the No. 2 player and has around a 25% market share in Nigeria, on our estimates. It also competes with Bharti in Ghana, a market it entered in 2010. Globacom is a significant operator in Benin and has a number of other GSM licences. Recently it announced that its Glo-1 cable that connects the west coast of Africa and UK is 95% complete. The 9,800km-long Glo 1 cable connects Nigeria to the UK through Mauritania, Morocco and 16 West African countries, with a dedicated extension to New York. The cable is already operational in Nigeria, and Globacom indicated that investments were under way in Ghana, Benin, Ivory Coast, Senegal and Gambia for launch of the cable. Globacom is ultimately planning to launch the cable service in 16 countries.

Exhibit 209. Overview of operations

Presence	Licence Type	Licence Fee	Comments
Nigeria	GSM, FL, Gateway	USD 200m	2 nd largest mobile operator (behind MTN) in Nigeria with a ~26% subscriber market share by end 09
Ghana	GSM, Gateway	USD 50.1m	Set to launch operations in Oct 2010 after the launch of its submarine cable in Aug 2010
Benin	GSM	~USD 50m	~30% subscriber market share by end 2009
Ivory Coast	GSM, Gateway	N/A	Not yet launched operations
Senegal	GSM	N/A	Not yet launched operations
Gambia	GSM	N/A	Not yet launched operations

Source: Company reports, Nomura research

Regulatory overview

- Registration of Telecommunications Subscriptions (SIM Card Registration)**
 The registration of new activations is being carried out, while the Nigerian Communications Commission has yet to commence registration of existing subscriptions. We understand the registration requirements are quite stringent, with both ID and fingerprints being mandated. To date, around 11m SIMS have been registered, on our understanding. (*Nigeria telecom operators register 11m SIMs, IT News Africa, 26 Jan, 2011*)
- Mobile Number Portability (MNP)** The NCC has published a Request for Quotation (RFQ) for the provision of Number Portability Administration Services. RFQ evaluation and selection of the MNP Clearing House Service Provider is ongoing. We understand MNP could be implemented by May 2011. (*Nigeria telecom operators register 11m SIMs, IT News Africa, 26 Jan 2011*)
- Price Cap Review:** In response to public demand and pressure from the government for reduction in retail telecommunications tariffs, NCC issued a Public Notice of intention to review downward the existing Retail Tariff Cap.
- Interconnect review in 2009:** Interconnect was reviewed in 2009, per which call terminations on new entrants' networks are graduated from N10.12 (~US¢7) from 31 December, 2009, to N8.20 (~US¢5) in 2012, while call terminations on older operators' networks are fixed at N8.20 (~US¢5) during the same period. SMS interconnection rates are also on a glide path whereby the new entrants offer interconnection rates starting from N1.94 (~US¢1) from 31 December, 2009, to N1.02 (~US¢0.6) in 2012. The other (older) mobile operators will stay on a fixed N1.02 bar over the same period. (*NCC Approves New Interconnect Rates, 30 Dec, 2009*)

Exhibit 210. The authorities

Regulator	Nigerian Communications Commission	www.ncc.gov.ng/
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Source: Nomura research

Sierra Leone

Exhibit 211. Sierra Leone — an overview



General facts

Capital	Freetown
Languages	English (official), Krio (national)
Area (sq. km)	0.071 mn
Currency	Leone or Le (SLL)

Demographics

Population (mn)	6.44
Popn Growth Rate	2.2%
- Urban population	38%

Telecom statistics

Mobile Subscribers (mn, Sep-2010)	2.4
Mobile penetration	36%
ARPU (US\$)	6-7

Internet users ('000s)	16
Internet penetration	0.2%

Economic indicators (2010F)

GDP per capita (PPP)	US\$803
GDP Growth Rate (real)	4.5%
Inflation	16.5%

Source: Wikimap, IMF World Economic Outlook, CIA factbook, Internetworldstats, Nomura estimates

Economic overview

a

Sierra Leone is one of the poorest nations in the world with GDP per capita of US\$800 (PPP). IMF forecasts a GDP growth rate of 4.5-5.2% in 2010-11F, likely to be helped by buoyancy in agricultural production and services and rising exports, according to the *African Economic Outlook*. We understand the economy is quite vulnerable given widespread poverty, risk of policy reversal and social instability. Agriculture contributes to 56% of GDP and employs two-thirds of the population and hence remains a key sector. The mining sector is only at 5% of GDP, but accounts for 80% of exports and is the second largest sector in terms of employment in the country. Diamonds are a key export item, accounting for 60% of exports. The trade in illicit gems came to be known as "blood diamonds" for their role in funding conflicts and perpetuating the civil war.

Key political facts

The nationwide presidential and parliamentary elections in August 2007 were conducted peacefully and were declared fair, making it an important milestone in Sierra Leone's transition to peace. This was the second election since the civil war and the first since the UN peace keeping forces departed in 2005. Ernest Bai Koroma was sworn in as Sierra Leone's new president; his party, All People's Congress (APC), also won a majority, overtaking the then incumbent Sierra Leone People's Party (SLPP) in the parliamentary elections. The next elections are set to happen in 2012.

(Source: *African Economic Outlook* - <http://www.africaneconomicoutlook.org> and BBC Country profile)

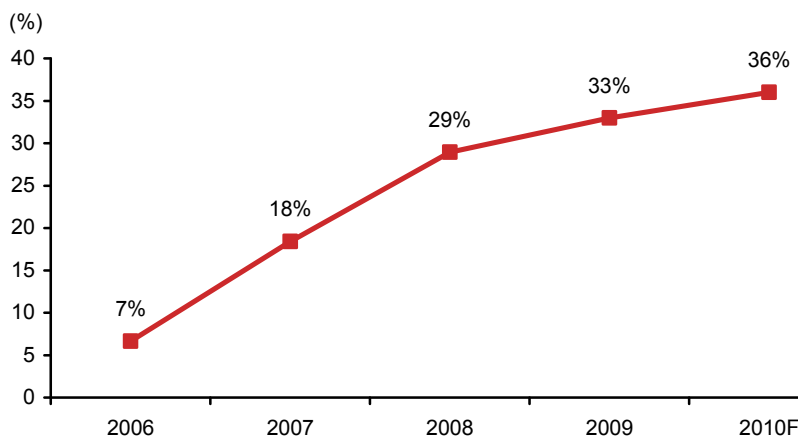
Telecom landscape

- With a population of around 6mn, Sierra Leone is again a tiny market with telecom penetration of around 36%. Pre 2008/09, there were five key players, which has now rationalised to three key players with notable share. Africell acquired Tigo in

2009 to become the market leader and currently has a 43% share. It is followed by Comium with a 34% share and Bharti at number three with a 23% share.

- The state-owned fixed-line incumbent Sierratel launched CDMA/EVDO services in 2009 and provided fixed wireless access and broadband, on our understanding. We believe Sierratel's operations have been floundering and recent press suggests the government is looking to privatise it.
- Sierratel's EVDO was the first 3G Service in Sierra Leone. We do not believe other carriers have 3G; however, Bharti has noted that it recently received an LOI for 3G licenses.
- ARPU in this market used to be around US\$7 as per Zain reports, but we think it is likely to have trended lower.

Exhibit 212. Market penetration



Source: Company reports, Nomura estimates

Competition

- This market has seen some consolidation in the past couple of years, leaving just three main players. Africell purchased the No. 4 player Millicom's operations in 2009 and we understand another player Datatel ceased operations around the same time.
- Sierratel, the state-owned fixed player began CDMA services in 2009, but has been struggling and hence, we believe it may not have made much headway in the market. More recently, press reports suggest that the government may be seeking privatisation of Sierratel and has called for expressions of interest. (*Sierratel Launches CDMA network, Cellular News, 3rd May 2009; Sierra Leone moves to sell Sierratel, Computerworld 26 July 2010*)
- We understand that the regulator issued two new mobile licenses in 2008 to Cellcom (an Israeli telecom company) and Libya's LapGreen; the latter was expected to launch operations in 2010, although we have not been able to verify the status of this yet.
- We believe Sierra Leone is another market where Bharti reduced tariffs last year. In July 2010, Bharti reduced off-net call rates by 32% to Le 675 (~US¢16), on our estimates. In November, Bharti further reduced these to Le 432 per minute (~US¢10) or 36% lower. We understand there has also been a 60% reduction in on-net rates, which are now at Le 324 per minute (or~ US¢8) as well as the introduction of per-second billing.
- We believe Africell has also reduced its tariffs to match those of Bharti's. It is not clear if Comium has also followed.

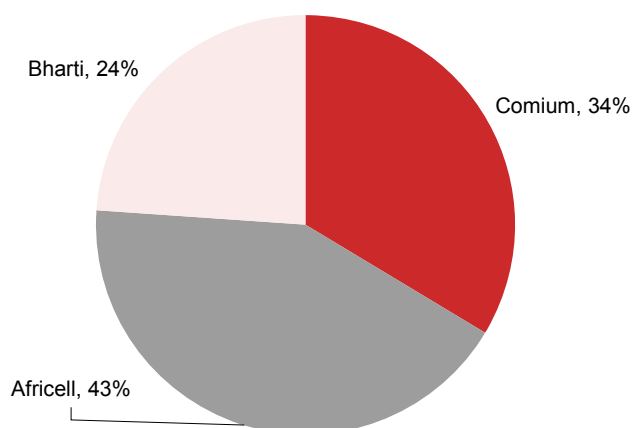
(Zain reduces off-network tariff, Sierraexpressmedia.com, 22 July, 2010; Zain's off-net tariff is unbeatable in Salone, Sierraexpressmedia.com, 5 Nov 2010; Zain SL adopts per-second billing for international calls, computerworldzambia.com, 15 Oct 2010).

Exhibit 213. Current operators

	Bharti	Comium	Africell	Sierratel
2G	✓	✓	✓	
3G				
CDMA – fixed wireless				✓
Fixed				✓

Source: Nomura research

Exhibit 214. Subscriber market share (3Q10F)



Source: Nomura estimates

Significance to Bharti

- Sierra Leone is the smallest market in Bharti's Africa portfolio, contributing 0-1% to subscribers/revenues/profitability. Annual revenues were around US\$45mn with US\$2-4mn in EBITDA, with low single digit margins as of 2009. In 2006, its margins used to be mid-teens.
- Bharti, since its entry, has reduced tariffs by around 60%. We understand the Zain network has around 80% coverage and Bharti expects to expand this to about 95% and expects to spend US\$25mn over the next few years. (Zain reduces off-network tariff, Sierraexpressmedia.com, 22 July, 2010)

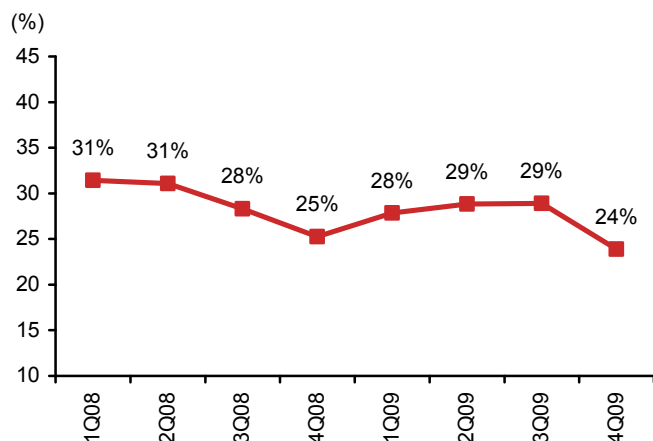
Exhibit 215. How does Sierra Leone fit in the Africa portfolio

(Based on Zain's 2009 report)

Subscribers (mn)	0.56
Revenues (US\$m)	44.3
EBITDA (US\$m)	2.3
Contribution to	
Subscriber base (%)	1
Revenue (%)	1
EBITDA (%)	0
EBITDA margins (%)	5

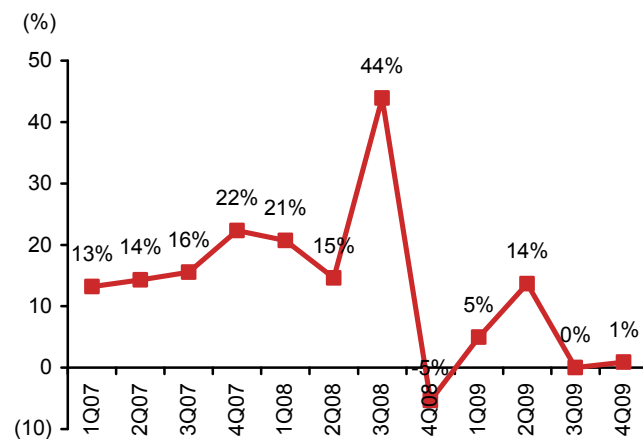
Source: Company reports

Exhibit 216. Bharti — market share trends



Source: Company data, Nomura research

Exhibit 217. Bharti — EBITDA margin trends



Source: Company reports

About Africell ...

- Africell has a 43% share in Sierra Leone, on our estimates, and crossed the 1mn subscriber mark in 2010. The company completed the acquisition of Tigo in 2009 to become the market leader from a number two player.
- Africell is a subsidiary of Lintel Holdings, which is of Lebanese origin and has ambitions to expand its mobile telephony operations to the entire African subcontinent but is currently focused on Gambia and Sierra Leone. In Gambia, Africell started operations in 2001 and has held a market leadership position since mid 2006.

About Comium Mobile ...

- Comium Mobile is the No. 2 player with a 34% share, according to our estimates and over 750K subscribers in this market. Comium launched services in 2005 in Sierra Leone and currently has around 80% population coverage. In addition to GSM/GPRS, the company claims to have WiMAX in this market.
- The company is looking to expand GSM operations in the markets of Gambia, Cote D'Ivoire, Liberia and Sierra Leone. Comium Data, a subsidiary of the Comium Group, also has WiMax licences in Congo, Burundi, Rwanda, Zambia and Lebanon, in addition to the above four markets. The WiMax licences seem to have been acquired with a view to tap the business data opportunity in the region. However, the group does not see an appetite for 3G services currently in the African market and therefore will not look to invest in 3G.
- Comium signed a US\$160mn funding agreement with the International Financial Organisation in 2009 for expansion plans in Africa. It also signed a US\$30mn funding agreement with a subsidiary of China Telecom in June 2010 primarily to expand the network reach of the GSM operations in Ivory Coast.

Regulatory overview

- **3G licence awarded to Airtel Sierra Leone:** The Regulator has intimated its intent to offer Bharti a 3G license at a license fee of US\$1mn and an annual spectrum fee of US\$350,000.
- **Decrease in interconnect rates:** In July 2010, the Regulator decided to decrease the interconnect rate from US¢ 10 to US¢ 7.
- **Subscriber registration:** NATCOM has noted that effective 1 November 2009, all operators will start registration of new subscribers.


- The regulator in 2010 conducted a Commonwealth African Rural Connectivity Initiative (COMARCI) workshop on improving rural penetration; enablers were identified in the exhibits below.

Exhibit 218. The authorities

Regulator National Telecommunications commission (NATCOM) <http://www.natcomsl.com>

Source: Nomura research

Exhibit 219. Driving rural penetration in Sierra Leone




What is needed to grow the penetration in the rural Sierra Leone? 4A's Framework?

Accessibility	<ul style="list-style-type: none"> • Distribution chain is key • Poor road infrastructure and Heavy rainy season • Alternative "Over The Air" transactions • Product/Services availability
Affordability	<ul style="list-style-type: none"> • Government taxes and fees • Low tariffs structures • Network costs-power,roads • Foreign exchange fluctuations & Commercial viability: • Costs and capacity of local borrowing
Awareness	<ul style="list-style-type: none"> • TV penetration and Power (sights & sounds) • Outdoor advertising • Low literacy rates • Ethical advertising standards & practice
Acceptability	<ul style="list-style-type: none"> • New innovative products :ZAP,One Networks • Knowledge transfers • Mindset and Cultural shift

Source: NATCOM website

Exhibit 220. Driving rural penetration in Sierra Leone



The 4 Key Possible Enablers!

Competition	<ul style="list-style-type: none"> • Good to achieve affordability • Median number of Operators 4 Max for re-investable profits
Taxation and Regulatory Fees	<ul style="list-style-type: none"> • Streamline Local councils fees, factory fees, rentals levies • Scrap Taxes on computers/handsets/modems • Deferred GST & Customs Duty for telecommunication capital goods imports
Regulatory Issues	<ul style="list-style-type: none"> • Liberalise International backhaul for Data & Voice Efficiency, PPP • Enforce level playing field – ethical advertising, de-monopolise institutions, Research studies, good business practice • Legislation amendments– no tariff controls, promote innovative products/services/pricing ,passive infrastructuring sharing,
Mobile Network Operators	<ul style="list-style-type: none"> • Cheaper Handsets ,Low Simcard charge while Cutting down costs & leaner structures • Embrace global reality– Consolidation and Mergers

Source: NATCOM website

Tanzania

Exhibit 221. Tanzania: an overview



General facts

Capital	Dodoma
Languages	Swahili, English
Area (sq. km)	0.95mn
Currency	Tanzanian shilling (TZS)

Demographics

Population (mn)	44
Popn Growth Rate	2.0%
- Urban population	25%

Telecom statistics

Mobile Subscribers (mn, Sep-10)	20.7
Mobile penetration	47%
ARPU (US\$)	5-6
MoU	63
Internet users ('000s)	676
Internet penetration	1.5%

Economic indicators (2010F)

GDP per capita (PPP)	US\$1,500
GDP Growth Rate (real)	6.5%
Inflation	7%

Source: Wikimap, IMF World Economic Outlook, CIA factbook, Internetworldstats, TCRA, Nomura research

Economic overview

Tanzania is a country formed from the union of Tanganyika (in mainland Africa) and the island of Zanzibar in 1964. It is known for being home to Africa's highest mountain, Kilimanjaro, and the Serengeti national park. Led by the global economic and fuel crisis, Tanzania's GDP growth was around 6% in 2009, and the IMF expects 6.5-6.7% growth in 2010-11. This is supported by implementation of a counter-cyclical economic stimulus plan that was endorsed by Parliament in July 2009, according to the *African Economic Outlook*. Agriculture accounts for 20% of GDP, with diversification efforts having brought other sectors to prominence, such as finance, real estate, business services, communication, and tourism. Nevertheless, we understand the cost of doing business remains high in the country. We also understand one-third of the population still lives below the poverty line and income distribution is skewed; however, progress is being made on the Second National Strategy for Growth and Reduction of Poverty (NSGRP), which was planned to be implemented in 2010/11.

Key political facts

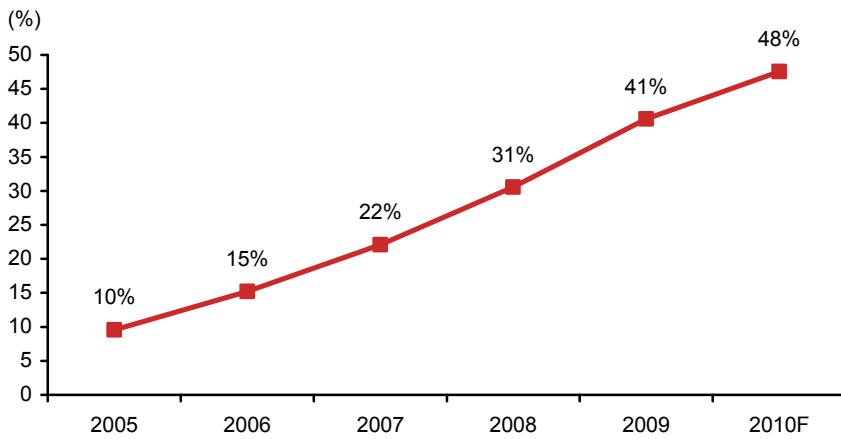
Tanzania assumed its present form in 1964 following a merger between Tanganyika and the island of Zanzibar; the latter is semi-autonomous, with its own parliament and president. We understand Tanzania is quite stable, with democracy continuing to improve – multi-party politics were introduced in 1992. Zanzibar, however, has witnessed some tensions surrounding election periods in the past. In November 2009, a breakthrough was made, we understand from the *African Economic Outlook*, with the ruling and opposition parties beginning reconciliation and accepting proposals to share power. President Jakaya Kikwete was re-elected in the November 2010 elections in Tanzania. The next elections will be in 2015.

(Source: *African Economic Outlook* - <http://www.africaneconomicoutlook.org> and BBC Country profile)

Telecom landscape

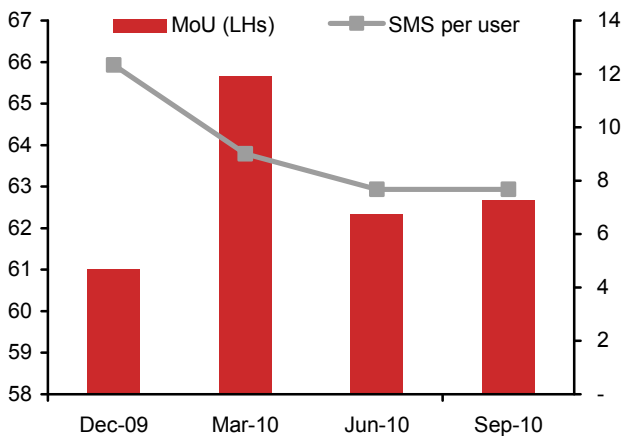
- Tanzania has a population of 44mn and telecom penetration of 48%. It is a crowded market — four established players have a combined market share of 99%, but in total there are seven players with operational networks and 14 licensees. ExcellentCom (Hits Tanzania), which is to become the eighth player, is looking to launch services in 2011 and has started rolling out networks, we understand. Bharti is the No. 2 player, with a 28% share (September 2010).
- MoUs are quite low in the market, at around 60 per month per sub, and ARPUs are around US\$6, according to data available from the regulator. We note that operators such as Vodacom have reported much lower ARPUs of US\$3 in 3Q10 (but this may be likely due to a majority of its subscriber base carrying a second SIM to avail lower tariffs from other operators, we think). Millicom reported ARPUs of US\$5 in 3Q10.
- 3G has been in the market since 2006-07; currently, Vodacom, Tigo, Zantel and Bharti are offering 3G services.

Exhibit 222. Market penetration



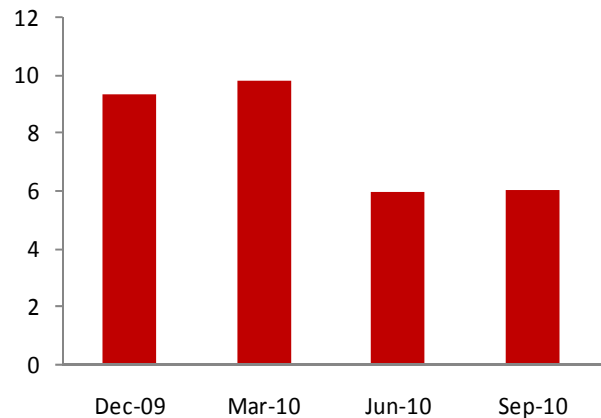
Source: TCRA, Nomura estimates

Exhibit 223. MoU trends (in minutes)

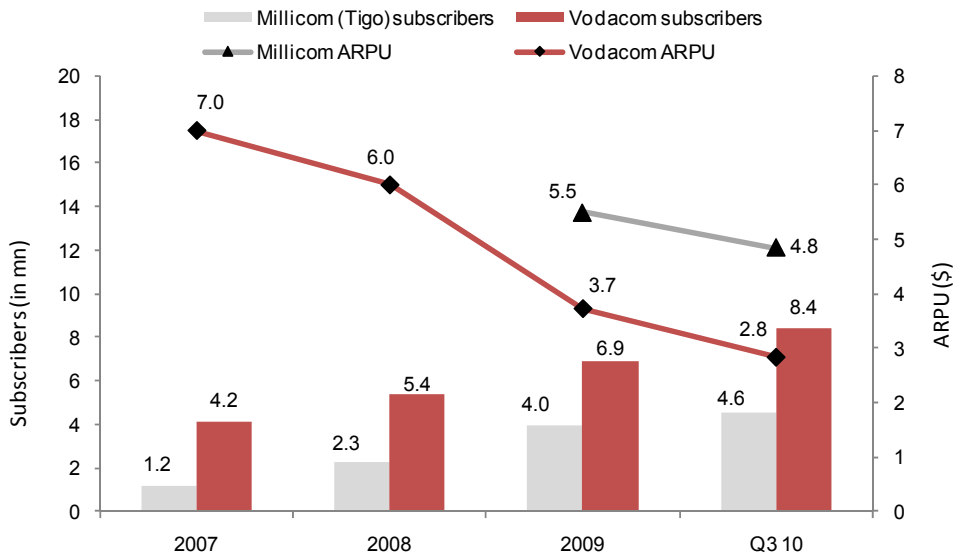


Source: TCRA, Nomura research

Exhibit 224. ARPU trends (in US\$)



Source: TCRA, Nomura research

Exhibit 225. Subscriber, ARPU trends: Millicom, Vodacom

Source: Company reports, Nomura research

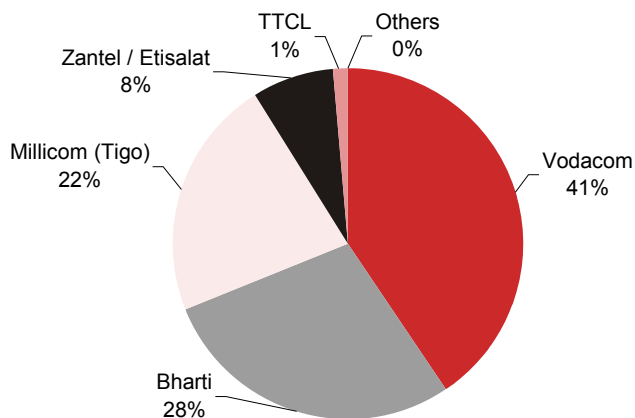
Competition... likely to go in overdrive?

- The Tanzanian market is dominated by four operators with significant market share – Vodacom, Bharti, Millicom, and Zantel – although there are seven active operators. Vodacom is the market leader, with a subscriber share of 41%. Bharti is second with 28%, followed by Tigo with 22%. Despite close to 50% penetration, and seven existing players, ExcellentCom (listed as Hits Tanzania) intends to launch services in 2011F.

Exhibit 226. Overview of players

	Vodacom	Bharti	Millicom (Tigo)	Zantel / Etisalat	TTCL	Benson Informatics	Sasatel (Dovetel)	Hits Telecom
2G	✓	✓	✓	✓				✓
3G	✓		✓	✓				
CDMA					✓	✓	✓	
Fixed				✓	✓			

Source: Nomura research, Tanzanian communications Regulatory Authority (TCRA)

Exhibit 227. Subscriber market share (Sep-2010)

Source: TCRA, Nomura research

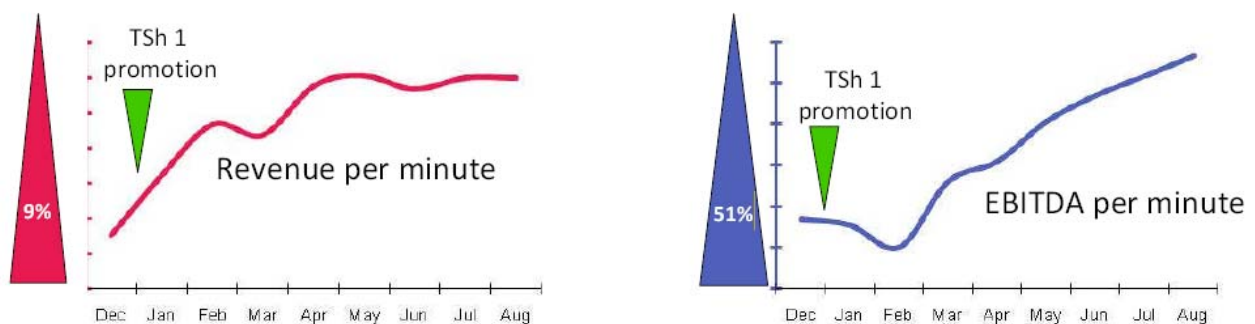
At the beginning of price cuts?

- We believe there is good evidence of positive elasticity and increase in service adoption in Tanzania — from 2008 to September 2010, on-net tariffs were down by ~50% on average and we estimate total minutes volume across networks nearly tripled in this period (annualising the 9M10 minutes volume for both on-net and off-net; off-net is 4% of total national traffic). MoUs are up by 43%, on our estimates.
- Millicom's Tigo brand started cutting prices in 2008/09, reducing on-net prices by two-thirds to Tsh1 per second (or US¢0.06) from Tsh3 and saw 50% growth in EBITDA in subsequent periods (Exhibit 8). Tigo notes this was largely due to the economies of scale achieved through higher traffic volume.
- Since then, other operators have gradually lowered their on-net pricing to levels matching the Tigo offer (Exhibit 9). More recently, Tigo further cut prices by 50% and is now offering rates of Tsh0.5 per second. Bharti has waded in and is offering rates of Tsh0.25-0.50 per second for on-net calls.
- Off-net prices were broadly stable until recently. Vodacom appears to have taken the first step on off-net tariffs, reducing them by 50% (ie, from Tsh6.5 to Tsh3, implying US¢12 per minute) in September 2010. Tigo recently matched these rates. (*Vodacom Tanzania halves off-net call tariffs, Telegeography, 17 September, 2010; Mobile phone business still glitters, 20 December 2010, Business Daily*)
- We understand Bharti and other operators are lobbying for interconnect to be lowered to levels below the existing glide path. Currently, interconnect for 2011 is at US¢7.3 per minute, with off-net rates currently at US¢22 per minute — suggesting significant potential for these rates to come down even before interconnect is lowered, we believe.

Exhibit 228. Millicom: evidence of increasing profitability after tariff cuts

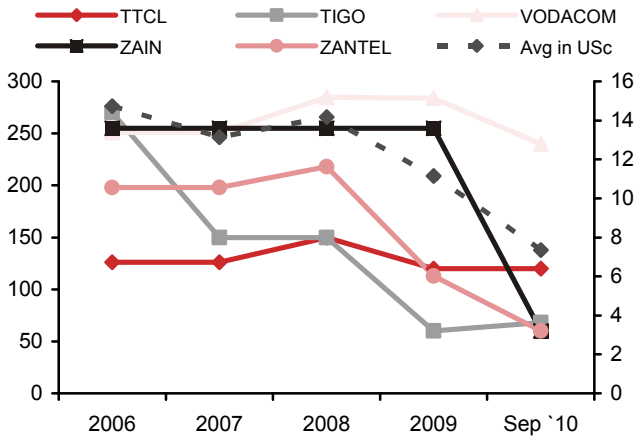
Impact of the new pricing strategy

By decreasing our price from TSh 3 to TSh 1, and reducing our extreme offering to the market we actually increased our blended on-net price



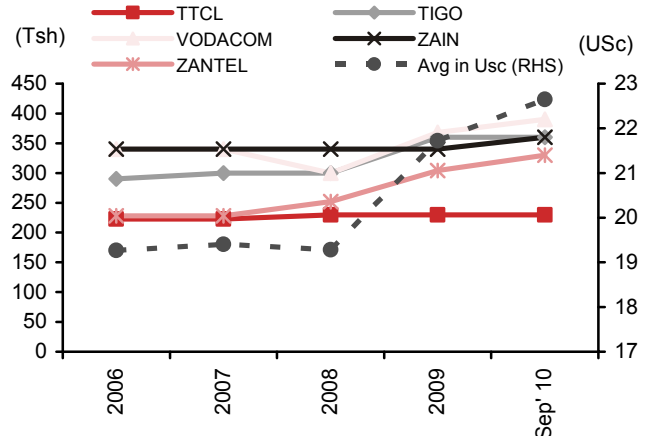
Source: Millicom presentation 2009

Exhibit 229. Average on-net pricing per minute (Tsh)



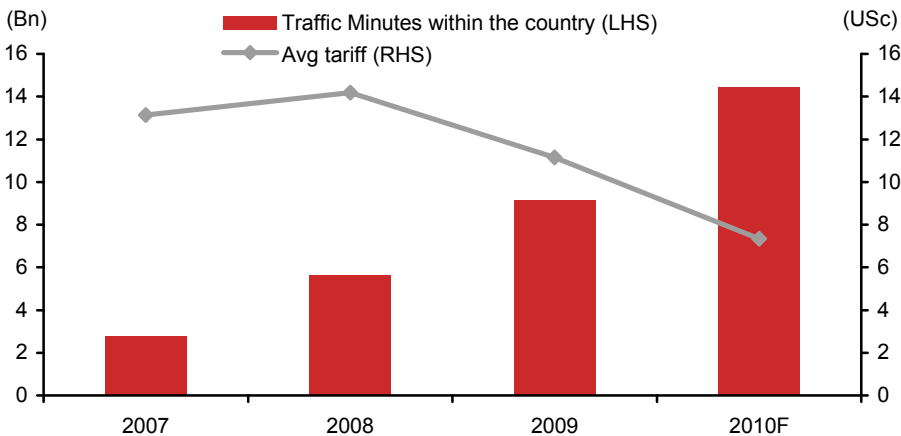
Source: TCRA

Exhibit 230. Average off-net pricing per minute (Tsh)



Source: TCRA

Exhibit 231. National minutes volume across networks vs Avg on-net pricing per minute in US¢



Source: TCRA, Nomura research

Significance to Bharti

- Tanzania is one of the key markets for Bharti – it is the No. 2 player here, with a share of 28%. More importantly, Bharti doesn't appear to have ceded much share in this market over the past two years.
- Tanzania contributes 7-12% in subscribers/revenues/EBITDA and is the fourth-largest market for Bharti in terms of EBITDA contribution to Africa. EBITDA margins have also been relatively stable at around the mid-30% level compared to other markets.
- We also understand that Zain has invested around US\$500mn in networks in the past three-five years, which could enable it to offer better quality of services (as per comments from Zain Tanzania's Marketing Director at the time of the acquisition). We also understand that Bharti is looking to invest a further US\$150mn in this market over the next few years. (*TelePhony Price war to intensify in telecom industry, The Citizen, 6 May, 2010; Bharti targets US\$150m investment in Tanzania, 22 July, 2010, Telegeography*).

Exhibit 232. How does Tanzania fit into the Africa portfolio?

(Based on Zain's 2009 report)

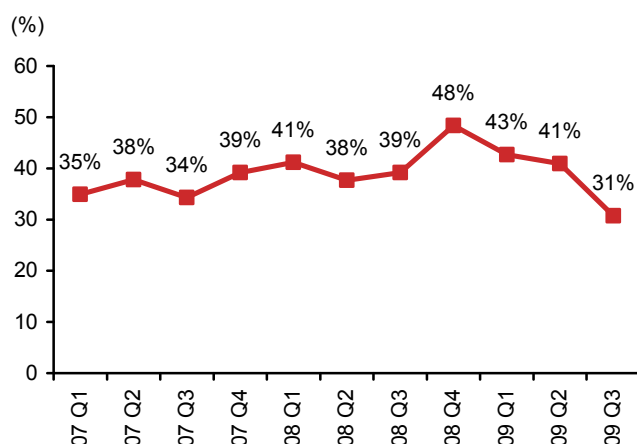
Subscribers (mn)	4.91
Revenues (US\$mn)	272.3
EBITDA (US\$mn)	92.8

Contribution to

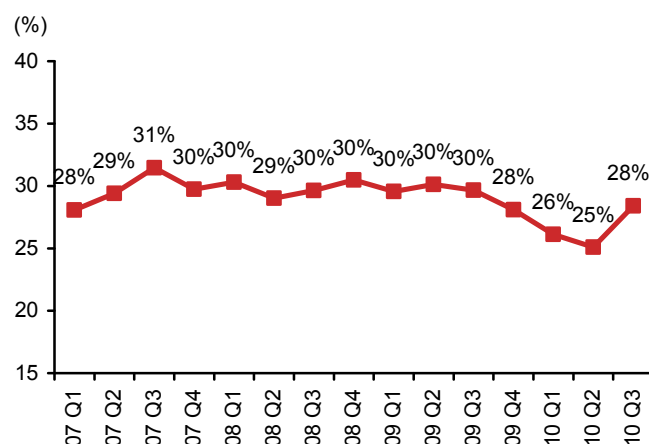
Subscriber base (%)	12
Revenue (%)	7
EBITDA (%)	9

EBITDA margins (%)	34
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Source: Company reports

Exhibit 233. Bharti: EBITDA margin trends

Source: Company reports

Exhibit 234. Bharti: market share trends

Source: Company reports, Nomura estimates

Regulatory overview

- **Interconnect:** Currently, interconnection rates are based on a glide path: 2010: US¢7.49; 2011: US¢7.32; 2012: US¢7.16 (based on *The implementation of Interconnection determination No. 2*, issued in 2007). Currently, operators charge at the cap rate. We understand that lobbying is underway for a reduction in these rates below the current glide path.
- **Subscriber registration:** In June 2009, a law was passed by parliament for all operators to register and identify all mobile users by 30 December, 2009; the deadline was extended to October 2010 and operators were required to deactivate subscribers who have not registered by then.
- **Local listing requirements:** Tanzania's government has passed a controversial law that will require local mobile network operators to list shares in their companies on the local Dar es Salaam Stock Exchange. Companies will have up to three years to list their shares on the stock exchange. (*Tanzania to Require Local Stock Exchange Listing for Mobile Networks, 1 February, 2010*)

Exhibit 235. The authorities

Ministry	Ministry of Communications Science and technology	www.mst.go.tz
Regulator	Tanzania Communications Regulatory Authority - TCRA	www.tcra.go.tz

Source: Nomura research

Tanzania seeing the formation of tower cos

- The Tanzanian market has also seen developments in terms of towers. Eaton Tanzania, Tanzania's first tower company, began operations last year. It is an Africa-focused tower company that owns, builds, manages and maintains telecom towers for operators. (*IT News Africa, First independent mobile tower company established in Tanzania, July 2010*).
- More recently, in December, the third-largest player, Tigo, agreed to sell approximately 1,020 towers to Helios Towers. Tigo Tanzania expects to receive US\$80mn of cash up front and will retain a significant minority interest in HTT. Mikael Grahne, President and CEO of Millicom, said: "Millicom created the first tower joint-venture in Africa with Helios in January 2010. The initial results proved very satisfactory, with an improved service level and a reduction in both capex and operating expenses." The transaction is expected to be completed in 2Q11F. (*Cellular News, 4 December, 2010, Tigo Tanzania Sells Tower Assets to Helios Towers*).

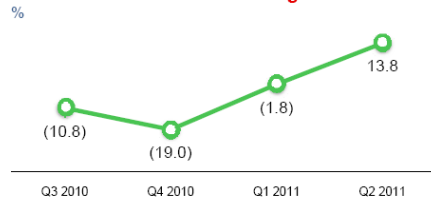
About Vodacom...

- According to our EMEA analyst, Martin Mabbutt, Vodacom remains powered by its South African operations, and in particular its mobile data business. Meanwhile, its international operations have gone through a painful readjustment to a more competitive environment. They are now showing some signs of reducing their rate of decline but are still a long way short of an overall improvement. Vodacom is Vodafone's vehicle for investment in Africa. Vodacom has indicated it is still prepared to look beyond its current footprint for growth, but we do not expect this to encompass more than one or two markets.
- Vodacom Tanzania, the current market leader, recently announced plans to expand its network and improve network quality. It is targeting to increase its sub numbers from around 8.5mn now to around 10mn, which we think is likely to be in 2011 (*Vodacom eyes 10 million subscribers, 3 October, 2010, All Africa*). Although it took the lead on reducing off-net tariffs recently, the company has said the tariff wars might not be sustainable in the long run and believed these could negatively affect investment in networks.
- We understand Vodacom now has a nationwide coverage with around 1,000 towers; a large majority of these were built in the past 18 months.
- Vodacom has also been driving its mobile banking services and its M-PESA service has already seen over 1mn registered users since the launch in April 2008. (*Developing Telecoms, Tanzania's mobile market in 2009: encouraging growth follows a shaky start, 7 July, 2010*)

Exhibit 236. Vodacom Tanzania: 3Q10 snapshot

Improving performance in Tanzania

Tanzania service revenue YoY growth



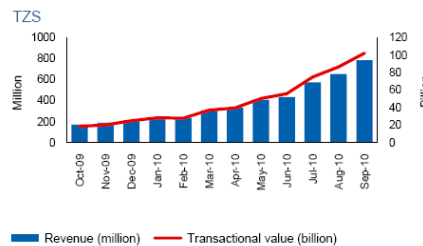
Tanzania MOU/PPM



Tanzania customer growth



Tanzania M-PESA



10



Source: Vodacom presentation

About Hits Tanzania and Hits Telecom

- ExcellentCom (which is listed as Hits Tanzania) is expecting to launch services as the eighth operator in 2011. The company was awarded a licence in 2007 but its launch in 2008 was delayed due to the financial downturn. The company notes that it has invested US\$50mn in the country since and is likely to invest another US\$200mn over the next 10 years. It is also reviewing network-sharing options.
- Hits Tanzania is a subsidiary of Hits Africa, which in turn is a subsidiary of Hits Telecom. Hits Telecom is a Kuwait-based holding company that moved into telecoms in 2008. According to its website, Hits Africa aims to take advantage of the African opportunity by pursuing an aggressive roll-out strategy for growth and building networks in its regions of operation. It has a number of licences, most significantly in Tanzania and the DRC, but has yet to launch service in any meaningful way, according to Mr Martin Mabbutt. The Hits group overall also has operations in Brazil, China and Saudi Arabia. In 2009 (December year end) it reported revenues of KWD126mn (US\$ 440mn).

Exhibit 237. Overview of Hit Africa

Presence	Stake	Brand Name	Comments
Tanzania	65%	Excellentcom	Holds a national license to operate converged services including GSM 1800, microwave and WiMax - launched initial service in Aug 2010
DRC	65%	Serratel	20 year license to operate GSM 1800/850 and an international gateway
Guinea	51%	Hits	License to provide fixed, mobile & data services. Hits proposes to develop GSM, UMTS & WiMax as well as fiberoptic backbone and international gateway
Liberia	55%	Atlantic Wireless	Licensed to provide national & international voice and data services over GSM 900/1800 and WiMax - increased from 30% to 55% for \$17m Nov 2010

Source: Company data, Nomura research

Uganda

Exhibit 238. Uganda — an overview



General facts

Capital	Kampala
Languages	English, Luganda
Area (sq. km)	0.24 mn
Currency	Ugandan shilling (UGX)

Demographics

Population (m)	32
Popn Growth Rate	3.6%
- Urban population	13%

Telecom statistics

Mobile Subscribers (m, 3Q10F)	12
Mobile penetration	38%
ARPU (\$)	5.00
Internet users ('000s)	3,200
Internet penetration	10%

Economic indicators (2010F)

GDP per capita (PPP)	\$1,250
GDP Growth Rate (real)	6%
Inflation	9%
Current 10-yr bond rate	10.8%

Source: Wikimap, IMF World Economic Outlook, CIA factbook, Internetworldstats, Uganda Communications Commission, Nomura research

Economic overview

Following a volatile period in the 1980s, Uganda is now considered a relatively peaceful, stable and prosperous nation. Even against the backdrop of a global slowdown, the Ugandan economy grew at 7% in 2009, and is expected to maintain this momentum through 2010 and 2011 with growth of around 6% annually, according to IMF estimates. This growth has been driven by domestic consumption as well as investment— public and private investment is expected to accelerate through 2010-11F, according to the *African Economic Outlook*. Nevertheless, infrastructure still remains inadequate, particularly in electric power and roads. Infrastructure development has therefore been identified as a leading priority, with investments in roads and in the completion of hydroelectric power plants.

Uganda has been a frontrunner in social progress in Africa, making strides in reducing poverty, and improving health and education. It is one of the few countries in sub-Saharan Africa that are on course to meet the Millennium Development Goal target of halving poverty by 2015.

Key political facts

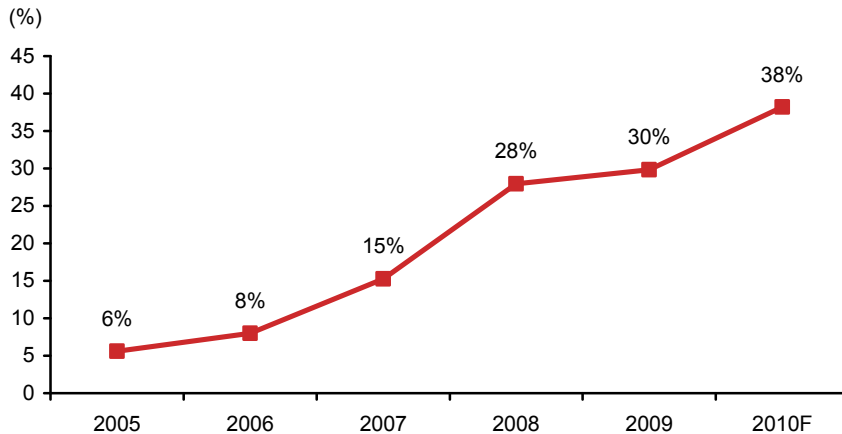
2006 saw the nation's first multiparty elections, and NRM (National Resistance Movement) won both the presidency and the majority in parliament. Presidential, parliamentary and local elections are planned for 2011, although there has been disagreement over electoral reforms to be undertaken prior to these elections.

(Source: *African Economic Outlook* - <http://www.africaneconomicoutlook.org> and BBC Country profile)

Telecom landscape

- The Ugandan telecom market is relatively underpenetrated at 38%; however, competition has been rising with the entry of new foreign partners and new players in the past two to three years. There are five key players, and MTN is the market leader with a share of over 50%. 3G was also launched by two new players (previously only offered by Uganda Telecom) in 2010, as more international bandwidth links were established.

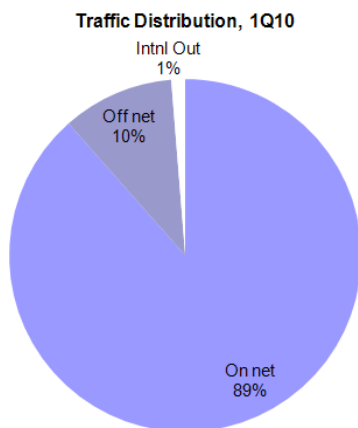
Exhibit 239. Market penetration



Source: Nomura estimates, company data, UCC

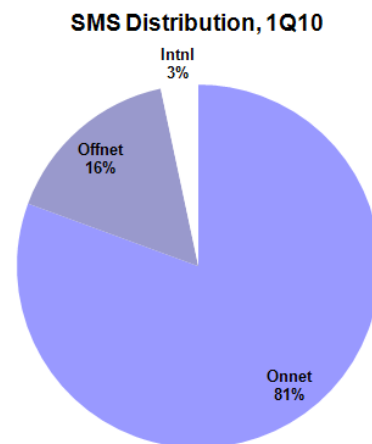
- The regulator, Uganda Communications Commission (UCC) estimates that sector revenues (communications and postal services) grew 14% in 2009 vs 24% in 2008 (in local currency terms). Mobile voice services accounted for 50% of this; data and internet services are estimated at 15% of total turnover.
- On-net traffic accounts for 90% of total domestic traffic, a function of interconnect rates, on our understanding.

Exhibit 240. Traffic distribution - voice



Source: Uganda Communications Commission 1Q10 presentation

Exhibit 241. Traffic distribution - SMS



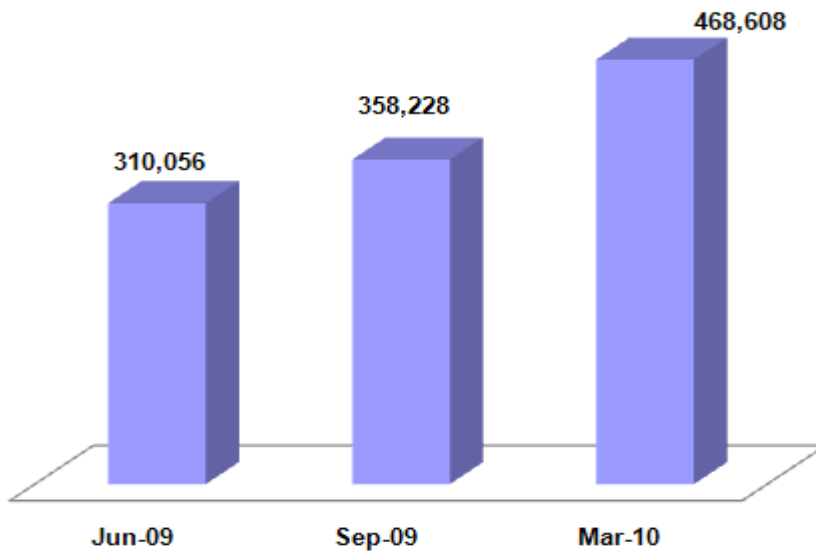
Source: Uganda Communications Commission 1Q10 presentation

3G and data opportunity

- 3G is likely to have picked up momentum in 2010, in our view, with several operators' trialling/launching services. After Uganda Telecom's launch of 3G in 2008, 2010 saw 3G launches from MTN and Orange (*2010 Was the Year of Internet Revolution*, allafrika.com, 9 January 2011). We understand Bharti is currently testing 3G services; Warid Telecom offers GPRS at this stage.

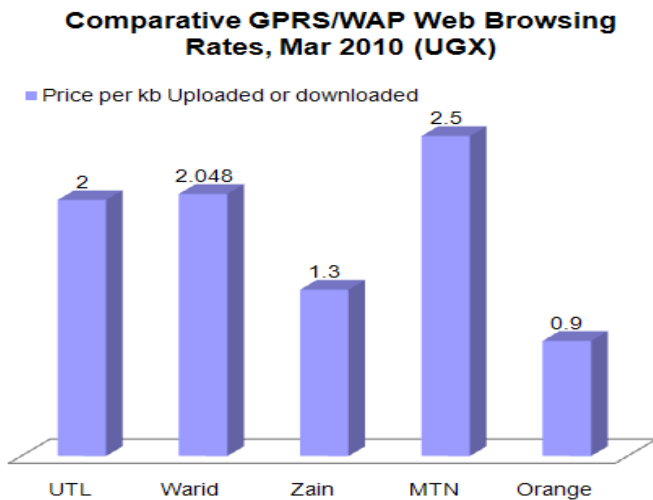
- There were 470k 3G subscribers as of 1Q10 (according to UCC) – we expect net additions have accelerated further through 2010 given 3G launches from MTN and Orange.

Exhibit 242. Growth in mobile wireless internet subscriptions (1Q10)



Source: Uganda Communications Commission 1Q10 presentation

Exhibit 243. Price per KB of data



Source: Uganda Communications Commission 1Q10 presentation

Competition

- The Ugandan telecom market is one of the most competitive markets in Africa, with five active operators. Of the current players, many have entered only in the past two to three years.
- MTN has the largest market share with over 50%, and we estimate Bharti has an 18% share. France Telecom (Orange) currently has a 4% share; it entered in 2009 following the purchase of a majority stake in Hits Telecom. The balance, 25%, is held between Uganda Telecom and Warid (which is now 50% owned by another Indian conglomerate, Essar).
- We understand there has been intense pricing pressure since September 2010, when Warid cut its per-second rates by 50% to UGX5, and Bharti further reduced these to around UGX3.

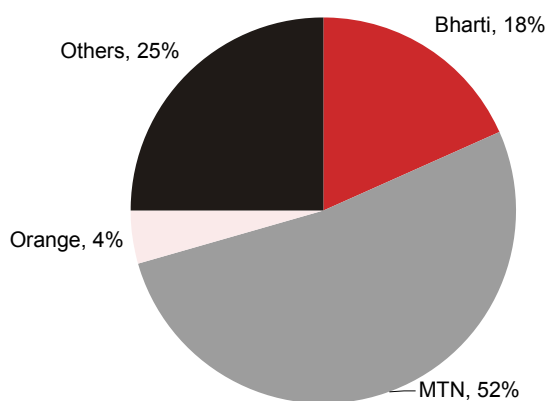
- Currently, Uganda Telecom, Bharti, Warid and Orange offer a rate of UGX3 per-second both on-net and off-net; MTN in November 2010 responded by lowering its off-net tariff rate to UGX5 (*Ratio Magazine*, “Uganda’s Mobile Tariff Competition: How Low Can You Go?” 25 November 2010). The average on-net and off-net rates used to be UGX8 per second and UGX10 per second as of 1Q10 (according to UCC), reflecting a significant reduction since the beginning of this year.
- However, interconnect, currently at UGX131 (or ~UGX2.2 per second), could serve as the floor, and further cuts may have to be led by a reduction in the interconnect rate. We understand some players have been lobbying for the same.
- Some of the differentiated offers that have come up include discounts during off-peak hours (from MTN) as well as launches of dual-SIM phones (by Warid and Orange).
- MTN believes that in-market consolidation needs to occur for the businesses to grow and be sustainable. The company is also open to absorbing players, if opportunities arise. (*Cellular News*, “MTN Uganda calls for consolidation,” 3 October 2010).

Exhibit 244. Current operators overview

	Bharti	Uganda Telecom/LAP Green	MTN	WARID/Essar	France Telecom (Orange)
2G	✓	✓	✓	✓	✓
3G		✓	✓		✓
CDMA		✓			
Fixed		✓			

Source: Nomura research

Exhibit 245. Subscriber market share (3Q10F)



Source: Nomura estimates

Significance to Bharti

- Uganda contributes 5% of Bharti’s subscribers but only 1% in terms of profitability at this stage, on our estimates. This is a competitive market, and profitability has suffered over the past three years – in 2007, Zain generated EBITDA margins of around 20%, which was down to 12-15% in 2009.
- We believe this market could be one of the more challenging markets for Bharti, with five strong competitors and an already intense pricing environment. Bharti is currently trialling 3G. Bharti has noted that it could invest up to US\$100mn over two years to double its subscriber base from 2mn (*Reuters*, “Bharti Airtel to invest US\$100mn in Uganda over two years,” 21 June 2010).

Exhibit 246. How does Uganda fit in the Africa portfolio

(Based on Zain's 2009 report)

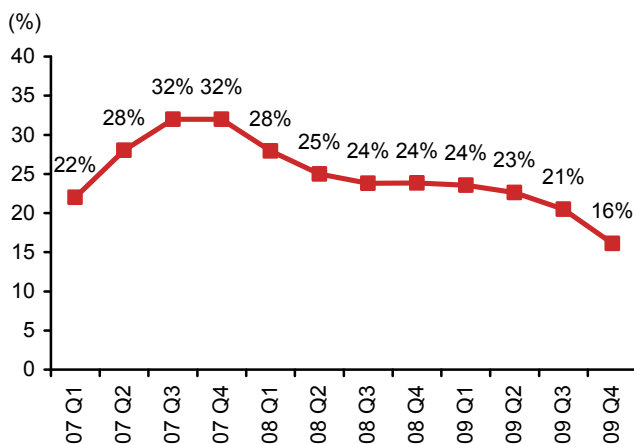
Subscribers (mn)	1.93
Revenues (US\$mn)	99.8
EBITDA (US\$mn)	12.3

Contribution to

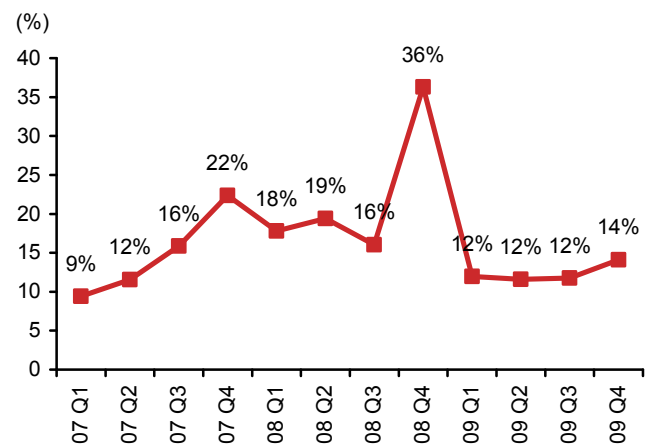
Subscriber base (%)	5
Revenue (%)	3
EBITDA (%)	1

EBITDA margins (%) 12

Source: Company reports

Exhibit 247. Bharti – market share trends

Source: Company reports

Exhibit 248. Bharti – EBITDA margin trends

Source: Company reports

About MTN (Uganda) ...

- MTN is the market leader in the Ugandan market with over a 50% share, on our estimates. MTN has noted that it is continuing to increase its focus on data for growth. Currently, MTN's revenue from data services is 4%, and it is targeting up to 20% for 2011 from 3G, mobile money and new innovations. The company invested over US\$235mn in networks in 2009-2010 (*IT News Africa*, "MTN Uganda turns to data," 15 November 2010; *Cellular News*, "MTN Uganda calls for consolidation," 3 October 2010).
- In terms of 3G/mobile internet, given the predominance of prepaid (97%), its strategy is to provide low-cost wireless 3G.
- In mobile money, MTN currently has 1.3mn subs, or ~20% penetration within its subscriber base. The company notes positive uptake so far; it is also looking at enabling direct payments through a mobile wallet as well as ability to purchase airtime to drive uptake further.
- Mobile gaming and a targeted mobile advertising are other areas the company is exploring.

About Essar ...

- Essar Group, an Indian conglomerate, has been seeking opportunities in Africa and has laid out an initial plan to invest US\$2bn in the region. Essar has stated that its goal is to gain 20mn subscribers spanning six to seven telecom markets.

- In May 2009, Essar won the sixth mobile license in Uganda; subsequent to which it picked up a 51% stake in Warid Telecom's operations in Uganda for US\$160mn to facilitate its expansion and seek operational efficiencies in the market (*The Independent*, "Warid's Essar plans to invest US\$2bn," 9 February 2010; *Times of India*, "Eassar buys Warid," 16 November 2009).
- Under Essar Communication Holdings, the group has a 49% stake in Econet Wireless (another player in the African market).

About Orange Uganda ...

- France Telecom (FT) entered Uganda in 2009 through the acquisition of a 53% stake in Hits Telecom. The Orange brand commands a 4% share currently. In addition to initial investments, Orange Uganda has committed to invest €200mn (US\$253mn) over three years for network expansion and 3G.
- Orange Telecom has noted that it intends to increase revenue from internet services, multimedia and data, as voice revenues continue to decline. The company believes the Ugandan market is "overheated" and it notes that "there is really no new customer in this market". The company launched the iPhone 3G for the market in 2010, hoping to gain some traction with high-end subscribers (*IT News Africa*, "Orange Uganda eyes more internet revenues," 20 May 2010).

Regulatory overview

- We understand operators are lobbying for a lower interconnect rate, which is currently at UGX131 per minute. We believe the UCC was considering introduction of a uniform interconnect rate, which would have undermined MTN's position; however, MTN fought this in court and the UCC did not proceed to implement this.

Exhibit 249. The authorities

Regulator	Uganda Communications Commission	www.ucc.co.ug/
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Source: Nomura research

Infrastructure

- The period 1Q10 saw the undersea cable systems at the East African coast going live, according to UCC. Around 80% of the available bandwidth is provided by the two cable systems – TEAMS and Seacom.

Zambia

Exhibit 250. Zambia — an overview



General facts

Capital	Lusaka
Languages	English (official), Nyanja, Bemba, Lunda, Tonga, Lozi, Luvale, Kaonde.
Area (sq km)	0.75mn
Currency	Zambian kwacha (ZMK or ZK or K)

Demographics

Population (mn)	13
Popn Growth Rate	3.10%
- Urban population	35%

Telecom statistics

Mobile subscribers (mn, 3Q10)	4.77
Mobile penetration	38%
ARPU (\$)	6
Internet users ('000s)	817
Internet subscriptions ('000s)	18
Internet user penetration	6%

Economic indicators (2010F)

GDP per capita (PPP)	\$1,625
GDP growth rate (real)	6.6%

Source: Wikimap, IMF World Economic Outlook, CIA factbook, Internetworldstats, Nomura research

Economic overview

The past decade has seen one of strongest economic performances for Zambia, with average GDP growth of 5% pa, led by government efforts to reduce the dominance of the mining sector, further boosted by economic/public sector reforms initiated in 1991. The government launched its first private-sector development reform programme in 2006-08 and, in 2009, launched the second phase of this programme. There are still several constraints in areas such as energy, lack of adequate civil services, infrastructure, notwithstanding the continued economic growth expected of 6.0-6.5% in 2010-11F, as per the IMF.

Key political facts

The country appears to have had a relatively stable political environment since declaring independence more than four decades ago. Following the death of Levy Patrick Mwanawasa in August 2008, the third president of the Republic of Zambia, the current administration led by Rupiah B Banda came to power in November 2008, following a free and fair presidential by-election. The current government is continuing the efforts of the previous government to reduce corruption. The next elections are scheduled for 2011.

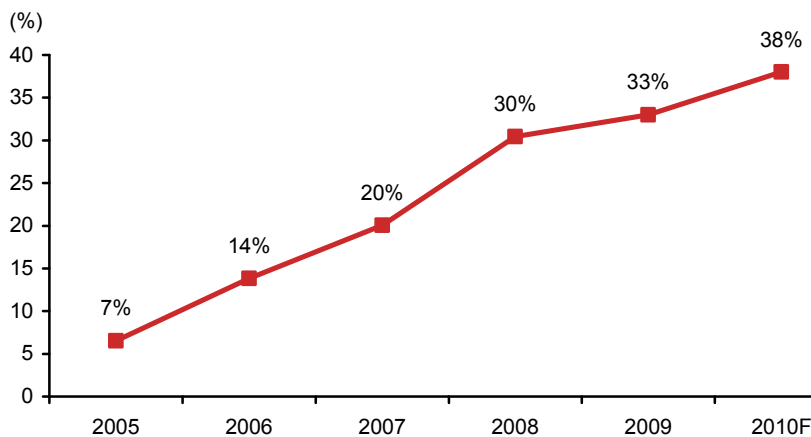
(Source: *African Economic Outlook* - <http://www.africaneconomicoutlook.org> and BBC country profile)

Telecom landscape

- Zambia has a population of around 13mn and is the fifth-smallest country in terms of population in Bharti's portfolio. Wireless penetration is at 38%, which makes it one of the more appealing markets in the region.

- The market has only three players – market leader Bharti with 60% share, followed by MTN with 35% and state-owned Zamtel with only 4-5% on our estimates.
- Zamtel was partly privatised with a majority stake sale to LAP Green in mid-2010. LAP Green is the telecom arm of Libyan African Investment Portfolio (LAP), which has a portfolio that spans eight countries. Zamtel offers mobile services under the Cell-Z brand. We understand Zamtel had a monopoly in fixed-line including international gateways which kept international connectivity prices high until 2010, when the regulator allowed other players to install their own gateways.
- In 2009, the new ICT Act was implemented, giving the regulator, ZICTA, more power in terms of interconnect, tariff and related regulations. The regulator is working on a guideline framework on several aspects such as competition, tariff and recently announced a reduction in interconnect (previously negotiated between carriers). The liberalisation of the international gateway has also seen international voice tariffs fall by an average about 40% (*MTN reduces international calling tariffs, The Zambian Chronicle, June 2010*). We believe the regulator in this market could become more active with intentions to improve telecom infrastructure in the country.
- We understand ARPU in this market is around US\$6, which has trended lower from around US\$8 in 2009. We also understand the market is largely in 2.5G networks (EDGE). Following a policy change to unified licences under the new act, the government has issued new licenses including 3G spectrum to all carriers; however, the GSM licenses are yet to be migrated.

Exhibit 251. Market penetration



Source: Nomura estimates, Zambia Information and communications Technology Authority (ZICTA)

Competition

- Although there are only three players in the market – two of the three carriers seem to have explicit subscriber targets; MTN exceeded its 1.5mn target for 2010 and is likely to exceed its 2mn target for 1H11F. Zamtel aims for 2mn subscribers in the next two years.
- For Bharti, this is the second-largest market in its African portfolio, with revenue and EBITDA contributions of around US\$300mn and US\$100mn, respectively. Defending its strong 60% market share won't be without challenges, but we see plenty of growth left in the market and we think market share losses for Bharti are unlikely at this stage.
- 2010 saw some tariff reductions, the more recent ones driven by lower interconnect rates and in response to Zamtel's offers introduced in September, we think. Moreover, apart from competing on tariffs, all three players are also looking to boost their network advantage and quality.

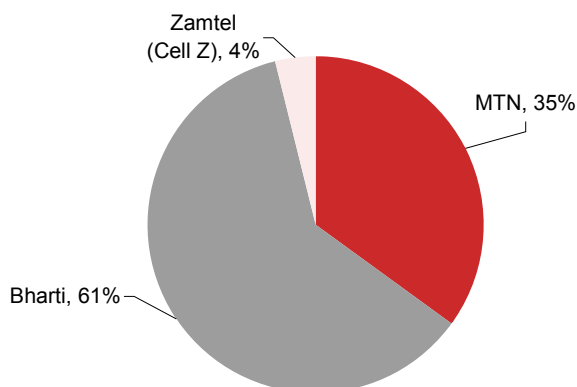
- Following LAP's purchase of Zamtel, we understand the company kicked-off the 'Real Deal' offer, which included bonus credits for airtime purchased and free Cell-Z to Cell-Z calls. The plan also offered call rates as low as K12-20 per second (a reduction of ~30-50%, we estimate).
- Zamtel targets 2mn subscribers in the next two years; we estimate it had around 200k subscribers or 4% share as of 3Q10. In addition to tariff reduction, Zamtel is also expanding coverage by rolling out 200-600 sites and expanding its budget from US\$120mn to US\$185mn. (*Zamtel eyes subscriber base of 1mn, The Post Zambia, 23 September 2010; Zamtel gets \$180mn injection, Shout Africa, 15 January 2011*).
- In May, Bharti was running a plan called "Talkamo" which offered a range of discounts depending on the time/place of calls and in some instances the calls were almost free, we understand. In September 2010, Bharti also cut off-net tariffs by roughly 50% (*Zain introduces new tariff 'Talkamo', The Post Online, 10 May 2010; Zain Zambia slashes cross network tariffs, Lusaka Times, 19 September 2010*).
- September saw MTN also lower tariffs – peak hours on-net rates came down by 26% from K1,380 (US¢30) to K1,020 (US¢20); off-net peak tariffs were cut by 9% but off-peak off-net rates were cut by 31%. MTN also invested US\$30mn for network expansion in 2010 (*MTN slashes tariffs, unveils US\$30mn expansion programme for 2010, The Post Online, 21 September 2010*).

Exhibit 252. Current operators

	Zain	MTN	Zamtel
2G	✓	✓	✓
3G			
CDMA			
Fixed			✓

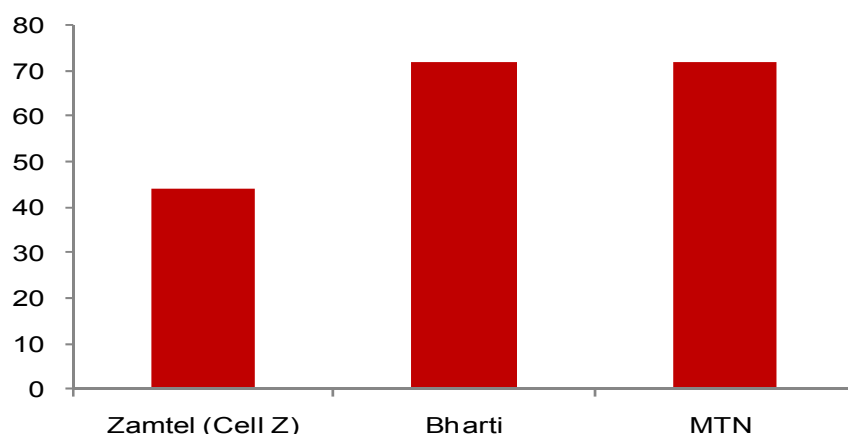
Source: Nomura research

Exhibit 253. Subscriber market share (3Q10F)



Source: Nomura estimates

Exhibit 254. Coverage comparison in terms of # of districts covered (as of 2009)



Source: ZICTA

Significance to Bharti

- Zambia is Bharti's second-largest market in terms of profit contribution and accounts for 8-12% of revenue/EBITDA. Bharti is also the market leader with a dominant share of around 60%, on our estimates.
- Recent press articles suggest that Bharti is looking to spend around US\$150mn over the next few years to expand coverage (*Bharti to invest US\$150mn in Zambia: Africa CEO, CIOL News, 25 June 2010*). It intends to increase its network sites from 600 to 900-plus by March 2011.
- 3G remains were recently issued, although we note that carriers were already building / preparing for 3G rollout in the near future. Bharti has already spent around US\$10mn in 3G infrastructure, although a license hasn't been awarded given the migration to a unified licensing regime. (*Bharti Airtel takes over Zain Zambia operations, 22 November 2010*).

Exhibit 255. How does Zambia fit in the Africa portfolio

(Based on Zain's 2009 report)

Subscribers (mn)	3.08
Revenue (US\$mn)	300
EBITDA (US\$mn)	128

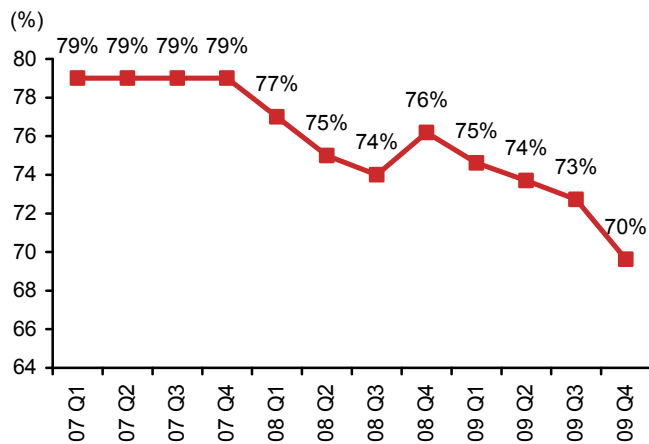
Contribution to

Subscriber base (%)	7
Revenue (%)	8
EBITDA (%)	12

EBITDA margins (%)	43
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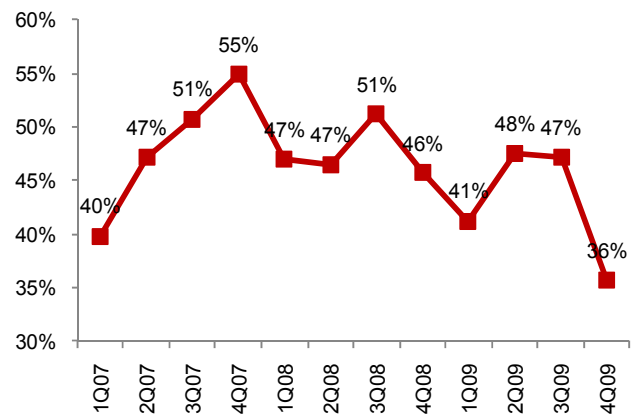
Source: Company reports

Exhibit 256. Bharti – market share trends



Source: Company reports, Nomura estimates

Exhibit 257. Bharti – EBITDA margin trends



Source: Company reports

About Zamtel ...

- Zamtel is the state-owned incumbent operator operating mobile services under the Cell Z brand and fixed line services. Zamtel also had a monopoly in fixed-line including international gateways, which kept prices of international connectivity high until 2010 when the regulator allowed other players to install their own gateways.
- In 2010, Zamtel was privatised with the sale of a 75% stake to LAP Green, from Libya. LAP Green originally injected some US\$120mn last year, and this grew to US\$180mn (*Zamtel gets US\$180mn injection, Shout Africa, 15 January 2011*)
- The company targets 2mn subscribers in two years. Following its privatisation in mid-2010, Zamtel launched discounted tariffs to attract subscribers. The company began its network expansion plan in 2009, which should see it rollout ~600 BTS in total. At the end of the current phase of network rollout (ie, phase III), Zamtel could have 262 sites covering 66 districts.

About MTN Zambia ...

- MTN is the No. 2 player in this market with a 35% share, on our estimates. It has been gaining on Bharti in terms of market share over the past couple of years. MTN exceeded its target 1.5mn subscribers in 2010 and targets 2mn in 1H11.
- MTN notes that it has consistently offered 20-30% cheaper tariffs in the market, offering the best value for money. The company also has promotions, which offer handsets for around K60,000 or as low as US\$13 (*MTN slashes tariffs, unveils \$30 million expansion programme for 2010, The Post Online, 21 September 2010*).
- MTN invested US\$95mn in 2009 and US\$30mn in 2010 to expand its networks in Zambia, according to the company. It is also investing in the local metro fibre project in the capital.

Regulatory overview

- In 2009, The Information and Communication Technologies (ICT) Act came into force, replacing the previous telecom act. Among others:
 - The bill gave power to ZICTA to regulate tariffs and set interconnect rates.
 - Under this, the country has created a unified license regime to attract international service providers and to help development of the sector, we understand. The regulator has issued new licenses including 3G and international service license; the migration of GSM licenses to the new regime is yet to occur, we understand. (*ZICTA, Zambia offers unified telecom licenses, www.cio.co.ke, 27 July 2009*).

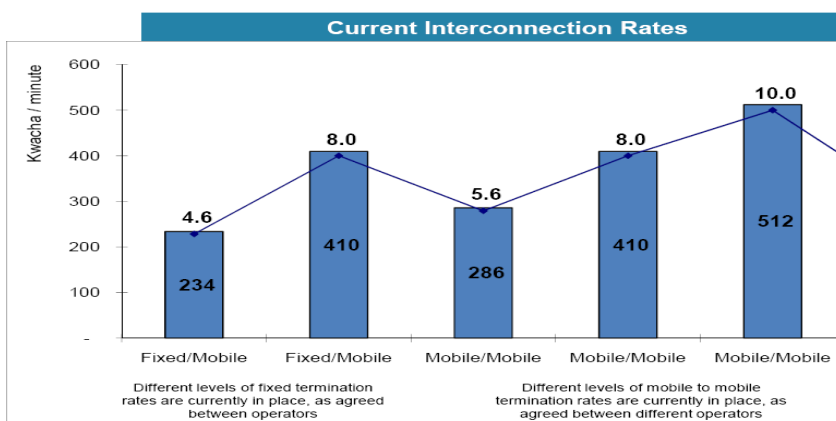
- **Review of interconnect.** The regulator, ZICTA, conducted a review of interconnection rates, and both standardised and lowered rates across operators. We understand that previously interconnect was agreed upon mutually, with rates as high as US¢8-10 set between some operators. The new interconnect regime, therefore, implies a 25-40% cut for mobile-to-mobile termination in 2010 in these instances to US¢5.9; further, it also implements a ~10% reduction in 2011 and a 6% reduction in 2012 to US¢5. The interconnection rates will be denominated in Zambian Kwacha, given the low level of inflation. We understand the next review is set for end 2012.
- **Reduction in international gateway licence.** ZICTA also reduced the international gateway license from US\$12mn to about US\$300K in 2010. This has allowed MTN and Zain to apply for and be awarded an International Voice license and set up their own gateways. International calling tariffs have since fallen by an average 40%.
- **Tariff regulations.** The study undertaken to understand “cost of service” and review interconnect also reviewed aspects surrounding tariff regulation. The study has advocated the relaxation of tariff approval requirements in markets where competition is believed to be an effective tariff regulator, while imposing restrictions in markets with monopolistic dominance. We understand ZICTA is also preparing competition guidelines to be published under the act.
- **Universal access.** ZICTA began the implementation of universal access to improve coverage in the country. ZICTA in April 2010 called for tenders to install 36 towers.

Exhibit 258. Revised interconnect rates

	1 st November 2010	1 st January, 2011 ¹	1 st January, 2012
Mobile and Fixed Termination-Voice	US¢5.9	US¢ 5.30	US¢5.00
ZK Equivalent	K295.00	K265.00	250.00
Mobile and Fixed Termination-SMS	K147.50	K132.50	K125.00

Source: ZICTA

Exhibit 259. Interconnect rates as identified by PWC study prior to review



Source: ZICTA

Exhibit 260. Interconnect rates agreed by operators prior to review

Contracting Parties	Termination Rates (per minute for voice calls)
Zain to MTN (mobile)	US\$0.10
Zain & Zamtel (mobile)	US\$0.08
Zamtel (mobile) & MTN(mobile)	US\$0.063
Zamtel (PSTN) & MTN (mobile)	US\$0.052

Source: Zambia ICT Sector Performance Review 2009/10

- Five-year restriction until 2014 preventing entry of new players in the Zambian market.** The Ministry of Communication and Transport issued a Statutory Instrument No. 111 of 2009, which imposes a five-year restriction beginning 2009 on new mobile operators entering the Zambian market. Given that the telecom market is highly capital-intensive, the government aims to ensure a certain rate of return on investment to keep investors in the market (*Interview with ZICTA*, ukzambians.co.uk, 3 November 2010).

Valuation. Our DCF-based price target for Bharti is based on a WACC of 9% and a terminal growth rate of 3%.

Risks to our price target include stronger-than-expected competition and unfavourable regulatory developments related to various fees and charges. Upside risks include benign competition and faster-than-anticipated stability in pricing.

Financial statements

Income statement (Rsmn)					
Year-end 31 Mar	FY09	FY10	FY11F	FY12F	FY13F
Revenue	369,615	396,149	588,308	676,345	755,411
Cost of goods sold	(44,395)	(58,734)	(122,358)	(138,902)	(150,044)
Gross profit	325,220	337,415	465,950	537,443	605,367
SG&A	(221,123)	(237,604)	(369,341)	(413,398)	(453,997)
Employee share expense	1,302	1,094	872	-	-
Operating profit	105,399	100,905	97,481	124,045	151,370
EBITDA	151,678	160,268	197,215	236,994	273,663
Depreciation	(47,581)	(60,457)	(100,606)	(112,949)	(122,293)
Amortisation	1,302	1,094	872	-	-
EBIT	105,399	100,905	97,481	124,045	151,370
Net interest expense	(11,613)	5,783	(20,479)	(29,043)	(23,100)
Associates & JCEs	-	-	-	-	-
Other income	(713)	292	-	-	-
Earnings before tax	93,073	106,980	77,002	95,002	128,271
Income tax	(6,615)	(13,959)	(16,940)	(19,950)	(28,861)
Net profit after tax	86,458	93,021	60,062	75,051	99,410
Minority interests	(1,759)	(1,994)	500	(750)	(977)
Other items	9,868	(3,401)	5,123	-	-
Preferred dividends	-	-	-	-	-
Normalised NPAT	94,567	87,626	65,685	74,302	98,433
Extraordinary items	(9,868)	3,401	(5,123)	-	-
Reported NPAT	84,699	91,027	60,562	74,302	98,433
Dividends	-	(3,793)	(3,794)	(6,056)	(11,145)
Transfer to reserves	84,699	87,234	56,768	68,245	87,288

We expect margins to improve as Bharti turns around its operations in Africa

Valuation and ratio analysis

FD normalised P/E (x)	13.4	14.5	19.3	17.0	12.9
FD normalised P/E at price target (x)	16.1	17.3	23.1	20.4	15.4
Reported P/E (x)	15.0	13.9	20.9	17.0	12.9
Dividend yield (%)	-	0.3	0.3	0.5	0.9
Price/cashflow (x)	9.0	9.3	9.3	7.1	5.5
Price/book (x)	4.2	3.1	2.7	2.4	2.0
EV/EBITDA (x)	9.4	8.8	9.8	8.1	6.6
EV/EBIT (x)	13.5	13.9	19.9	15.4	12.0
Gross margin (%)	88.0	85.2	79.2	79.5	80.1
EBITDA margin (%)	41.0	40.5	33.5	35.0	36.2
EBIT margin (%)	28.5	25.5	16.6	18.3	20.0
Net margin (%)	22.9	23.0	10.3	11.0	13.0
Effective tax rate (%)	7.1	13.0	22.0	21.0	22.5
Dividend payout (%)	-	4.2	6.3	8.2	11.3
Capex to sales (%)	38.8	27.1	114.7	23.4	17.1
Capex to depreciation (x)	3.0	1.8	6.7	1.4	1.1
ROE (%)	32.5	25.4	13.7	14.7	16.9
ROA (pretax %)	19.9	16.5	10.3	9.6	11.4

Growth (%)

Revenue	36.8	7.2	48.5	15.0	11.7
EBITDA	33.4	5.7	23.1	20.2	15.5
EBIT	33.6	(4.3)	(3.4)	27.3	22.0
Normalised EPS	35.4	(7.3)	(25.1)	13.1	32.5
Normalised FDEPS	35.4	(7.3)	(25.1)	13.1	32.5

Per share

Reported EPS (Rs)	22.3	24.0	16.0	19.6	25.9
Norm EPS (Rs)	24.9	23.1	17.3	19.6	25.9
Fully diluted norm EPS (Rs)	24.9	23.1	17.3	19.6	25.9
Book value per share (Rs)	80.1	109.0	124.0	142.0	165.0
DPS (Rs)	-	1.0	1.0	1.6	2.9

Source: Nomura estimates

Cashflow (Rs mn)

Year-end 31 Mar	FY09	FY10	FY11F	FY12F	FY13F
EBITDA	151,678	160,268	197,215	236,994	273,663
Change in working capital	(18,499)	11,263	(26,945)	(10,222)	999
Other operating cashflow	7,253	(35,180)	(34,236)	(48,042)	(44,649)
Cashflow from operations	140,432	136,351	136,034	178,730	230,014
Capital expenditure	(143,294)	(107,376)	(674,717)	(158,000)	(129,389)
Free cashflow	(2,862)	28,975	(538,683)	20,730	100,624
Reduction in investments	10,140	(25,250)	30,000	-	-
Net acquisitions	-	-	-	-	-
Reduction in other LT assets	-	-	-	-	-
Addition in other LT liabilities	-	-	-	-	-
Adjustments	(10,140)	25,250	(30,000)	-	-
Cashflow after investing acts	(2,862)	28,975	(538,683)	20,730	100,624
Cash dividends	-	(3,793)	(3,794)	(6,056)	(11,145)
Equity issue	-	27,568	-	-	-
Debt issue	9,305	(39,089)	548,500	5,000	(20,000)
Convertible debt issue	-	-	-	-	-
Others	(2,075)	(10,903)	-	-	-
Cashflow from financial acts	7,230	(26,217)	544,706	(1,056)	(31,145)
Net cashflow	4,368	2,758	6,023	19,674	69,479
Beginning cash	6,777	11,145	13,903	19,926	39,599
Ending cash	11,145	13,903	19,926	39,599	109,078
Ending net debt	107,656	50,716	593,193	578,520	489,041

Source: Nomura estimates

Balance sheet (Rs mn)

As at 31 Mar	FY09	FY10	FY11F	FY12F	FY13F
Cash & equivalents	11,145	13,903	19,926	39,599	109,078
Marketable securities	37,925	63,131	33,131	33,131	33,131
Accounts receivable	28,528	24,335	56,903	76,576	83,519
Inventories	963	484	243	122	61
Other current assets	65,518	37,494	37,494	37,494	37,494
Total current assets	144,079	139,347	147,697	186,922	263,283
LT investments	128	172	172	172	172
Fixed assets	409,136	443,808	498,947	523,951	535,686
Goodwill	27,054	36,771	36,771	36,771	36,771
Other intangible assets	13,310	15,904	576,904	601,904	601,904
Other LT assets	10,240	10,407	11,882	12,558	13,165
Total assets	603,947	646,409	1,272,373	1,362,278	1,450,981
Short-term debt	64,808	17,166	107,166	107,166	87,166
Accounts payable	18,771	21,372	30,170	38,055	41,108
Other current liabilities	133,606	109,572	106,156	107,601	112,430
Total current liabilities	217,185	148,110	243,492	252,822	240,704
Long-term debt	53,993	47,453	505,953	510,953	510,953
Convertible debt	-	-	-	-	-
Other LT liabilities	18,120	8,657	24,471	31,051	43,609
Total liabilities	289,298	204,220	773,917	794,826	795,265
Minority interest	10,704	28,489	27,989	28,739	29,716
Preferred stock	-	-	-	-	-
Common stock	93,085	116,729	116,729	116,729	116,729
Retained earnings	210,664	297,248	354,016	422,261	509,549
Proposed dividends	-	-	-	-	-
Other equity and reserves	196	(277)	(277)	(277)	(278)
Total shareholders' equity	303,945	413,700	470,468	538,713	626,000
Total equity & liabilities	603,947	646,409	1,272,373	1,362,279	1,450,981

Liquidity (x)

Current ratio	0.66	0.94	0.61	0.74	1.09
Interest cover	9.1	na	4.8	4.3	6.6

Leverage

Net debt/EBITDA (x)	0.71	0.32	3.01	2.44	1.79
Net debt/equity (%)	35.4	12.3	126.1	107.4	78.1

Activity (days)

Days receivable	27.9	24.4	25.2	36.1	38.7
Days inventory	8.7	4.5	1.1	0.5	0.2
Days payable	154.2	124.7	76.9	89.9	96.3
Cash cycle	(117.6)	(95.9)	(50.6)	(53.3)	(57.4)

Source: Nomura estimates

Other Team Members:

Neeraja Natarajan (Associate) — All enquiries arising from this note should be directed to Sachin Gupta.

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Issuer name	Ticker	Price	Price date	Stock rating	Sector rating	Disclosures
Bharti Airtel	BHARTI IN	334.00 INR	07-Feb-2011	Neutral		4

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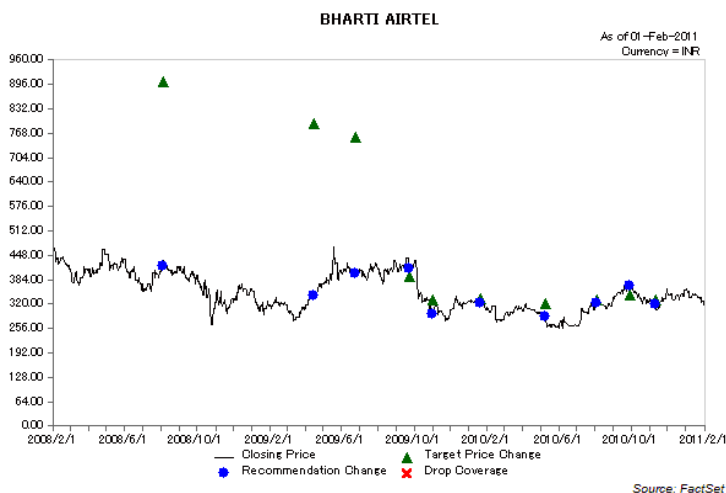
Previous Rating

Issuer name	Previous Rating	Date of change
Bharti Airtel	Buy	25-Jun-2009

Bharti Airtel (BHARTI IN)

Neutral

Rating and target price chart (three year history)



Date	Rating	Target price	Closing price
11-Nov-2010		332.00	317.45
30-Sep-2010		344.00	365.90
04-Aug-2010		330.00	323.15
11-May-2010		320.00	285.20
22-Jan-2010		335.00	321.30
02-Nov-2009		330.00	292.15
23-Sep-2009		392.00	413.40
25-Jun-2009	Neutral	758.00	398.95
25-Jun-2009			398.95
15-Apr-2009		793.00	342.55
05-Aug-2008		905.00	419.80
05-Aug-2008	Buy		419.80

For explanation of ratings refer to the stock rating keys located after chart(s)

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