

Equities

7 September 2011 | 81 pages

Japan telecom strategy

Fixed-mobile convergence and data traffic management to drive the next phase; KDDI remains the winner

- **Managing data traffic will be key** — The domestic telecom sector is currently concentrating on smartphone penetration, but smartphones enable users to access a diverse range of content, so we anticipate explosive growth in traffic as uptake increases. As a result, we think the competitiveness of firms in this space will depend largely on their ability to provide a reliable network environment. In particular, we see data offloading that leverages fixed-mobile convergence (FMC) services as an effective countermeasure against soaring traffic.
- **KDDI could surge if FMC goes mainstream, higher capex limits Softbank** — KDDI positions its multi-network strategy as a competitive advantage. We think it can provide added value like reliable network speed, low rates, and seamless network connection. We see huge earnings potential longer term (see page 28), so KDDI is our top pick. Softbank will also be able to offer low-priced FMC services by using its and others' fixed-line networks, but earnings growth at Softbank looks likely to be depressed over the next two years due to higher capex, so we expect a share price rebound to be limited. As such, while acknowledging Softbank's attractive internet holdings, our investment stance is neutral.
- **NTT appealing as a defensive/value play** — As FMC services become mainstream, we think demand for FTTH will rise. NTT's subsidiary earnings are improving and we believe FY3/13 profit targets can be met, so we reiterate our Buy rating. With NTT's ability to generate earnings, we anticipate heightened expectations for greater shareholder return. NTT DoCoMo has a high dividend yield but the NTT Law prohibits it from bundling fixed and mobile services and makes cost reductions via network integration difficult. We think NTT DoCoMo will be at a disadvantage to competitors that are moving forward with FMC services in terms of network capability and price so we rate the shares Hold.
- **Avoid eAccess as valuations still high** — We think subscriber acquisition will slow for eAccess as competition heats up. We expect competitors to launch more handsets with tethering functions from FY3/13. A focus on subscriber growth seems to be part of eAccess corporate DNA, and a major risk is that ARPU could decline medium term. Concerns about earnings downside are unlikely to ease without improvement in subscriber momentum, so we think share price performance will remain soft.

Hideki Takoh

+81-3-6270-4836
hideki.takoh@citi.com

Ravi Sarathy

+852-2501-2773
ravi.sarathy@citi.com

Hideyuki Nakanishi

+81-03-6270-4840
hideyuki.nakanishi@citi.com

Ticker	Company	Rating	Target Price	Current Year Earnings Estimates	Next Year Earnings Estimates
9427	eAccess	3M	¥22,000	¥4,326	¥6,586
	<i>previously</i>	1H	¥80,000	¥5,696	¥10,788
9432	Nippon Telegraph and Telephone	1L	¥3,900	¥440	¥491
	<i>previously</i>	1H	¥5,700	¥395	¥408
9433	KDDI	1L	¥780,000	¥62,612	¥70,910
	<i>previously</i>	2M	¥490,000	¥52,559	¥58,382
9437	NTT DoCoMo	2L	¥145,000	¥12,345	¥13,080
	<i>previously</i>	1L	¥160,000	¥12,351	¥12,595
9984	SoftBank	2M	¥2,900	¥280	¥291
	<i>previously</i>	1M	¥2,520	¥207	¥243

See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

Citi Investment Research & Analysis is a division of Citigroup Global Markets Inc. (the "Firm"), which does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the Firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Contents

Ratings, valuations, share prices	3
Fundamentals: Market trends	16
Fundamentals: Mobile operator competitiveness	20
Fundamentals: Impact of FMC on market and company earnings	28
eAccess (9427)	36
Investment Dashboard	37
Nippon Telegraph and Telephone (9432)	42
Investment Dashboard	43
KDDI (9433)	49
Investment Dashboard	50
NTT DoCoMo (9437)	55
Investment Dashboard	56
SoftBank (9984)	60
Investment Dashboard	61
Investment strategy, Valuation, Risks	67
Appendix A-1	74

Ratings, valuations, share prices

Investment opinions and stock recommendations

We are bullish on the sector in the short term but neutral in the longer term

We revise our earnings forecasts for the five telecom firms we cover and change our ratings in some cases. We are bullish on the sector in the short term but neutral in the longer term.

With concern about the economy mounting, we think interest in the telecom sector will increase short term

With mounting uncertainty about the macroeconomic environment, we think interest in the defensive telecom sector is likely to increase. In addition, we think earnings at some firms will improve as smartphone popularity grows. On the other hand, in the longer term we think the telecom market will shrink as 1) handset penetration looks to be about as high as it can get and 2) telecom-related expenditure looks unlikely to increase significantly as a rise in disposable income is hard to envision.

KDDI is our top pick

Our top pick is KDDI. We think 1) it can provide a reliable network environment leveraging its multi-network strategy and 2) that there is huge room for earnings growth in the longer term. We are also bullish on NTT. A robust ability to generate earnings is likely to increase expectations for shareholder return, and we think the stock's attractiveness will rise due to its defensive nature. On the other hand, we rate the shares of Softbank and NTT DoCoMo Hold. We are bearish on eAccess.

Figure 1. Ratings, major valuation metrics

Ticker	Company	Rating	Share price Sept 2	Target price ¥	Total return (%)	Upside potential (%)	Div. Yield (%)	Market Cap ¥bn	PER (x)		EV/EBITDA (x)	
									FY11	FY12	FY11	FY12
9427	eAccess	3M	28,390	22,000	-19.7%	-22.5%	2.8%	98	10.7	7.0	4.2	3.7
9432	NTT	1L	3,605	3,900	12.1%	8.2%	3.9%	4,770	8.2	7.3	2.2	2.1
9433	KDDI	1L	577,000	780,000	37.8%	35.2%	2.6%	2,450	9.2	8.1	3.2	3.1
9437	NTT Docomo	2L	140,500	145,000	7.2%	3.2%	4.0%	5,826	11.4	10.7	3.3	3.2
9984	Softbank	2M	2,680	2,900	8.4%	8.2%	0.2%	2,968	9.6	9.2	4.0	3.8

Source: Quick, Citi Investment Research and Analysis.

2011 known as "the year of the smartphone", when uptake should accelerate

In the Japanese communications sector, mobile communications firms are looking to improve earnings by 1) offsetting falling voice revenue with higher data revenue via the introduction of smartphones and 2) cutting costs (lowering handset procurement costs by adopting global models, deferring costs via monthly installments). Softbank leads the way in acquiring subscribers by introducing smartphones, and data ARPU has risen above voice ARPU. As a result, telecom revenue has turned upward. In the current fiscal year, NTT DoCoMo and KDDI are aggressively expanding sales of smartphones. The Japanese smartphone market is growing steadily, and we think this is the year when handset uptake should increase in earnest with some calling it the "year of the smartphone".

Focus on whether firms can provide a reliable network environment given the expectation for a rapid increase in traffic

We think the locus of competition will change in the domestic telecom sector as smartphones become increasingly popular. In our view, the key points of differentiation in an environment where feature phones are the mainstream are 1) price, 2) handsets, 3) networks, and 4) services (content). However, in an environment where smartphones are the norm, as we think advantages in terms of price, handsets, and services will narrow. On the other hand, smartphones enable users to access a wide variety of digital content, so explosive growth in traffic is expected relative to a feature phone environment. As a result, we think the key point of differentiation for communications carriers is whether they can provide customers with a reliable network environment.

We see data offloading leveraging FMC as an effective solution

KDDI should take off thanks to its multi-network strategy

In our view, data offloading that leverages Fixed-Mobile Convergence (FMC) services is an effective countermeasure against soaring traffic. In particular we see KDDI's 3M strategy (multi-device, multi-use, multi-network) as a major positive. KDDI positions its multi-network strategy based on FMC as a competitive advantage, and we think it is able to provide added value to its customers like reliable network speed, low rates (a fixed-mobile bundle is possible), and seamless network connection (via apps, etc). We see huge scope for earnings growth via increased subscribership in the longer term. Therefore, we see KDDI as our top pick in the telecom sector.

Figure 2. Investment opinion overview

Ticker	Stock	Rating	Investment opinion	Valuations
Telecom sector		Short term (FY3/13)	Mobile communications firms are looking to improve earnings by 1) offsetting falling voice revenue with higher data revenue via the introduction of smartphones and 2) cutting costs (lowering handset procurement costs by adopting global models, deferring costs via monthly installments). Handset sales are firm, and we think overall ARPU will turn up in FY3/13 at NTT DoCoMo and KDDI.	
		Longer term (FY3/14 and out)	Explosive growth in traffic is expected as smartphones become more popular. We think the competitiveness of firms in this space will depend largely on their ability to provide a reliable network environment. We think data offloading that leverages Fixed-Mobile Convergence (FMC) services is an effective countermeasure against soaring traffic.	
9433	KDDI	1L	KDDI positions its multi-network strategy based on FMC as a competitive advantage, and we think it is able to provide added value to its customers like reliable network speed, low rates, and seamless network connection. We see huge scope for earnings growth via increased subscribership in the longer term. Therefore, we see KDDI as our top pick in the telecom sector.	EV/EBITDA at around 3x, near all-time low Second-lowest in the sector after NTT
9984	Softbank	2M	Softbank plans capex of ¥1trn over the next two years, centering on investment to rapidly boost mobile network capacity. In the in-home space, the firm plans data offloading to fixed-line networks. In addition to its own fixed-line network, we think Softbank will distribute WiFi routers and femtocell and also use fixed-line networks of other providers used by subscribers. We believe fixed network usage, whether Softbank's or that of other providers, will enable the firm to reduce costs and provide low-priced FMC services. Longer term, we expect gradual expansion for Softbank's subscriber base. However, we think higher capex will limit earnings upside over the next two years, and as we do not expect a sharp share price rebound we rate the shares Hold. Since we do not see the shares as particularly undervalued in light of the asset values of domestic and overseas firms owned by Softbank, our investment stance is neutral.	EV/EBITDA at around 4x, near all-time low However, is on a premium relative to sector peers
9427	eAccess	3M	Competition is intensifying in the mobile data communication market, eMobile's primary strategic market, and we think the pace of subscriber acquisition is slowing. In addition, we expect more handsets with tethering functions launched by competitors from FY3/13. KDDI has a multi-network strategy, so it is highly price-competitive. We believe people could cancel their existing data terminal contracts and move to a mobile phone with tethering capabilities. eAccess seems to have a focus on subscriber growth in its corporate DNA (operating covenant (2): set subscriber requirements must be satisfied), and we see a major risk that ARPU could decline in the medium term. Concerns about earnings downside versus consensus forecasts are unlikely to ease without improvement in subscriber momentum, so we think share price performance will remain soft. We are thus bearish on eAccess.	EV/EBITDA just above 4x Highest in sector
9432	NTT	1L	If FMC services become mainstream, we think demand for fixed-line broadband access will rise. We expect NTT to benefit from market expansion and see a continued steady increase in FTTH subscribers. In addition, subsidiary earnings are improving faster than had been expected, so we think the firm's FY3/13 target in its medium-term plan is achievable. A robust ability to generate profits should increase expectations for shareholder return, and we see the stock as highly appealing for its defensiveness.	EV/EBITDA at around 2.5x, near all-time low Lowest in sector
9437	NTT Docomo	2L	The Telecommunications Business Law and MIC guidelines prohibit joint marketing with NTT East and NTT West as well as the integration of core networks (to the extent possible). The upshot is that NTT DoCoMo will be unable bundle services with fixed-line communication and find it difficult to improve efficiency (reduce costs) through network integration. To use the full capacity of its mobile network, NTT DoCoMo will have to continually augment NGN equipment, and we thus expect capex to stay high. We believe NTT DoCoMo will be at a disadvantage to competitors in providing FMC services in terms of	EV/EBITDA at around 3x, near all-time low

Source: Citi Investment Research and Analysis.

Estimating enterprise value

We estimate enterprise value using DCF based on our longer-term earnings forecasts

We calculate the enterprise value of telecom companies using a DCF model (although we combine the DCF model with a sum-of-the-parts approach for NTT and Softbank) based on our longer-term forecasts. We do so because 1) the likelihood of major changes to telecom policy (deregulation) and industry structure, a talking point in recent years, seems to have eased somewhat; 2) we expect smartphone uptake over the next few years to return mobile service revenue to a growth trajectory at some telecom companies; and 3) with the increasing popularity of smartphones, we see potential for market shares to change depending on strategies to capture subscribers, creating upside earnings potential. For these reasons, we believe investor interest is shifting from near-term earnings trends to longer-term growth potential.

We also use EV/EBITDA as a supplemental metric with an eye to comparisons with domestic and overseas competitors

In addition, we think it very important to make comparisons with domestic and overseas competitors, so we also consider EV/EBITDA in estimating enterprise value. EV/EBITDA is useful in that it smooths over gaps stemming from differences in accounting policies and excludes one-off positives and negatives like extraordinary items and changes in DTAs. Accounting standards have long differed at telecom firms, with particular differences in expectations for usable life and depreciation methods (fixed-rate versus fixed-amount). We also take into consideration the fact that differences in the asset valuation that Softbank Mobile uses internally and the asset valuation that Softbank uses in consolidated results have an impact on NP.

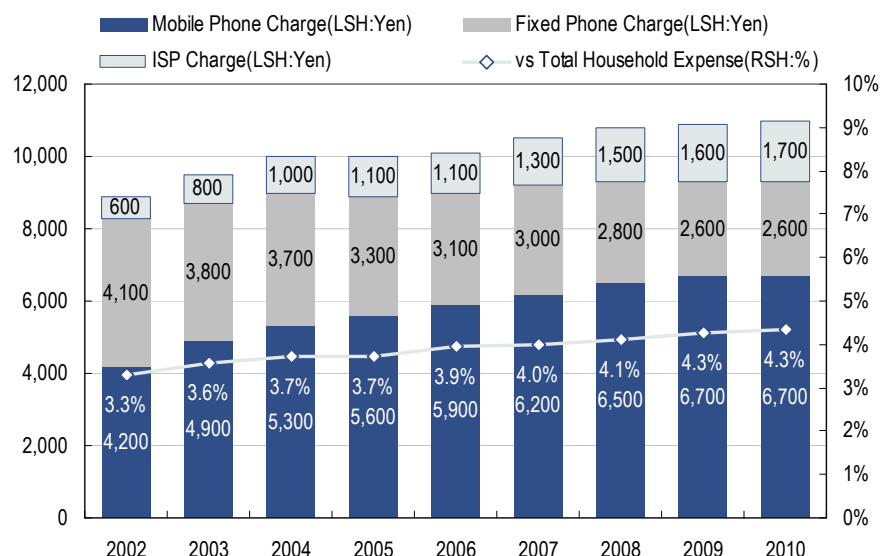
In addition to EV/EBITDA, PER is another metric often used in estimating enterprise value. However, PER is sensitive to extraordinary items, differences in accounting standards, and changes in DTAs, so we think it is better to base it on pro forma EPS or NOPAT EPS. In our view, EV/EBITDA is better than PER in terms of comparison with domestic and overseas competition.

What have current valuations priced in?

We think current valuations reflect expectations for market maturation longer term

Valuations for telecom firms in developed economies are relatively low compared with other sectors. We think this is due to expectations that populations will peak in developed economies and that handset uptake has gotten about as high as it can. In addition, it does not appear that consumer spending on telecom will increase significantly as it seems unlikely disposable income will grow.

Figure 3. Monthly communications-related spending



Source: MIC, Citi Investment Research and Analysis.

Figure 4. Assumptions underlying our sector DCF model

WACC	6.11%
Risk-free Rate	1.0%
Beta	0.7
Risk premium	7.30%
Equity cost	6.11%
Debt cost	0%
D/E Ratio	0%

Source: Citi Investment Research and Analysis.

Figure 5. Sector DCF model: Theoretical multiples based on different assumptions

Discount rate (LHS: risk premium) (RHS: equity cost)	Terminal growth							
	0.0%	-1.0%	-2.0%	-3.0%	-4.0%	-5.0%	-6.0%	-7.0%
6.30%	5.41%	18.5	15.5	13.4	11.7	10.4	9.3	8.4
6.80%	5.76%	17.4	14.7	12.7	11.2	10.0	9.0	8.2
7.30%	6.11%	16.4	14.0	12.2	10.8	9.6	8.7	7.9
7.80%	6.46%	15.5	13.3	11.7	10.4	9.3	8.4	7.7
8.30%	6.81%	14.7	12.7	11.2	10.0	9.0	8.2	7.5

Source: Citi Investment Research and Analysis.

DCF assumptions

We use both DCF and a sum-of-the-parts approach for NTT and Softbank

For Softbank, we also present a theoretical share price based on a bullish case for the firms it invests in

We think the domestic telecom market will continue to decline long term, so our expected growth rate (terminal growth rate for free cash flow from FY3/16) is -5.0%. We use 7.3% as a risk premium, which is the recent TOPIX yield of 8.3% minus a 1.0% risk-free rate. For beta we use the TOPIX beta for each stock over the past five years.

As NTT and Softbank have diverse business portfolios we use a sum-of-the-parts methodology in calculating our target prices. In the case of NTT, we use DCF for the three fixed-line group companies (NTT East, NTT West, NTT Communications) and NTT DoCoMo, market cap for other listed subsidiaries, and OP multiples for unlisted subsidiaries. In the case of Softbank, we use DCF to value the two carriers (Softbank Mobile, Softbank Telecom), market cap for other listed subsidiaries, and we value unlisted subsidiaries referencing peer valuations as well as figures from our China telecom/Internet team.

We believe Softbank's share price is affected not only by fundamentals but also the value of the assets it holds (in particular Chinese internet companies). We do a scenario analysis and look at how the theoretical share price changes based on different assumptions. Our target price is based on our base-case scenario. In our

bull-case scenario, 1) we base the value of the companies Softbank invests in on pre-tax profit (we assume Internet companies are held as strategic investments and are not being managed with a view to sale), and 2) we award higher multiples to Chinese Internet companies.

Figure 6. NTT: Estimating enterprise value using sum-of-the-parts

Segment	Per-share value (¥)	Weighting (%)	NTT's share in earnings (¥mn)	Stake (%)	Equity value (¥mn)	Net debt FY11/3 (¥mn)	Enterprise value (¥mn)	EBITDA FY13/3E (¥mn)	OP FY13/3E (¥mn)	Valuation method
Fixed services	776	19.5%	929,664	100.0	929,664	1,725,103	2,654,767	1,175,750	236,520	DCF
NTT DoCoMo (9437)	3,376	84.7%	4,044,874	66.7%	6,067,918	-478,201	5,589,717	1,663,270	917,460	DCF
NTT Data (9613)	302	7.6%	361,682	54.2%	667,310	203,731	871,041	243,950	93,175	Market Cap
NTT Urban (8933)	99	2.5%	118,944	67.3%	176,737	482,080	658,817	48,245	24,912	Market Cap
Others	295	7.4%	353,841	100.0	353,841	0	353,841	297,685	70,768	OP multiple (5.0x)
Net Debt	-863	-21.7%	-1,034,013	100.0%	-1,034,013	1,034,013				
Total	3,985	100.0%	4,774,991		7,161,456	2,966,726	10,128,182	3,428,900	1,342,835	

Note: We use IFIS consensus estimates for NTT Data and NTT Urban Development.

Source: Company data, IFIS, Citi Investment Research and Analysis.

Figure 7. Softbank: Estimating enterprise value using sum-of-the-parts (base case)

Company	Per-share value (¥)	Weighting (%)	Softbank's share in earnings (¥mn)	Stake (%)	Equity value (¥mn)	Net debt FY11/3 (¥mn)	Enterprise value (¥mn)	Valuation method
Mobile, Fixed	1,754	61.9%	1,898,422	100.0%	1,898,422	951,116	2,849,538	DCF
Broadband (ADSL)	114	4.0%	123,107	100.0%	123,107	NA	123,107	EV/EBITDA (2.3x)
Yahoo! Japan	550	19.4%	595,672	42.2%	1,411,522	-188,687	1,222,835	Market cap
Investment (JPY)	20	0.7%	21,185	58.0%	36,525	0	36,525	See Figure 9
Investment (USD)	113	4.0%	122,154	58.0%	210,611	0	210,611	See Figure 9
Investment (HKD)	464	16.4%	502,455	58.0%	866,302	0	866,302	See Figure 9
Net Debt	-347	-12.3%	-375,614	100.0%	-375,614	375,614	0	
Tax Asset	164	5.8%	177,752	100.0%	177,752	0	177,752	
Total	2,832	100.0%	3,065,133		4,348,627	1,138,043	5,486,670	

Note: Our forex assumptions are ¥75.0/\$, ¥10.0/HKD, and ¥12.0/RMB. The value of the Internet and other businesses are based on the value of firms Softbank is invested in, including Yahoo! Japan. Stakes (%) are after taxes.

Source: Company data, Citi Investment Research and Analysis.

Figure 8. Softbank: Estimating enterprise value using sum-of-the-parts (bullish case)

Company	Per-share value	Weighting	Softbank's share in earnings	Stake	Equity value	Net debt FY11/3	Enterprise value	Valuation method
	(¥)	(%)	(¥mn)	(%)	(¥mn)	(¥mn)	(¥mn)	
Mobile and Fixed service	1,754	48.3%	1,898,422	100.0%	1,898,422	951,116	2,849,538	DCF
Broadband (ADSL)	114	3.1%	123,107	100.0%	123,107	NA	123,107	EV/EBITDA (2.3x)
Yahoo! Japan	550	15.2%	595,672	42.2%	1,411,522	-188,687	1,222,835	Market cap
Investment (JPY)	34	0.9%	36,525	100.0%	36,525	0	36,525	See Figure 10
Investment (USD)	222	6.1%	240,686	100.0%	240,686	0	240,686	See Figure 10
Investment (HKD)	1,139	31.4%	1,233,061	100.0%	1,233,061	0	1,233,061	See Figure 10
Net Debt	-347	-9.6%	-375,614	100.0%	-375,614	375,614	0	
Tax Asset	164	4.5%	177,752	100.0%	177,752	0	177,752	
Total	3,631	100.0%	3,929,611		4,745,461	0	5,883,504	

Note: Our forex assumptions are ¥75.0/\$, ¥10.0/HKD, and ¥12.0/RMB. The value of the Internet and other businesses are based on the value of firms Softbank is invested in, including Yahoo! Japan. Stakes (%) are after taxes.

Source: Company data, Citi Investment Research and Analysis.

Figure 9. Estimating enterprise value for major firms Softbank is invested in (base case)

Company	Per-share Value based on Yen	Softbank's share in earnings	Currency	Softbank's share in earnings	Stake	Equity Value	Valuation method
	(¥)			(mn)		(mn)	
Yahoo! Inc.(YHOO)	0	33	USD	0.5	0.002	22,260	Target price
Zynga	52	56,250	USD	750	5.0	15,000	We adopt the low end of the market's expected range of \$15bn-\$20bn (via Bloomberg, etc.)
Alibaba Group HD	800	866,302	HKD	86,630	32.6	265,730	Combination for Alibaba, Taobao, and Alipay
- Alibaba (1688.HK)			HKD		24.0	40,730	Market cap
- Taobao			HKD		32.6	187,500	We use the estimate (\$25bn) of our China telecoms and Internet team
- Alipay			HKD		24.0	37,500	We use \$5bn, within the range (\$2bn-\$6bn) for the amount of shares to be handed over to Alibaba Group Holdings when Alipay lists based on an agreement between Alibaba Group Holdings, Yahoo! Inc., and Softbank
Oak Pacific Interactive (RenRen Inc)	87	94,178	USD	1,256	43.3	2,900	Market cap
Synacast Corporation (PP Live)	56	60,150	USD	802	40.1	2,000	We use the estimate (\$2bn) of our China telecoms and Internet team

Note: Our forex assumptions are ¥75.0/\$, ¥10.0/HKD, and ¥12.0/RMB. The 32.6% stake for Alibaba Group is Softbank's 32.6% stake + Yahoo! Inc's 39.0% stake x Softbank's 0.002% stake in Yahoo! Inc. We put the value of Alipay shares transferred to Alibaba Group Holdings at \$2bn-\$6bn, or Alipay's actual enterprise value x 37.5%.

Source: Company data, Citi Investment Research and Analysis.

Figure 10. Estimating enterprise value for major firms Softbank is invested in (bullish case)

Company	Per-share Value based on Yen (¥)	Softbank's share in earnings (¥mn)	Currency	Softbank's share in earnings (mn)	Stake (%)	Equity Value (mn)	Valuation method
Yahoo! Inc.(YHOO)	0	33	USD	0.5	0.002	22,260	Target price
Zynga	52	56,250	USD	750	5.0	15,000	We adopt the low end of the market's expected range of \$15bn-\$20bn (via Bloomberg, etc.)
Alibaba Group HD	1,139	1,233,061	HKD	123,306	32.6	378,230	Combination for Alibaba, Taobao, and Alipay
- Alibaba (1688.HK)			HKD		24.0	40,730	Market cap
- Taobao			HKD		32.6	262,500	We use the estimate (\$35bn) of our China telecoms and Internet team based on a bullish scenario
- Alipay			HKD		24.0	75,000	We use the estimate (\$10bn) of our China telecoms and Internet team based on a bullish scenario
Oak Pacific Interactive (RenRen Inc)	87	94,178	USD	1,256	43.3	2,900	Market cap
Synacast Corporation (PP Live)	83	90,225	USD	1,203	40.1	3,000	We use the estimate (\$3bn) of our China telecoms and Internet team based on a bullish scenario

Note: Our forex assumptions are ¥75.0/\$, ¥10.0/HKD, and ¥12.0/RMB. The 32.6% stake for Alibaba Group is Softbank's 32.6% stake + Yahoo! Inc's 39.0% stake x Softbank's 0.002% stake in Yahoo! Inc. We put the value of Alipay shares transferred to Alibaba Group Holdings at \$2bn-\$6bn, or Alipay's actual enterprise value x 37.5%.
Source: Company data, Citi Investment Research and Analysis.

Figure 11. Softbank: Major firms Softbank is invested in (as of FY3/11)

Country	Company	Ticker	Ownership(%)	Services Information
JPN	Vector Inc.	2656	57.4	Software sales via downloads
JPN	M.P.Holdings, Inc.	3734	32.8	Operates thin client and other businesses
JPN	GungHo Online Entertainment, Inc.	3765	33.7	Distribution of online games, etc., via the Internet
JPN	ITmedia Inc.	2148	59.8	Operation of comprehensive IT information site
JPN	Carview Corporation	2155	52.2	Online provision of automobile-related information
JPN	ValueCommerce Co., Ltd.	2148	43.6	Operation of performance-based Internet advertising system
JPN	SOFTBANK TECHNOLOGY CORP.	4726	55.5	e-business and solutions services
JPN	CREO CO., LTD.	9698	39.5	Systems development, planning, development, and sales of packaged software, etc.
JPN	All About, Inc.	2454	34.8	Comprehensive information site using specialized guides, Internet advertising
JPN	Estore Corporation	4304	32.5	Distribution, settlement, sales promotion, and administration for Internet businesses
JPN	Broadmedia Corporation	4347	35.0	Content distribution utilizing technological platforms
JPN	Macromill	3730	24.8	Research services
USA	Yahoo! Inc.	YHOO	0.002	Operation of Yahoo! portal, Internet services
USA	Zynga	-	<10.0	Social games
HK/CHINA	Alibaba Group Holding Limited	-	32.6	Central holding company for Alibaba Group, operator of B2B online markets, etc.
HK/CHINA	Oak Pacific Interactive(RenRen Inc)	-	43.3	Operation of renren.com, SNS sites in China, and SNS game site kaixin.com
HK/CHINA	Synacast Corporation(PP Live)	-	40.1	Chinese online media company

Note: The 32.6% stake for Alibaba Group is Softbank's 32.6% stake + Yahoo! Inc's 39.0% stake x Softbank's 0.002% stake in Yahoo! Inc.
Source: Company data, Citi Investment Research and Analysis.

Examining target price appropriateness

Our target prices correspond to an EV/EBITDA of 3x-4x (2.2x for NTT)

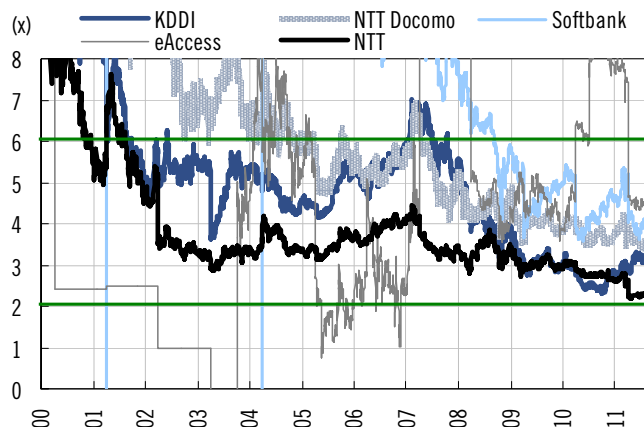
We outline our target price and target valuations below. In FY3/13E EV/EBITDA terms, our target prices correspond to 3x-4x (2.2x for NTT). We think these levels are more or less appropriate in light of historical ranges and comparisons with major overseas communications carriers.

Figure 12. Valuation overview

Company	NTT (9432)			KDDI (9433)			NTT DoCoMo (9437)			Softbank (9984)			eAccess (9427)		
Rating	1L			1L			2L			2M			3M		
Share price (Sept. 2, ¥)	3,605			577,000			140,500			2,680			28,390		
Target price (¥)	3,900			780,000			145,000			2,900			22,000		
Total return	12.1%			37.8%			7.2%			8.4%			-19.7%		
Share price upside	8.2%			35.2%			3.2%			8.2%			-22.5%		
Dividend yield	3.9%			2.6%			4.0%			0.2%			2.8%		
FY	12/3E	13/3E	14/3E	12/3E	13/3E	14/3E	12/3E	13/3E	14/3E	12/3E	13/3E	14/3E	12/3E	13/3E	14/3E
Target price valuations															
PER (undiluted)	8.9	7.9	7.6	12.5	11.0	10.0	11.7	11.1	10.5	10.0	9.6	8.8	8.3	5.4	4.4
PER (diluted)	8.9	7.9	7.6	12.5	11.0	10.0	11.7	11.1	10.5	10.4	10.0	9.2	8.8	5.8	4.7
PBR	0.6	0.5	0.5	1.5	1.3	1.2	1.2	1.1	1.0	3.4	2.5	2.0	0.9	0.7	0.6
EV/EBITDA	2.3	2.2	2.2	4.1	3.9	3.8	3.4	3.3	3.2	4.3	4.0	3.9	3.9	3.4	3.3
Dividend yield	3.6%	3.8%	4.1%	1.9%	2.2%	2.4%	3.9%	4.0%	4.4%	0.2%	0.2%	0.2%	3.6%	3.6%	3.6%
Valuations at current share prices															
PER	8.2	7.3	7.1	9.2	8.1	7.4	11.4	10.7	10.2	9.6	9.2	8.5	10.7	7.0	5.7
PBR	0.5	0.5	0.5	1.1	1.0	0.9	1.1	1.1	1.0	3.1	2.3	1.8	1.1	0.9	0.7
EV/EBITDA	2.2	2.1	2.1	3.2	3.1	3.0	3.3	3.2	3.1	4.0	3.8	3.7	4.2	3.7	3.6
Dividend yield	3.9%	4.2%	4.4%	2.6%	2.9%	3.3%	4.0%	4.1%	4.6%	0.2%	0.2%	0.2%	2.8%	2.8%	2.8%

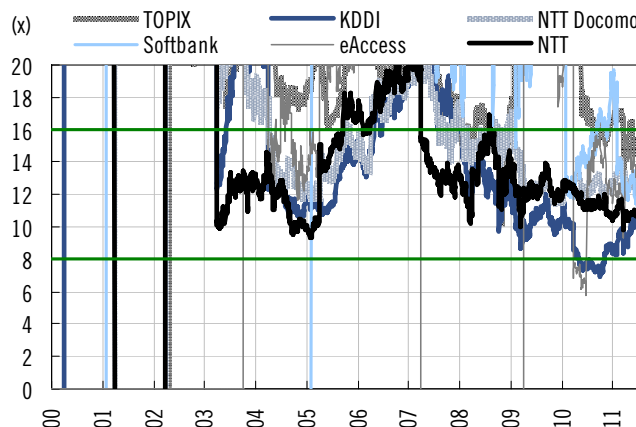
Note: We calculate PER for eAccess based on after-tax NP.
Source: Quick, Citi Investment Research and Analysis.

Figure 13. Historical EV/EBITDA: NTT (fixed-line) has averaged 2.2x-2.5x of late, while DoCoMo (mobile) has averaged 3.4x-4.0x; eAccess looks very overvalued



Source: Quick, Citi Investment Research and Analysis.

Figure 14. Historical PER: NTT DoCoMo is at 12x reflecting improving earnings thanks to smartphones, while KDDI is lagging significantly at 9x and the others are at 10x



Note: eAccess took on eMobile's loss carryforwards due to the merger between the two, so we adjust for the fact that tax expenses are not expected in FY3/12.
Source: Quick, Citi Investment Research and Analysis.

Target prices correspond to an EV/EBITDA of 3x-4x for mobile communications, 2.3x for fixed-line communications

Our target prices correspond to an FY3/13E EV/EBITDA of 3x-4x for mobile communications and 2.3x for fixed-line communications. Our target prices seem appropriate given the historical ranges for NTT (our fixed-line benchmark, excluding listed subsidiaries) and NTT DoCoMo (our mobile benchmark).

- **NTT:** If FMC services become mainstream, we think broadband subscriber numbers will remain firm. In addition, subsidiary earnings have improved faster than expected, so we think the FY3/13 profit target in NTT's medium-term plan is achievable. A robust ability to generate earnings should boost expectations for shareholder return, and we see NTT as increasingly appealing as a defensive play. Our target price corresponds to an FY3/13E EV/EBITDA of 2.3x for the fixed-line business, above the current level of 2.1x on our FY3/12 estimates.
- **KDDI:** KDDI should have a major competitive advantage going forward, and we see a huge amount of potential earnings upside in the longer term. Our target price corresponds to an EV/EBITDA for the mobile communications business of 4.3x on our FY3/13 estimates, a premium over the FY3/12E multiple of 3.4x for NTT DoCoMo.
- **NTT DoCoMo:** As it is dependent on its mobile network, it cannot provide bundled services that include fixed-line communications. In addition, it is difficult for DoCoMo to increase efficiency (cut costs) via network integration. What is more, NTT DoCoMo must continuously augment equipment related to next-generation networks to maximally leverage its mobile network. As such, we think capex will remain high. We see NTT DoCoMo as being at a disadvantage in terms of network and cost relative to competitors that offer FMC services. Our target price corresponds to an FY3/13 EV/EBITDA of 3.3x, close to the current level of 3.4x on our FY3/12 estimates.
- **Softbank:** By leveraging not only the fixed-line services it sells (Yahoo! ADSL, Yahoo!BB Hikari with FLET's, etc.), but also other companies' fixed-line services used by subscribers via WiFi routers and femtocell, Softbank should be able to cut costs and provide cut-price FMC services. Our target price corresponds to an FY3/13E EV/EBITDA of 3.8x for the mobile communications business, a slight premium over the FY3/12E multiple of 3.4x for NTT DoCoMo.
- **eAccess:** Competition is intensifying in the mobile data communication market, eMobile's primary strategic market, and we think the pace of subscriber acquisition is slowing. In addition, we expect more handsets with tethering functions from FY3/13. KDDI has a multi-network strategy, so it is highly price-competitive, and we think this could lead to a higher churn rate for eAccess. Also, eAccess seems to have a focus on subscriber growth in its corporate DNA, and we see a major risk that ARPU could decline in the medium term. Our target price corresponds to an FY3/13E EV/EBITDA of 3.6x, below the previous level of 3.9x.

Global valuations

A comparison with major overseas communications carriers shows that domestic firms are at a discount to their global peers in EV/EBITDA. We think this valuation premium comes because capex has eased for now at telecom firms in Europe and the US, and they are also bolstering shareholder return.

Shareholder return is high at overseas competitors, so their valuations are higher than domestic firms

It would be hard for domestic firms to catch up with overseas firms in shareholder return for now, so the valuation discount is likely to continue

On the other hand, subscriber acquisition costs (SAC) and subscriber retention costs (SRC) are relatively high in Japan's mobile communications market, so domestic firms invest in handset development and next-generation networks. In the fixed-line communications market, firms are spending on NGN and triple play/quadruple play services. Earnings growth is lower than in other sectors, but we understand domestic telecom firms have adopted operating strategies typical of growth industries. As a result, we think it will be difficult for domestic telecom firms to implement the kind of shareholder return strategies seen at major overseas peers, so valuations are likely to remain below those for overseas competitors.

Figure 15. Global telecom sector valuations

Country	Company	Code	Rating	C.U	FY end	Target Price	Share Price 9/2/11	Total Return (%)	Return to TP (%)	Div. Yield (%)	Market Cap(bn)	PER(x)			PBR(x)	EV/EBITDA(x)			ROE(%)		
												11E	12E	13E		11E	12E	13E	11E	12E	13E
Japan	eAccess	9427	3M	JPY	Mar	22,000	28,390	-19.7	-22.5	2.8	98.4	10.7	7.0	5.7	1.3	4.2	3.7	3.6	18.4	22.5	22.0
Japan	NTT	9432	1L	JPY	Mar	3,900	3,605	12.1	8.2	3.9	4,769.9	8.2	7.3	7.1	0.5	2.2	2.1	2.1	6.6	6.6	6.6
Japan	KDDI	9433	1L	JPY	Mar	780,000	577,000	37.8	35.2	2.6	2,449.9	9.2	8.1	7.4	1.1	3.2	3.1	3.0	11.7	11.5	11.4
Japan	NTT Docomo	9437	2L	JPY	Mar	145,000	140,500	7.2	3.2	4.0	5,826.2	11.4	10.7	10.2	1.2	3.3	3.2	3.1	10.0	9.9	9.8
Japan	Softbank	9984	2M	JPY	Mar	2,900	2,680	8.4	8.2	0.2	2,968.2	9.6	9.2	8.5	4.7	4.0	3.8	3.7	25.3	20.1	17.1
U.S.	Sprint Nextel	S	1S	USD	Dec	6	4	70.0	70.0	0.0	10.6	-4.7	-7.7	-26.6	0.7	4.1	4.1	4.1	-13.7	-11.0	-3.2
U.S.	Verizon	VZ	2M	USD	Dec	39	36	15.2	9.7	5.6	100.7	15.8	13.2	12.2	2.6	6.3	5.8	5.4	16.1	19.3	20.8
U.S.	AT&T	T	1M	USD	Dec	32	28	20.2	14.1	6.1	166.2	11.7	10.5	9.8	1.5	6.0	5.7	5.5	12.6	13.5	14.1
U.K	BT Group	BT.L	1M	GBP	MAR	2	2	44.4	37.6	6.7	13.0	0.1	0.1	0.1	0.1	3.6	3.6	3.6	77.0	55.5	45.7
U.K	Vodafone Group	VOD.L	1L	GBP	MAR	2	2	28.5	20.1	8.4	82.6	0.1	0.1	0.1	0.0	4.7	4.6	4.5	9.3	9.8	10.2
France	France Telecom	FTE.PA	2L	EUR	Dec	16	13	29.0	17.7	11.3	34.9	8.5	8.0	8.0	1.2	4.4	4.6	4.6	15.0	14.7	14.4
Spain	Telefonica	TEF.MC	2M	EUR	Dec	17	14	28.6	17.0	11.6	64.4	8.9	8.6	8.5	2.6	4.9	4.9	4.8	30.6	27.4	27.8
Germany	Deutsche Telekom	DTEGn.	1L	EUR	Dec	11	9	29.6	21.4	8.2	37.7	9.8	9.7	9.0	1.0	6.2	6.2	6.2	3.1	3.6	4.3
Italy	Telecom Italia	TLIT.MI	1M	EUR	Dec	1	1	65.3	57.0	8.3	11.1	-0.3	0.1	0.1	0.0	4.2	4.2	4.2	8.4	8.5	8.5
Sweden	TeliaSonera	TLSN.S	2M	SEK	Dec	45	45	7.7	1.8	5.9	196.2	10.6	9.5	9.2	1.6	5.1	4.9	4.8	15.7	16.0	15.5
Norway	Telenor	TEL.OL	1M	NOK	Dec	105	89	23.0	18.2	4.9	142.9	11.8	10.1	8.5	1.7	5.1	4.7	4.3	13.2	14.6	16.4
China	China Mobile	0941	1L	CNY	Dec	92	79	21.5	17.2	4.3	1,575.5	12.6	11.9	11.3	2.8	4.0	3.8	3.6	20.4	19.3	18.3
China	China Unicom	0762.H	1M	CNY	Dec	19	16	12.9	12.3	0.7	388.3	73.7	36.6	22.3	1.9	4.8	4.1	3.6	2.5	5.3	8.2
China	China Telecom	0728.H	2L	CNY	Dec	5	5	0.8	-1.2	2.0	409.5	23.5	20.0	17.0	1.8	4.8	4.6	4.4	7.5	8.3	9.2
Taiwan	Taiwan Mobile	3045.T	2L	TWD	Dec	84	77	14.5	9.1	5.4	292.7	14.8	13.4	12.6	5.5	10.7	10.1	9.6	26.9	29.5	30.2
Taiwan	Chunghwa Telecom	2412.T	2L	TWD	Dec	99	100	5.2	-0.5	5.7	771.9	15.8	15.6	15.3	2.5	7.6	7.4	7.2	12.3	13.5	13.8
SKorea	KT Corp.	030200	1M	KRW	Dec	47,000	36,650	34.8	28.2	6.6	9,569.7	6.4	7.3	6.7	0.8	3.0	3.1	3.0	13.2	11.4	11.1
SKorea	SK Telecom	017670	1M	KRW	Dec	185,000	151,000	28.6	22.5	6.1	12,192.6	6.6	6.3	5.7	1.0	3.2	3.1	2.9	14.0	13.5	13.6
India	Tata Communications	TATA.B	2M	INR	MAR	335	204	66.2	63.9	2.2	58.2	-19.4	-18.3	-79.6	1.1	7.1	5.5	4.4	-6.1	-7.2	-1.8
India	Bharti Airtel	BRTL.B	1L	INR	MAR	415	409	2.0	1.6	0.4	1,551.9	23.3	18.4	13.8	3.8	7.6	6.2	5.4	15.0	16.6	19.3
Australia	Telstra Corp	TLS.AX	1M	AUD	Jun	3	3	16.2	6.9	9.3	37.8	11.3	10.0	7.9	3.1	4.9	4.9	4.9	24.9	27.3	29.1
Singapore	SingTel	STEL.SI	1L	SGD	MAR	3	3	16.9	8.6	8.3	49.9	12.4	11.6	10.8	2.1	8.2	8.2	8.0	16.8	17.4	17.4
Indonesia	PT Telkom	TLKM.J	1L	IDR	Dec	9,200	7,250	31.9	26.9	5.0	146,160.0	11.6	10.8	10.0	3.3	4.5	4.3	4.2	26.5	25.1	24.5
Malaysia	Axiata Group	AXIA.K	1L	MYR	Dec	6	5	23.8	21.7	2.1	39.8	14.8	13.6	12.1	2.1	6.7	6.4	6.0	15.8	16.0	16.0

Note: We calculate PER for eAccess based on after-tax NP.
Source: Bloomberg, Citi Investment Research and Analysis.

Share price drivers

NTT DoCoMo should see good subscriber acquisition momentum in the short term

Short-term share price performance is closely linked to net adds

Short-term share price performance at telecom firms is closely linked to net adds momentum. Going forward, as smartphones become more popular we see significant upside potential for earnings at telecom firms via changes in market share stemming from subscriber acquisition strategies. We think the market will keep a close eye on which firms benefit most from increasing smartphone popularity, and in the short term it will likely be looking at subscriber acquisition trends as well.

Momentum strong at NTT DoCoMo

In the short term, we think NTT DoCoMo will see strong subscriber acquisition momentum. Smartphone sales came to 1.3mn units in April-June, and sales soared to 700,000 units in July thanks to new models released at the end of June. We

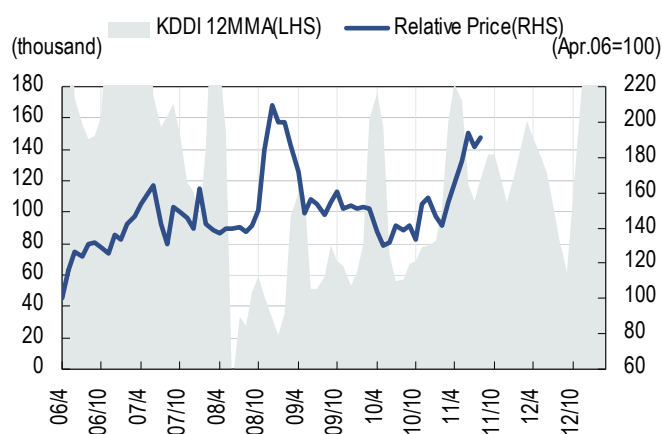
expect to see an improved handset line-up for winter, with models sporting LTE technology, and we think smartphone sales will continue to be at a pace well above what the firm expects (NTT DoCoMo's forecast is 6mn units, our forecast is 6.78mn units).

Key for Softbank is whether the launch of new handsets improves momentum

Launch of new handsets could improve momentum in H2

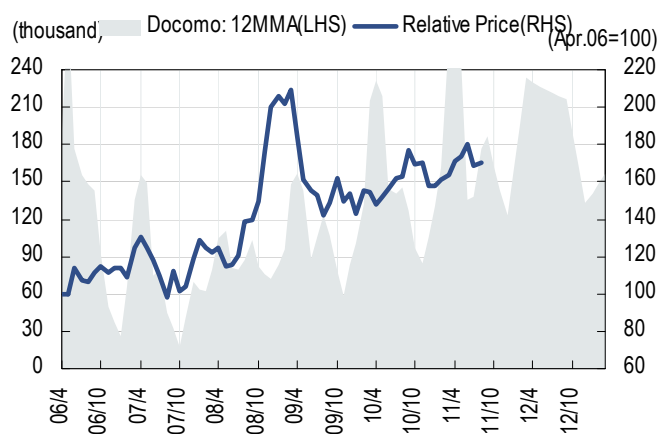
In April-June, the pace of smartphone subscriber acquisition at Softbank slowed. We think customers may have put off purchases on the expectation that new handsets would be launched soon. Competitors have launched Android handsets, and competition is intensifying. We think the key for Softbank is whether the launch of new handsets once again puts subscriber momentum on a growth path in H2.

Figure 16. KDDI: Net adds versus TOPIX-relative share price



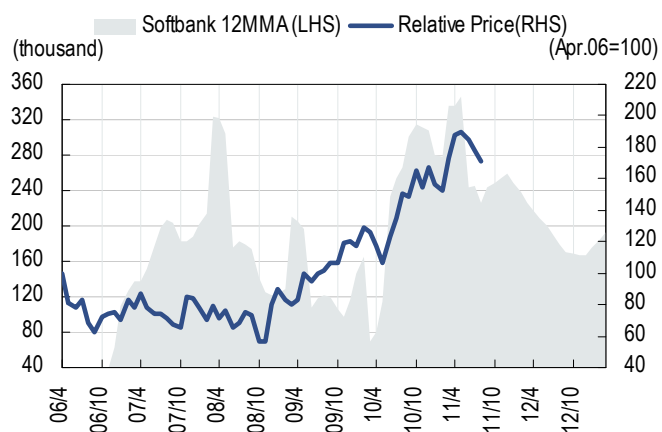
Source: Quick, Citi Investment Research and Analysis.

Figure 17. NTT DoCoMo: Net adds versus TOPIX-relative share price



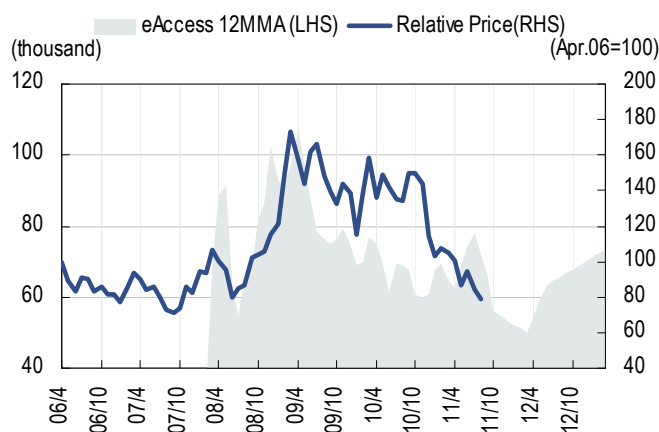
Source: Quick, Citi Investment Research and Analysis.

Figure 18. Softbank: Net adds versus TOPIX-relative share price



Source: Quick, Citi Investment Research and Analysis.

Figure 19. eAccess: Net adds versus TOPIX-relative share price



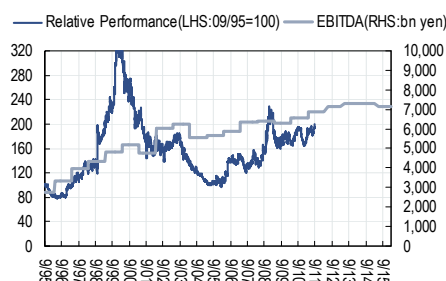
Source: Quick, Citi Investment Research and Analysis.

We see significant upside potential for KDDI's share price in the longer term

We see significant upside potential for KDDI's share price in the longer term

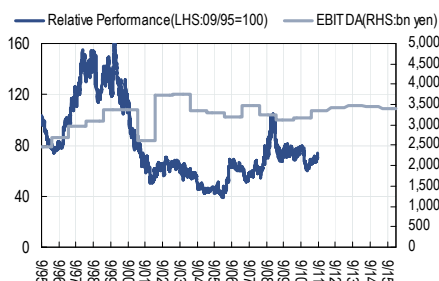
From a longer-term perspective, share prices are generally driven by earnings, excluding extraordinary factors like the IT bubble. Softbank was the first to acquire subscribers by launching smartphones, and its data ARPU expanded faster than voice ARPU, resulting in increased revenue for the telecoms business. Its share price as a result outperformed the rest of the sector. NTT DoCoMo and KDDI are aggressively working to boost smartphone sales, and we think revenue growth will accelerate in FY3/13. We think KDDI in particular can take market share from peers in the longer term leveraging its FMC services, and, as such, we think KDDI has the most earnings upside in the sector over the longer term. Accordingly, we think its share price upside is also extremely large.

Figure 20. Five companies: EBITDA vs. TOPIX-relative share price



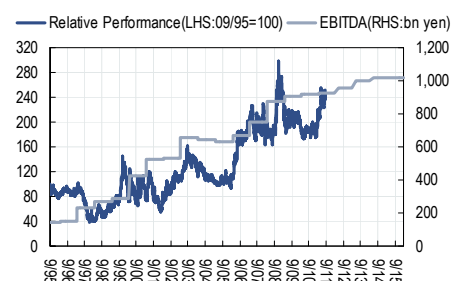
Source: Quick, Citi Investment Research and Analysis.

Figure 21. NTT: EBITDA vs. TOPIX-relative share price



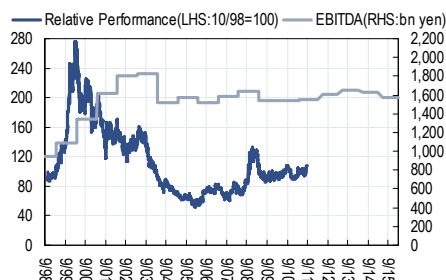
Source: Quick, Citi Investment Research and Analysis.

Figure 22. KDDI: EBITDA vs. TOPIX-relative share price



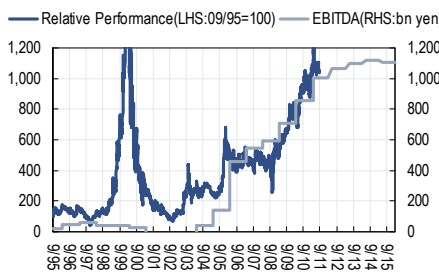
Source: Quick, Citi Investment Research and Analysis.

Figure 23. NTT DoCoMo: EBITDA vs. TOPIX-relative share price



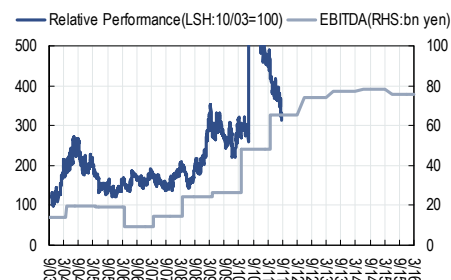
Source: Quick, Citi Investment Research and Analysis.

Figure 24. Softbank: EBITDA vs. TOPIX-relative share price



Source: Quick, Citi Investment Research and Analysis.

Figure 25. eAccess: EBITDA vs. TOPIX-relative share price



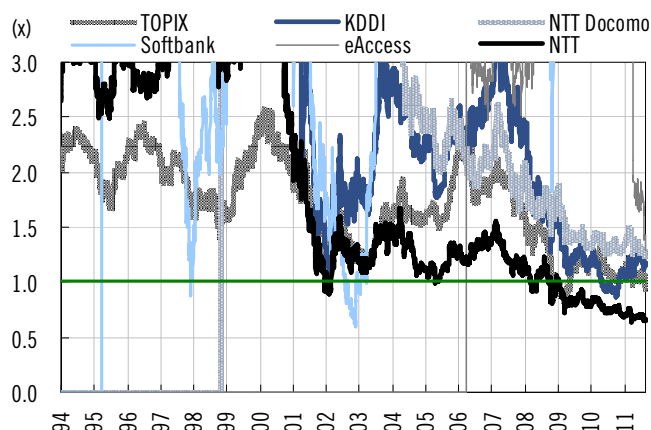
Source: Quick, Citi Investment Research and Analysis.

NTT looks increasingly attractive as a defensive play

Robust ability to generate profits should boost expectations for shareholder returns

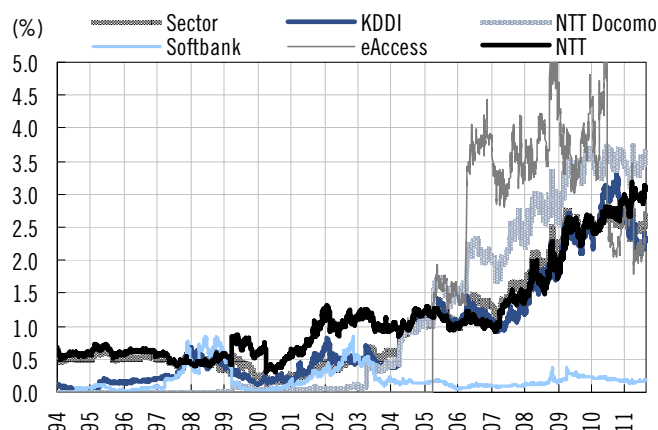
PBRs (excluding NTT) and dividend yields tend to provide downside support to sector share prices. We think NTT in particular is likely to get more aggressive about shareholder return (share buybacks, dividend hikes) given receding growth expectations for the fixed-line business. NTT plans to hike its DPS to ¥140 from ¥120 in FY3/12, and at the end of FY3/11 it announced it was drawing down ¥600bn in other reserves to continue being proactive on shareholder returns in the future. Also, as we noted above, we think it increasingly likely that it will achieve its FY3/13 profit target, and its robust ability to generate profits should boost expectations for shareholder returns.

Figure 26. Historical PBRs: Downside support at 1.0x for mobile communications firms, NTT PBR flat at about 0.6x



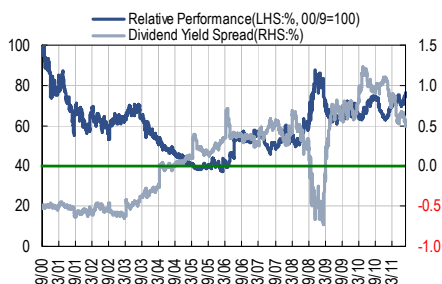
Source: Quick, Citi Investment Research and Analysis.

Figure 27. Historical dividend yields: NTT DoCoMo and NTT yields near historical highs



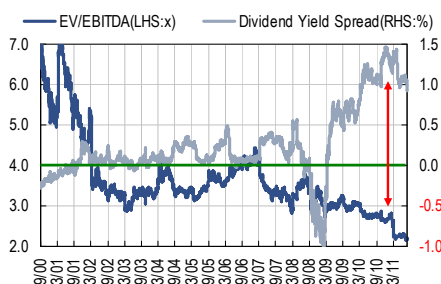
Source: Quick, Citi Investment Research and Analysis.

Figure 28. Dividend yield gap with TOPIX versus TOPIX-relative share price for five firms: When dividend yield rises, share price performance tends to improve



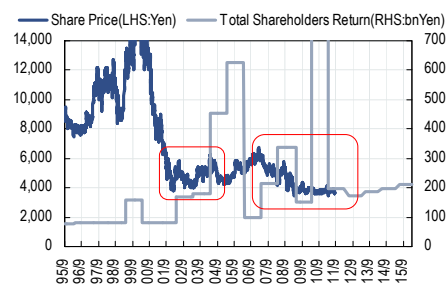
Source: Quick, Citi Investment Research and Analysis.

Figure 29. NTT: Dividend yield gap with TOPIX versus TOPIX-relative share price—spread widening, looking increasingly undervalued



Source: Quick, Citi Investment Research and Analysis.

Figure 30. NTT: Shareholder return versus share price—proactive shareholder return acts as downside support



Source: Quick, Citi Investment Research and Analysis.

Fundamentals: Market trends

2011 to be the "year of the smartphone"

Domestic smartphone market steadily expanding

In the domestic telecom industry, mobile operators continue to suffer from depressed voice revenue, and they are looking to improve earnings via data revenue growth stemming from the introduction of smartphones and cost cuts (reducing handset costs by adopting global models, deferring costs via monthly support). Softbank has taken the lead in using smartphones to capture subscribers, and its data ARPU now exceeds voice ARPU and telecom business revenue has turned upward. NTT DoCoMo and KDDI are aggressively working to expand smartphone sales in FY3/12. We expect the domestic smartphone market to expand steadily and 2011 to be the year that marks the start of full-fledged smartphone penetration.

Mobile operators looking to boost smartphone sales

At end-FY3/11, we estimate cumulative smartphone sales in Japan came to 7mn-8mn units, equating to a penetration rate of around 6%. Apples' iPhone series remains the most popular smartphone, although in 2010 mobile operators began to step up sales of Android-based models. NTT DoCoMo plans to increase smartphone sales to 8.5mn at end-FY3/12 from 2.52mn at end-FY3/11, and KDDI plans an increase from 5mn from 1.08mn.

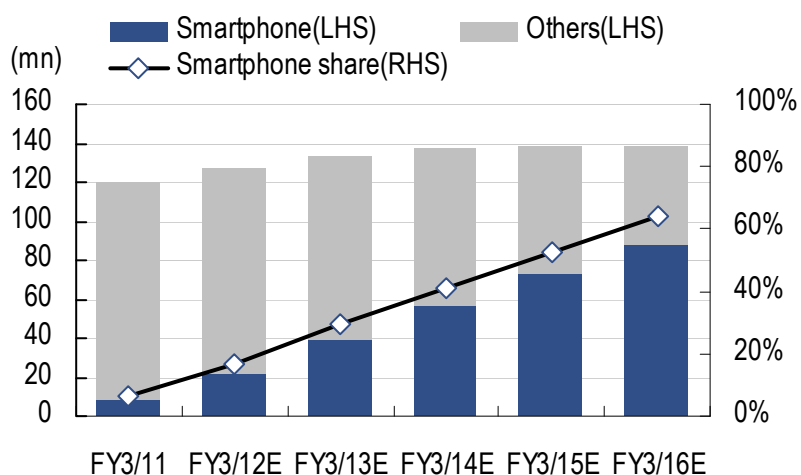
Mobile operator sales plans put smartphone penetration at end-FY3/12 at 15%; will smartphones reach critical mass?

Based on mobile operator sales plans, we estimate smartphone penetration at end-FY3/12 will be around 15%. We view this penetration rate as the threshold to critical mass and we believe sales this year will be a key indicator as to whether smartphones are likely to become mainstream.

We forecast a longer-term smartphone penetration rate of around 70%

Longer term, we forecast the number of domestic mobile service subscribers will reach 138mn. This is roughly the same as Japan's total population estimate at end-FY3/12, although we include non-voice terminals (data communication, PhotoVision, etc). We forecast the number of smartphone subscribers will reach nearly 90mn at end FY3/16 (combined subscribers of the three mobile majors, excluding eMobile), for a penetration rate of 67%. Referencing the high-tech product diffusion cycle (E.M. Rogers' Diffusion of Innovations theory), we assume smartphones will only spread as far as the "late majority", which represent the 34% of the market between the 50% uptake rate and the 84% uptake rate.

Figure 31. Subscriber forecasts by terminal type: We forecast smartphone subscribers will exceed 90mn over the medium term



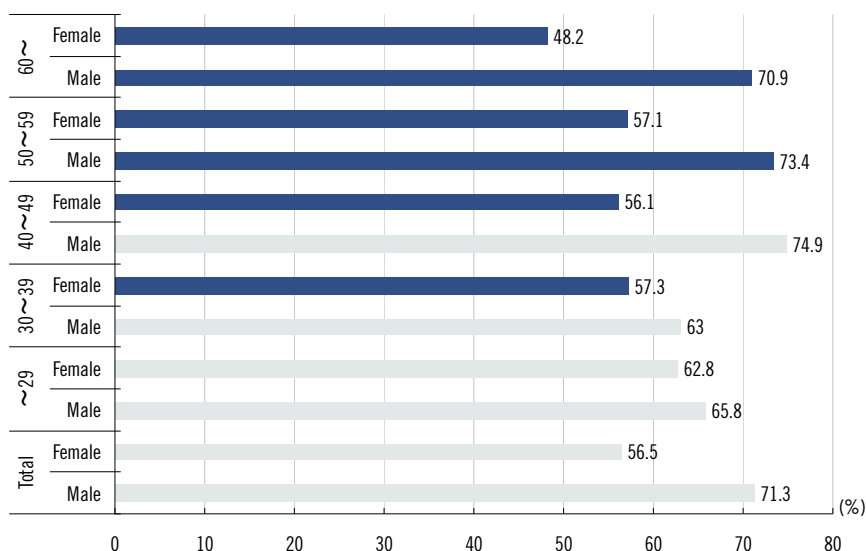
Source: Company data, Citi Investment Research and Analysis.

Will mobile users buy smartphones?

Conditions for penetration from a demand side perspective

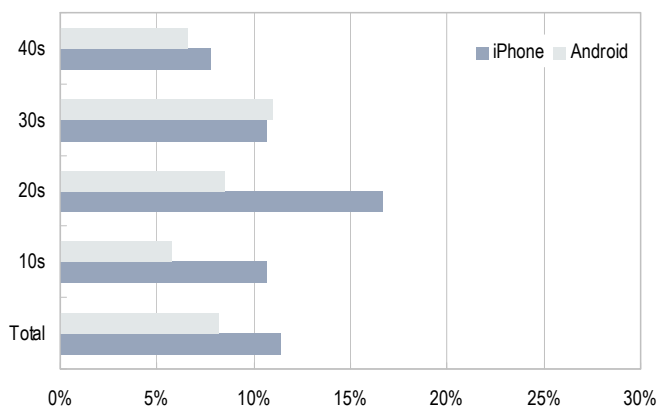
From a demand perspective, if smartphones are to be adopted by the general public (e.g., people relatively unfamiliar with digital device and technology trends), we believe they will need to offer frequently-used feature phone functions, have attractive designs, and be capable of accessing SNS and playing social games. Considering the popularity of the iPhone with the younger demographic, we see substantial scope for smartphone penetration not only in the 20- to 34-year-old segment but also in the 35- to 50-year-old segment. Smartphones will probably need to offer the functionality and services demanded by these market segments to be successful.

Figure 32. People interested in buying smartphones: Substantial scope for growth in the 20-34 and 35-50 demographics



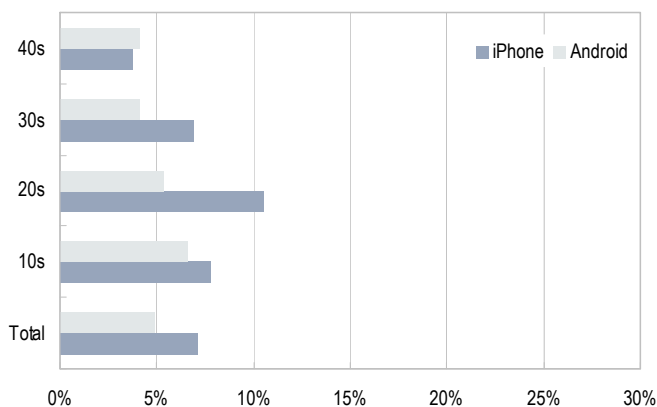
Note: Total of people that have a definite plan to buy or an interest in buying.
Source: Nikkei Trendynet Smartphone User Survey (February 2011), Citi Investment Research and Analysis.

Figure 33. Smartphone uptake (men)



Source: IMJ Mobile: Survey of activity and awareness by males in the digital domain. (April 2011), Citi Investment Research and Analysis.

Figure 34. Smartphone uptake (women)



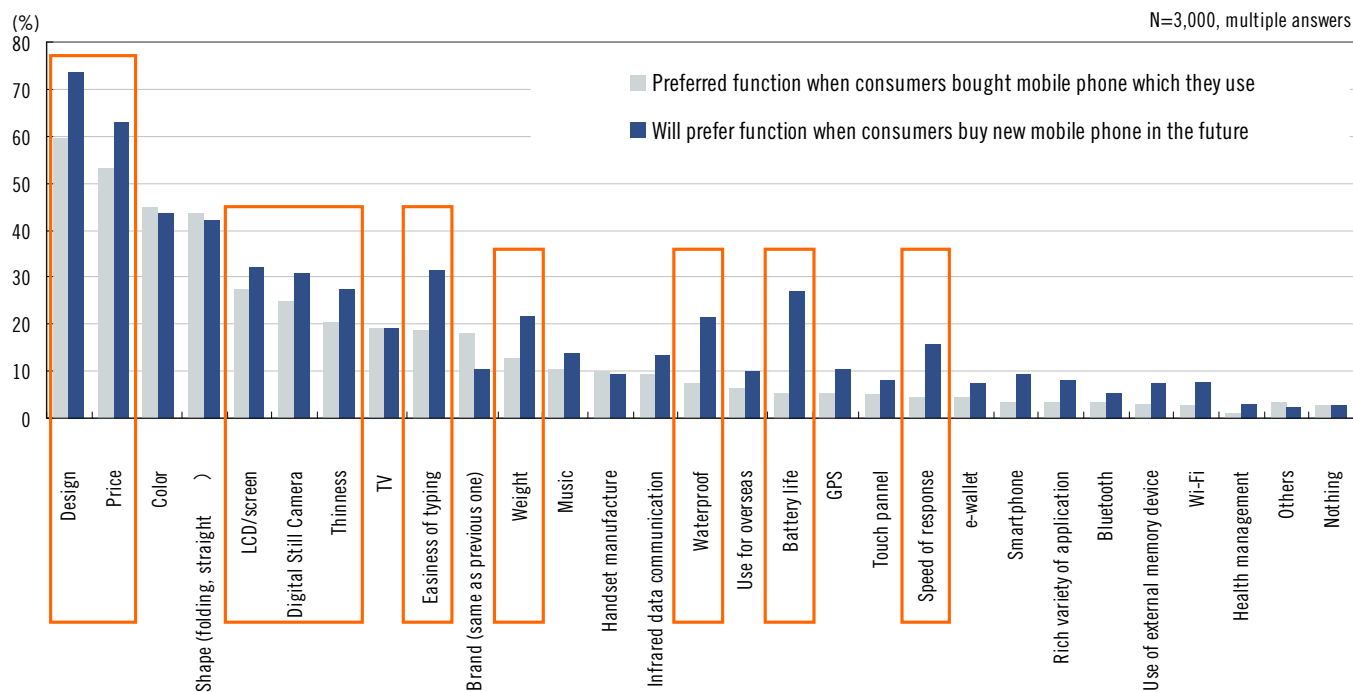
Source: IMJ Mobile: Survey of activity and awareness by females in the digital domain. (April 2011), Citi Investment Research and Analysis.

Telecom carrier efforts to promote smartphones

2011 autumn/winter models could boost smartphone uptake

Mobile operators are steadily introducing smartphones that combine the characteristics of global models and feature phones (dubbed "Galapagos Smartphones"). Models released in summer 2011 are notable for increased functionality, with common features including near-field communication (NFC), high-resolution cameras, One-Seg (TV services), waterproofing, and attractive designs. Based on the views of current feature phone owners, we believe "Galapagos Smartphones" will be key to smartphone penetration in Japan. We think the main point of interest moving forward will be whether autumn/winter models with these "Galapagos" features trigger a takeoff in smartphone diffusion.

Figure 35. Mobile phone user trends: Feature-phone characteristics probably a prerequisite for smartphones to be adopted by the broader market



Note: The orange border indicates a relatively large difference in importance between the previous purchase and the next purchases.

Source: Impress R&D (Mobile White Paper 2011), Citi Investment Research and Analysis.

Fundamentals: Mobile operator competitiveness

Key is ability to handle increased traffic as smartphones grow in popularity

Smartphone diffusion to change the focus of competition

We expect smartphone diffusion to change the focus of competition in the Japanese telecom industry. In an environment where feature phones are mainstream, mobile operators can differentiate on four points: 1) price, 2) handsets, 3) networks, 4) services (content).

Superiority on the basis of price, handsets, and services to diminish in a smartphone environment

But our impression is that differentiation on the basis of price, handsets, and services will diminish in a smartphone environment. Currently, all mobile operators have similar smartphone charge plans (although Softbank's is the cheapest). Softbank is the only carrier that sells the popular iPhone, but NTT DoCoMo and KDDI have started to introduce Android handsets that are popular overseas, so handset superiority is starting to fade as a point of differentiation as well. On the service front, feature phones generally operate on closed platforms (iMode, ezweb, etc.), but as Android makes it possible for content providers to distribute proprietary content regardless of whether a subscriber is using DoCoMo, au one, or some other network platform, we think it will be difficult to retain subscribers purely on the basis of service.

We expect an explosion of data traffic in the smartphone environment

As smartphones enable users to access a wide range of content, we expect explosive traffic growth. In his Wireless Japan 2011 keynote speech, KDDI president Takashi Tanaka said "we estimate data volume per user will increase 10x-20x and traffic in 2015 will be as much as 18x the level in 2010. If current trends continue, some people forecast network capacity will reach overload from 2012 H2."

Traffic likely to increase long term with demand from multiple devices

In addition, we think firms will have to cope with demand from multiple devices, including smartphones, tablet PCs, game devices, and car navigational equipment. In terms of services, we think the focus will be not only on rich mobile content but also on cloud-based services. It looks as if explosive growth in traffic is all but unavoidable.

Ability to offer a reliable network environment (particularly FMC services) crucial to future competitiveness

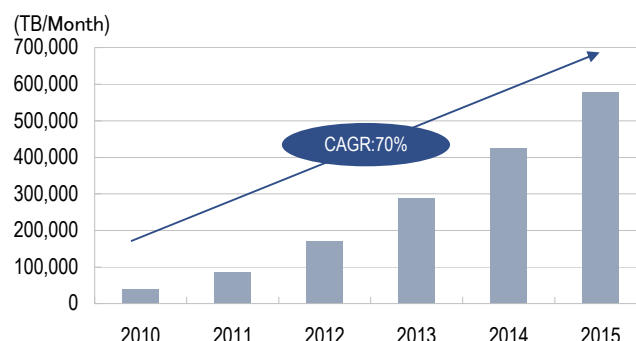
As a result, we believe the ability to provide a network environment that accommodates traffic growth will be crucial to the future competitiveness of mobile operators, and that the focus of competition will shift to this ability. In our view, data offloading using FMC services is likely to be an effective solution. We think the ability to respond to an increase in in-home data demand, which we expect to account for the vast majority of traffic, is the biggest issue facing mobile operators.

Figure 36. Estimate of smartphone traffic volume compared with smartphones



Note: The above figures are based on a US example.
Source: Cisco VNI Mobile 2011, Citi Investment Research and Analysis.

Figure 37. Japanese mobile traffic forecasts



Note: TB = terabyte.
Source: Cisco VNI Mobile 2011, Citi Investment Research and Analysis.

Policies adopted by mobile operators to accommodate traffic growth

NTT DoCoMo: Maximize mobile network

- **NTT DoCoMo:** As it is highly dependent on its mobile network, we believe NTT DoCoMo will try to migrate subscribers to next-generation networks (NGN) as quickly as possible and improve bandwidth usage efficiency. We expect DoCoMo to use compact amplifiers to disperse traffic across multiple frequencies. On the capex front, plans call for LTE investment to pick up from FY3/13, although we think total expenditure will be held below ¥700bn.

KDDI: Moving forward with 3M strategy, expects FMC-based multi-network strategy to be a source of competitive superiority

- **KDDI:** KDDI is moving forward with its 3M strategy, which refers to constructing a network environment based on the concepts of multi-use (various content and services), multi-network (best network anytime and anywhere), and multi-device (usage of preferred device). To accommodate traffic escalation accompanying smartphone diffusion, in-home fixed-line networks (FTTH, XDLS, CATV (JCN and J:COM), etc) will be integrated with the existing outdoor 3G/3.9G mobile network as well as WiMAX, public WiFi, and other mobile networks to ease the network load. Plans call for investment to be balanced between fixed-line and mobile networks and we understand KDDI targets total capex of ¥440bn over the longer term.

Softbank: Strengthening mobile network, offloading data using fixed-line networks

- **Softbank:** The firm plans a total of ¥1trn in capex in FY3/12-FY3/13, mainly for rapidly building out mobile network facilities. It also plans to offload data to its fixed-line network. In the in-home space, Softbank plans to use fixed-line networks it sells (Yahoo! ADSL, Yahoo!BB Hikari with Flets, etc.), as well as fixed-line networks of other firms used by subscribers via distribution of WiFi routers and femtocell.

Figure 38. Outline of policies for dealing with traffic growth at the three mobile operators

		Key Policies		
Category		DoCoMo =Use full mobile network capacity	KDDI =Multi-network	Softbank =Mobile (enhancing) + Fixed-line
Base station installation		<ul style="list-style-type: none"> ■ Install base stations in high traffic areas <ul style="list-style-type: none"> - e.g. train stations in the early morning 	<ul style="list-style-type: none"> ■ Install base stations in high traffic areas <ul style="list-style-type: none"> - e.g. train stations in the early morning - But in city centers distance between base stations is already 300-400m, as adding more stations is difficult. 	<ul style="list-style-type: none"> ■ Base station expansion plan <ul style="list-style-type: none"> - 120,000 in 3/11, 140,000 in 9/11 - Dealing with higher traffic through cell split (base station area fragmentation)
Technological improvements		<ul style="list-style-type: none"> ■ Early introduction of LTE <ul style="list-style-type: none"> - 2x-3x the spectral efficiency of HSDPA - Began service in 12/10 - Plan for 70% coverage ratio by 3/14 ■ Use of multiband amplifiers <ul style="list-style-type: none"> - Reduction in frequency band bias 	<ul style="list-style-type: none"> ■ Introduction of LTE <ul style="list-style-type: none"> - 2-3x the spectral efficiency as HSDPA - Began service in 12/12 - Plan for 97% coverage ratio by 3/14 ■ Expanding sales of WiMax compatible handsets 	<ul style="list-style-type: none"> ■ Introduction of DC-HSDPA <ul style="list-style-type: none"> - Higher spectral efficiency than HSPA - More than 60% coverage ratio by 2011
Traffic limitations		<ul style="list-style-type: none"> ■ Abolish maximum fixed rate system with LTE <ul style="list-style-type: none"> - ¥6,510/month for up to 5GB, ¥2,625 for every additional 2GB ■ Bandwidth limitations <ul style="list-style-type: none"> - Restrict transmission speed if traffic exceeds 366MB for most recent 3-day period 	<ul style="list-style-type: none"> ■ Bandwidth limitations <ul style="list-style-type: none"> - Over 3m packets (366MB) for most recent 3-day period 	<ul style="list-style-type: none"> ■ Bandwidth limitations <ul style="list-style-type: none"> - Over 10m packets (1.2GB)/month
FMC	Indoor	<ul style="list-style-type: none"> ■ Femtocell distribution <ul style="list-style-type: none"> - Small base station that transmit mobile frequencies (¥315/month) - Connect to fixed lines in the home - Considering free distribution for heavy users 	<ul style="list-style-type: none"> ■ Offloading to CATV and FTTH <ul style="list-style-type: none"> - Planning STB with built-in WiFi function 	<ul style="list-style-type: none"> ■ Free femtocell distribution <ul style="list-style-type: none"> - Small base station that transmit mobile frequencies - Connect to fixed lines in the home ■ Free WiFi router distribution <ul style="list-style-type: none"> - Offering low-priced ADSL lines
	Outdoor	<ul style="list-style-type: none"> ■ Public wireless LAN service <ul style="list-style-type: none"> - Usable in 6,800 locations in 3,200 areas - Aiming for 30,000 stations in FY3/12, 100,000 over medium term - ¥315/month (for FOMA, Xi contracts) - Also considering free rate plan 	<ul style="list-style-type: none"> ■ Offering public wireless LAN service <ul style="list-style-type: none"> - 100,000 locations in FY3/12 - Free usage - Using WiMax means no need for physical circuits= low cost and easy to expand area. 	<ul style="list-style-type: none"> ■ Offering public wireless LAN service <ul style="list-style-type: none"> - 30,000 stations, aiming for 100,000 - 2 year free service for smart phone users, afterwards ¥490/month

Source: Citi Investment Research and Analysis

Outline of mobile operator strategies: KDDI's strategy looks positive

NTT DoCoMo: We expect DoCoMo to struggle on service and price fronts when FMC becomes mainstream

■ NTT DoCoMo: We think NTT DoCoMo will struggle when FMC services become mainstream because the NTT Law and ministry of communication guidelines prohibit joint marketing with NTT East and NTT West and the integration of core networks to the extent possible. As a result, NTT DoCoMo will be unable to offer bundled services (mobile and fixed-line), and it will also be difficult to improve efficiency (reduce costs) via network integration. Moreover, to maximize its mobile network, NTT DoCoMo will have to continually augment NGN facilities, and we thus expect capex to increase. We believe NTT DoCoMo will be at a disadvantage to competitors providing FMC services in terms of network capability and prices.


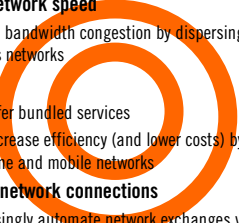
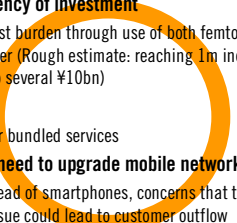
KDDI: We expect a multi-network strategy to support subscriber growth longer term

■ KDDI believes an FMC-based multi-network strategy will be a source of competitive advantage. We believe KDDI's strategy will enable it to provide customers value-added services including 1) optimal network speed, 2) reasonable rates (bundling of fixed and mobile services is a possibility), and 3) seamless network connection (via apps, etc). We expect KDDI to expand its subscriber base, with a focus on smartphone users.

Softbank: We expect low-cost FMC services to support gradual subscriber growth

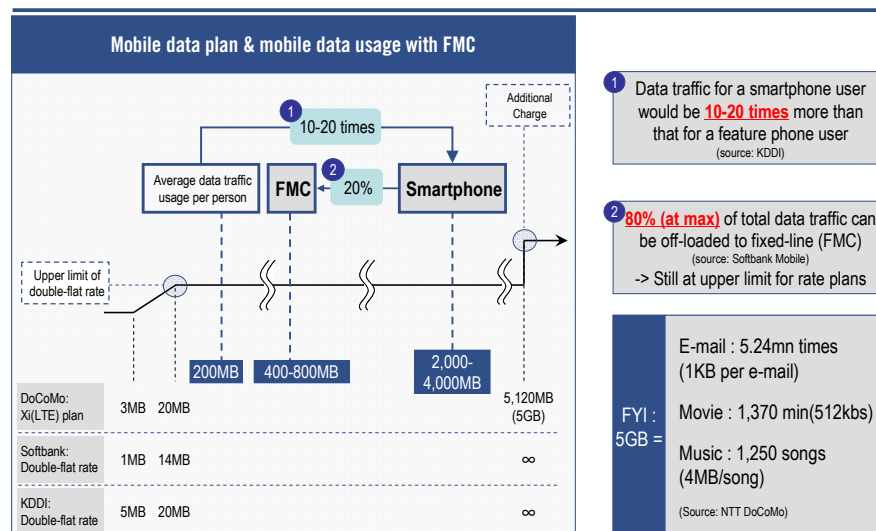
- Softbank: We believe plans for data offloading using fixed-line networks, both Softbank's own and those of other carriers, could enable Softbank to provide inexpensive FMC services. If WiFi routers and femtocell are distributed to subscribers that use fixed-line networks of competitors, Softbank will lose a portion of revenue to other fixed-line providers. However, we do not think mobile revenue will fall significantly. With an increase likely due to increasing smartphone uptake, we think traffic will hit the maximum under fixed-rate plans from in-home data transmission alone (Figure 40). Offloading data to fixed-line networks should lighten the capex load.

Figure 39. Evaluating traffic countermeasures at three mobile operators

	NTT DoCoMo	KDDI	Softbank
Strategy	Maximum use of mobile network <ul style="list-style-type: none"> ■ Push users toward LTE and LTE-Advanced ■ Restrict data usage levels for heavy users (over 3m packets (366MB) for most recent 3-day period) ■ Use of small-size multiband amplifiers, traffic allocation via multiple frequencies ■ Establish several hundred thousand public WiFi spots over next several years 	Respond via multi-network strategy (Stress sales to households rather than individuals) <ul style="list-style-type: none"> ■ In homes, use fixed-line networks (FTTH, xDSL, CATV) ■ Outside, use mobile networks (WiMax, public WiFi) ■ Curtail data usage levels for heavy users (Over 3m packets (366MB) for most recent 3-day period) ■ Establish several hundred thousand public WiFi spots by FY year-end 	Deal with the need to both enhance mobile network and move data offload to fixed network <ul style="list-style-type: none"> ■ Mobile base station area fragmentation ■ Distribute femtocell and WiFi routers, offload data to fixed-line networks (own and other companies) ■ Limit data usage levels for heavy users (Over 10m packets (1.2GB) per month) ■ Establish several hundred thousand public WiFi spots over next few years
CapEx	FY3/12: ¥705bn (YoY +5%, 17% of sales) <ul style="list-style-type: none"> ■ LTE: ¥79bn ■ 3G network: ¥331bn ■ 2G network: ¥2bn ■ IT systems: ¥168bn LTE: FY3/11-FY3/13; total ¥300bn <ul style="list-style-type: none"> ■ FY3/11: ¥26bn ■ FY3/12: ¥79bn ■ FY3/13: approx ¥200bn 	FY3/12: ¥460bn (YoY +4%, 13% of sales) <ul style="list-style-type: none"> ■ Mobile network: ¥335bn (YoY -1%, 13% of sales) <ul style="list-style-type: none"> ->LTE: ¥63bn ->New 800MHz band: ¥108.1bn ->2GHz band: ¥9bn ■ Fixed network: ¥122bn (YoY +18%, 13% of sales) LTE: FY3/12 - FY3/15; total ¥300bn <ul style="list-style-type: none"> ->FY3/12: ¥63bn ->FY3/13-14: ¥100bn for both years -> FY3/15: approx ¥400bn 	FY3/12: ¥500bn (YoY +19%, 16% of sales) <ul style="list-style-type: none"> ■ Mobile network: ¥404bn (YoY +15%, 19% of sales) <ul style="list-style-type: none"> ->3G network: ¥250bn – ¥300bn (Area expansion / introduce DC-HSDPA) ■ Fixed network: ¥38bn (YoY +5%, 11% of sales) ■ Broadband ¥35bn (YoY +2.1x, 21% of sales) FY3/12 - FY3/13; total ¥1trn (consolidated)
Valuation	Struggling on the service / price front <ul style="list-style-type: none"> ■ Cannot offer bundled service due to NTT law ■ Difficult to increase efficiency (lower costs) by combining fixed line and mobile networks ■ Constant need to upgrade equipment to cope with next-generation networks. 	Optimal network speed <ul style="list-style-type: none"> ■ Relieve bandwidth congestion by dispersing traffic over various networks Low fees <ul style="list-style-type: none"> ■ Can offer bundled services ■ Can increase efficiency (and lower costs) by combining fixed line and mobile networks Seamless network connections <ul style="list-style-type: none"> ■ Increasingly automate network exchanges via apps 	Good efficiency of investment <ul style="list-style-type: none"> ■ Lower cost burden through use of both femtocell and WiFi router (Rough estimate: reaching 1m individuals = ¥10bn to several ¥10bn) Low fees <ul style="list-style-type: none"> ■ Can offer bundled services But urgent need to upgrade mobile network <ul style="list-style-type: none"> ■ With spread of smartphones, concerns that transmission speed issue could lead to customer outflow 

Source: Citi Investment Research and Analysis

Figure 40. Change in data traffic via FMC: Even if in-home traffic shifts to fixed-line networks, mobile carriers are unlikely to see revenue decline



Note: NTT DoCoMo has not announced data rates for its LTE smartphones, so we provisionally use rates for LTE data terminals. Average data volume per person is based on NTT DoCoMo materials.
Source: Company data, Citi Investment Research and Analysis.

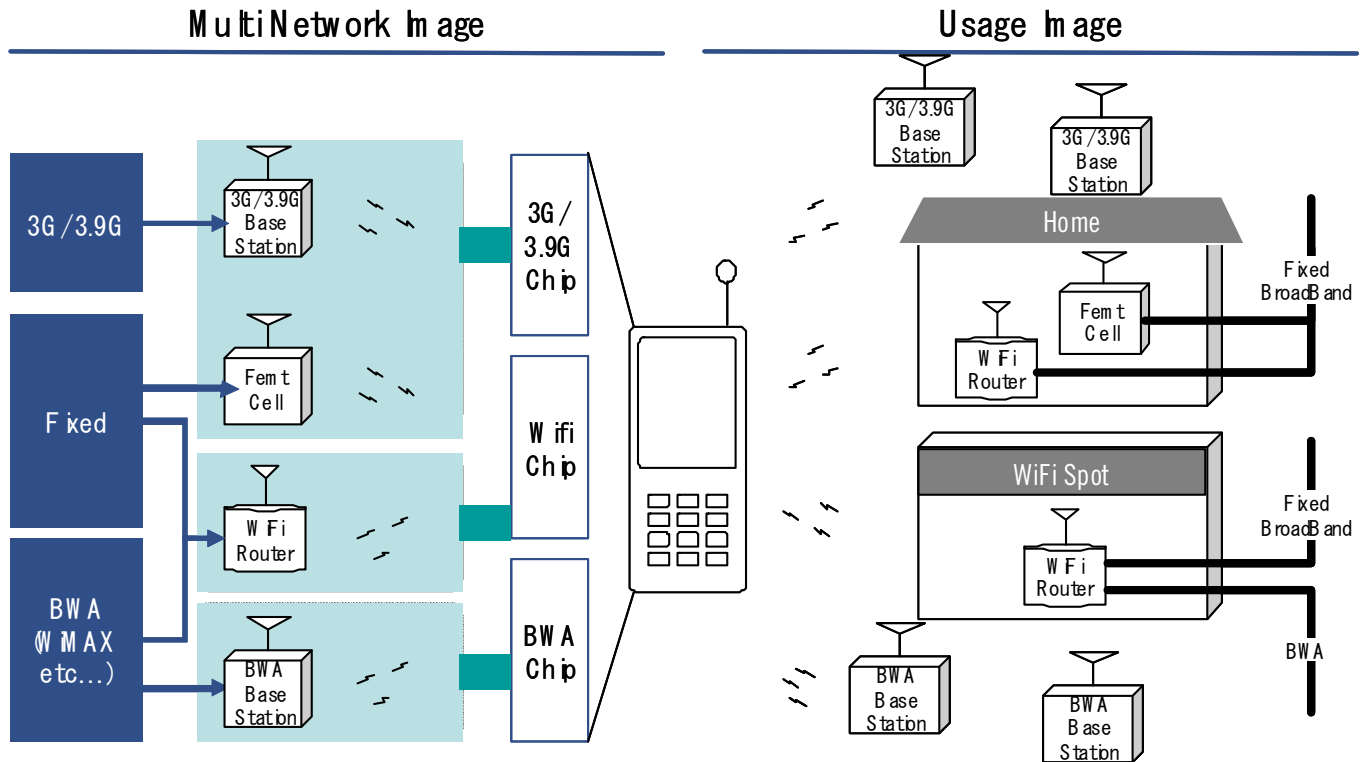
Why do we expect KDDI to be the most competitive carrier?

1) Optimal network speed

We expect KDDI to expand its subscriber base longer term

We believe FMC services can provide reliable network speeds. Dispersing traffic across several networks should ease bandwidth congestion. For in-home data communication, which we expect to account for the majority of traffic, KDDI will use faster fixed-line networks (FTTH 100Mbps, CATV 160 Mbps) for data offloading (Figure 42).

Figure 41. FMC schematic



Source: Citi Investment Research and Analysis.

Figure 42. Next-generation network trends

	Technology	Max Speed		Schedule				
		Up (Mbps)	Down (Mbps)	2010	2011	2012	2013	2014
Docomo	HSDPA/HSPA	5.7	7.2	HSUPA Started in 2009	Upgrade Down Speed up to 14Mbps in Jun 11			
	LTE	12.5 (25.0)	37.5 (70.0)		Started in Dec, 2010			
	LTE-Advanced	~500	~1G					2014...??
KDDI	CDMA2000 1x EV-DO multi carrier (Rev. A)	5.5	9.2	Updated EV-DO to EV-DO multi carrier in Oct, 2010				
	LTE	20	60				Start in Dec, 2012	
	WiMAX	10	40	Started in 2009		WiMax2 starts in 2012 (Up: 112Mbps, Down: 300Mbps)		
Softbank	HSDPA/HSPA	1.4	7.2	HSUPA Started in 2009				
	DC-HSDPA/HSPA+	5.76	42		Started in Feb 2011			
	LTE	NA	NA			Launch schedule is to be fixed after the decision of 700-900MHz bandwidth allocation in Japan		
	XGP (PHS service)	20	20	Started in 2009 (only in mid-Tokyo)		XGP could be updated to TD-LTE, but nothing is decided yet.		

Source: Company data, Citi Investment Research and Analysis.

2) Inexpensive rates to boost price competitiveness

Bundling of fixed and mobile services, efficiency improvement through backbone network integration, lighter capex

We expect KDDI to adopt a charge system that bundles fixed-line and mobile services and we expect it to be highly price competitive. We also look for integration of fixed and mobile backbone networks to increase efficiency (reduce costs) and the dispersion of traffic across multiple networks to reduce capex.

Figure 43. Capex at telecom companies: With progress in FMC, we assume rising returns at KDDI

	3/10	3/11	3/12E	3/13E	3/14E	3/15E	3/16E
Capex/sales (%)							
NTT	19.5%	18.1%	18.4%	17.8%	17.5%	17.4%	17.5%
KDDI	15.1%	12.9%	13.3%	12.7%	12.0%	11.9%	11.9%
NTT DoCoMo	16.0%	15.8%	16.6%	16.3%	16.0%	16.1%	16.2%
Softbank	8.1%	14.0%	15.6%	15.2%	12.2%	11.9%	11.6%
eMobile	NA	22.8%	19.9%	19.7%	19.4%	19.4%	19.4%
Capex (¥bn)							
NTT	1,987.1	1,870.1	1,942.0	1,918.0	1,908.9	1,889.1	1,868.2
KDDI	518.0	443.7	458.0	445.9	440.1	442.5	444.3
NTT DoCoMo	686.5	668.5	705.0	715.8	729.8	726.1	716.8
Softbank	222.9	420.6	498.1	502.8	413.3	403.4	387.3
eMobile	NA	41.4	39.0	39.2	39.0	39.0	37.1

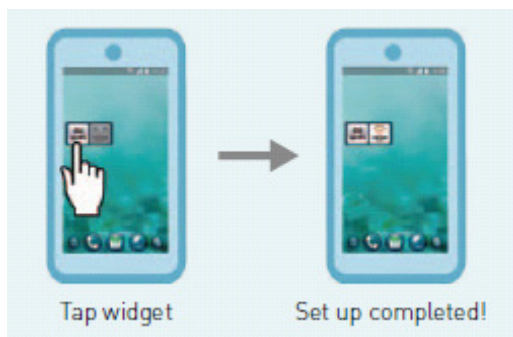
Source: Company data, Citi Investment Research and Analysis.

3) Seamless network connection

Automatic network switching via apps

One possibility offered by the adoption of FMC services that will be felt most strongly by users is switching among networks (entry of log-in information, etc.). KDDI is developing and offering apps for network switching such as au Wi-Fi connection tools. Users can enter information in advance, and the app automatically switches networks depending on signal strength, providing seamless network access with little effort on the user's part.

Figure 44. KDDI: Tools for easy network switching



Source: Company data, Citi Investment Research and Analysis.

Figure 45. Automatic switching according to signal strength



Source: Company data, Citi Investment Research and Analysis.

Fundamentals: Impact of FMC on market and company earnings

1) Changes in mobile telecom market share

Spotlight on ability to provide reliable network in the face of soaring traffic

With the spread of smartphones, we think the competitiveness of individual mobile carriers will be determined by ability to provide a reliable network environment for customers amid surging traffic volumes. We think measures to deal with in-home data traffic, which is likely to account for the bulk of the increase in traffic, will be particularly important.

Anticipating rapid progress at KDDI

As noted previously, we think FMC services offer an effective means of addressing traffic growth. As FMC becomes mainstream, we think KDDI will enjoy significant competitive advantages. Softbank is also likely to be competitive to an extent, and we expect both companies to gradually increase market share.

Figure 46. Subscriber numbers and market share: FMC services likely to lure smartphone users; we expect market share to rise at KDDI and Softbank

	FY3/11	FY3/12E	FY3/13E	FY3/14E	FY3/15E	FY3/16E
Total subscribers (ths) (a)						
NTT DoCoMo	58,010	60,045	62,235	61,735	60,935	59,835
KDDI	32,999	34,558	36,419	38,219	39,319	39,919
Softbank	25,409	28,329	30,519	31,949	32,749	32,849
eMobile	3,118	3,851	4,671	5,308	5,803	5,822
Total for four firms	119,536	126,783	133,844	137,211	138,805	138,425
Subscriber share (%)						
NTT DoCoMo	48.5%	47.4%	46.5%	45.0%	43.9%	43.2%
KDDI	27.6%	27.3%	27.2%	27.9%	28.3%	28.8%
Softbank	21.3%	22.3%	22.8%	23.3%	23.6%	23.7%
eMobile	2.6%	3.0%	3.5%	3.9%	4.2%	4.2%
Total for four firms	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Smartphone subscribers (ths) (b)						
NTT DoCoMo	2,520	9,302	17,803	25,262	32,302	38,815
KDDI	1,090	5,068	10,654	16,788	22,391	27,504
Softbank	4,373	7,154	10,700	14,615	18,412	22,007
Total for three firms	7,983	21,525	39,158	56,665	73,104	88,325
Smartphone subscriber share						
NTT DoCoMo	31.6%	43.2%	45.5%	44.6%	44.2%	43.9%
KDDI	13.7%	23.5%	27.2%	29.6%	30.6%	31.2%
Softbank	54.8%	33.2%	27.3%	25.8%	25.2%	24.9%
Total for three firms	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Smartphone subs as pct. of all subs = (b)/(a)						
NTT DoCoMo	4.3%	15.5%	28.6%	40.9%	53.0%	64.9%
KDDI	3.3%	14.7%	29.3%	43.9%	56.9%	68.9%
Softbank	17.2%	25.3%	35.1%	45.7%	56.2%	67.0%
Total for three firms	6.9%	17.5%	30.3%	43.0%	55.0%	66.6%
Sales share (period-average subscribers x ARPU)						
NTT DoCoMo	51.4%	50.7%	50.2%	49.9%	48.9%	48.2%
KDDI	29.0%	27.5%	27.0%	27.4%	28.2%	28.8%
Softbank	18.0%	20.1%	20.9%	20.8%	21.0%	21.0%
eMobile	1.6%	1.8%	1.9%	1.9%	1.9%	1.9%
Total for four firms	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: We forecast the number of smartphone subscribers will reach nearly 90mn at end FY3/16, for a penetration rate of 67%. Referencing the high-tech product diffusion cycle (E.M. Rogers' Diffusion of Innovations theory), we assume smartphones will only spread as far as the "late majority", which represent the 34% of the market between the 50% uptake rate and the 84% uptake rate (see Figure 31). Also, sales share is the product of period-average subscribers and ARPU. This may not match actual business revenue due to intercompany eliminations, etc.

Source: Company data, Citi Investment Research and Analysis.

2) Expanding fixed-line broadband demand (in-home data demand)

Fixed-line networks good for at-home data offloading

We expect greater demand on the fixed-line networks of companies like KDDI and Softbank

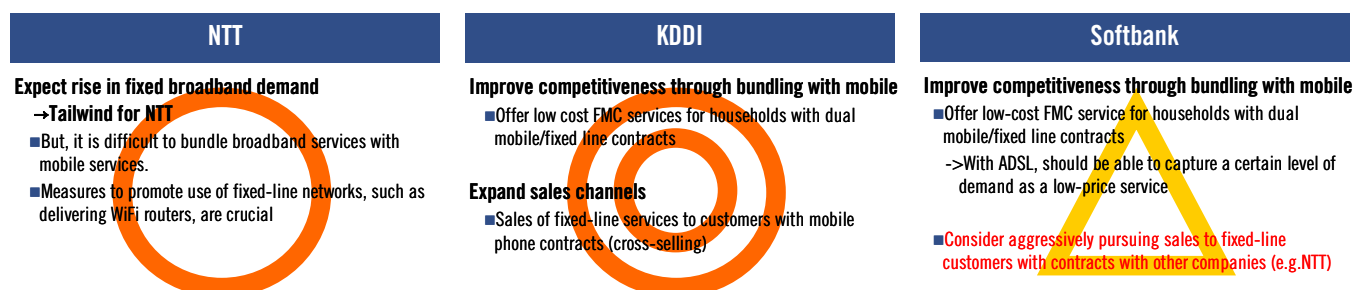
We also expect steady subscriber growth at NTT, which has the biggest share of the FTTH/ADSL markets

As FMC services become more common, we anticipate growing demand for fixed-line broadband services. We think fixed-line networks are well-suited for in-home data offloading, which looks to account for most traffic.

Once FMC becomes mainstream, providers are likely to offer bundled fixed-line and mobile communications services, and we think KDDI will gradually grow market share for its fixed-line networks (FTTH, CATV, etc.). Softbank, meanwhile, is looking to traffic-handling measures that utilize both its own fixed-line services and those of other companies, enabling it to offer low-cost FMC services. As such, we think it will be able to capture a certain level of demand.

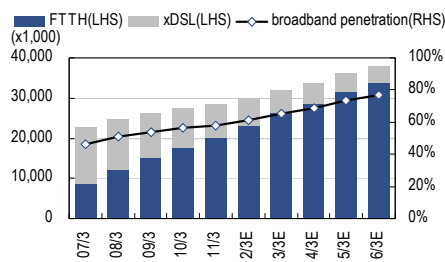
We think NTT is set to benefit from overall market expansion as it has the biggest share of the market for FTTH/ADSL services. We expect firm broadband subscriber numbers. However, we do not think NTT can offer bundled services, so the company will probably have to promote the use of its fixed-line network by distributing Wi-Fi routers or other means.

Figure 47. FMC impact on fixed-line business



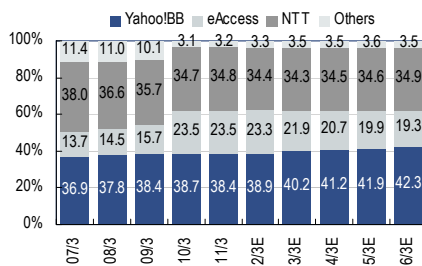
Source: Citi Investment Research and Analysis

Figure 48. Fixed-line broadband contracts: Demand likely to rise as FMC services spread



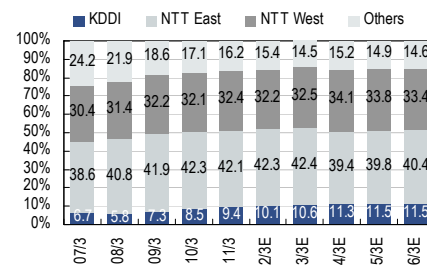
Note: Penetration denotes number of households with broadband connections.
Source: MIC, National Institute of Population and Social Security Research, company data, Citi Investment Research and Analysis.

Figure 49. Share of xDSL contracts: Softbank should be able to offer low-cost FMC service contracts, share likely to rise



Source: MIC, company data, Citi Investment Research and Analysis.

Figure 50. Share of FTTH contracts: Armed with FMC services, KDDI likely to win new subscribers



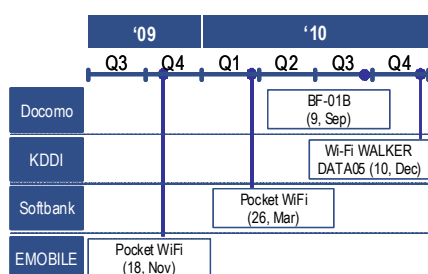
Source: MIC, company data, Citi Investment Research and Analysis.

3) Handsets with tethering capabilities should capture some demand for data access outside the home

We think eMobile net adds momentum will slow due to the introduction of low-priced tethering services

Although this has no direct relationship to FMC, we think firms that are pushing forward with FMC could capture some demand for data access outside of the home by providing low-priced tethering services. eMobile is the main player in the market for data communications outside of the home, but we think its net adds momentum will slow going forward.

Figure 51. Mobile WiFi router market: Competition intensifies as 3 mobile carriers enter the market



Source: Company data, Citi Investment Research and Analysis.

Intensifying competition in data demand outside of the home

In the past, mobile operators (including PHS providers) were able to respond to data traffic demand outside of the home using data cards or mobile WiFi routers. The Pocket WiFi router introduced by eMobile in 2009 offered significantly improved convenience over the USB dongles that had been the principal method of mobile data transfer previously, and by bundling the router with its “¥100 PCs” (netbooks) the company further set itself apart and achieved substantial subscriber growth.

However, competition in this market has become more intense of late. Taking a lesson from the mobile WiFi routers, three mobile service providers launched rival products in 2010. Looking at the product lines, differences in terms of processing speed or charge plans appear to be shrinking, and the companies are settling around a level pegging. eMobile leads in net module subscriber growth (not including PhotoVision), but UQ Communications is also advancing rapidly and is coming out on top in some months.

Figure 52. Mobile Wi-Fi routers offered by mobile carriers: Shrinking gaps in processing speeds and rates

Company	Product	Sale date	Max speed (down/up,Mbps)	High-speed network area coverage	Monthly charge (two-year contract)
NTT DoCoMo	L-09c	6/30/2011	37.5/12.5	8% (3/2011) (FOMA network outside high-speed area)	(~5GB) ¥1,000-¥6,510 (5GB~) ¥2,625/2GB
KDDI	Wi-Fi WALKER DATA06	6/8/2011	9.2/5.5	NA (Connectable in all prefectures in Japan)	¥5,460
Softbank	ULTRA WiFi	7/8/2011	42/5.8	75% (6/2011) (eMobile network (MVNO) outside high-speed area)	(Campaign) ¥3,880 (Base) ¥1,400-¥4,980
eMobile	GP02	7/28/2011	42/5.8	44.6%(6/2011) (eMobile network outside high-speed area)	(Campaign) ¥3,880 (Base) ¥5,580

Source: Company data, Citi Investment Research and Analysis.

eMobile: Subscriber acquisition by marketing channel

In order to gauge eMobile's subscriber recruitment capabilities more closely, we look at its performance in various marketing channels. Broadly speaking, the company uses direct sales, MVNO business (wholesale for lines on its network to customers including IIJ and Softbank), FMC services (bundle sales including its own ADSL and NTT's FTTH and other services), corporate sales, and sales through mass market retailers. MVNO/FMC services and corporate sales are classified as low-ARPU channels (although we would note that sales through other companies allow diversification, and that low SAC does not mean that a business is in the red).

We surmise that subscriber acquisition momentum is slowing

We think the proportion of total subscribers recruited through low-ARPU channels is on the rise, and we estimate it was about 20%–25% in FY3/10, it increased to 35%–40% in FY3/11, and is now around 40%–45%. We understand the weighting of

MVNO business in particular is up. Discounting the impact of subscribers acquired through other operators (the low-ARPU channels), we estimate that quarterly net growth through direct sales and mass market retailers amounted about 150,000–200,000 contracts in FY3/10 but only about 50,000–100,000 contracts in FY3/11. Our view is that the momentum of the company's subscriber growth is slowing to some extent.

Handsets with tethering capabilities appeal to heavy users of both voice and data communications

KDDI has significant edge in tethering handsets, while rising cancellation rate is a concern for eMobile

Amid intensifying competition among service providers, we think a number of companies are seeking to step up subscriber acquisition by introducing handsets with tethering capabilities. However, given the increased burden on 3G/3.9G networks resulting from higher tethering demand, we think KDDI will have outstanding cost competitiveness as its multi-network strategy allows it to spread the load; this, we think, will give it an advantage in subscriber acquisition. Meanwhile, we see a risk of rising cancellation rates at eMobile once KDDI's winter 2011 models hit the market.

Replacement of existing data communication terminals by handsets with tethering capabilities

At present, handsets with tethering capabilities are offered by NTT DoCoMo, KDDI, and eMobile. NTT DoCoMo's rate plan is relatively expensive, but KDDI (au) offers WiMax services to subscribers with fixed-rate plans on these handsets at ¥525/month. For subscribers with high voice and data usage, such a plan is very appealing. For reference, given the scale of the data communication terminal market (total subscribers come to 3.43mn at eMobile 3.43mn and 1.1mn at UQ, etc.) and the proportion of mobile phone users on fixed-rate plans (about 70% at NTT DoCoMo and KDDI), we think there are plenty of users who might cancel their data communication terminal contracts and switch to smartphones with tethering capabilities.

KDDI handsets attractive to people with high voice and data usage

On the other hand, eMobile is offering tethering functions at no additional cost on top of its smartphone rate plans, so this is the cheapest available option for a tethering handset. However, our view is that the tethering smartphones offered by NTT DoCoMo and KDDI are being positioned as the next generation of smartphones (with WiFi routers for outdoor use built in), while the products offered by eMobile are viewed as the next generation of data communication terminals (with voice and app functions). In other words, in terms of handset competitiveness we think NTT DoCoMo and KDDI have the edge. As a result, for users with heavy voice and data usage, we think KDDI's handsets with built-in tethering are priced attractively, while eMobile's products may be considered cheap but subpar as a mobile phone.

Figure 53. Summary and evaluation of tethering strategies: KDDI handsets appeal to people with high voice and data usage

	DoCoMo	KDDI	Softbank	eAccess
Handsets	7 models (from summer '11)	1 model (HTC EVO)	0 models	4 models
Network	HSDPA/HSUPA	WiMAX	NA	HSDPA
Price	+¥4,935/month – Moving to fixed upper limit price of ¥10,395 when using tethering	+¥525/month – ¥5,985/month w/ IS flat ¥5,460 – Normal WiMAX ¥3,880/month(lowest)	NA	+¥0/month – With the ¥4,580 data plan, can use tethering for no extra charge
Direction	Rising traffic burden as a concern. Likely to remain passive – Difficult to off-load to NTT fixed line networks due to NTT law	Aggressive stance – Enhance WiMax handsets following release of 2011 winter models	Low possibility of releasing handsets	Aggressive stance – Plans to launch 2 handsets with tethering functions in summer 2011
Valuation	Concerns about higher traffic burden – Estimate that high cost of tethering will make proliferation difficult – If proliferation does proceed, network capacity would be tight and capex could rise	Expect tethering function to spearhead the capture of new user – Offer tethering function at a low price – Expansion of tethering function will also benefit data off-load	Good that traffic burden will not occur but... – Expect SB to be at a disadvantage if handsets with built-in tethering become popular and a key function	Seen as offshoots of data terminals – Appears inferior compared to KDDI in terms of handset's quality – Appeals only to users looking for high-end data transmission

Source: Citi Investment Research and Analysis

Growth in demand for tablet PCs should benefit mobile data terminals overall

In the longer term, the increase in demand by tablet PC users should benefit handsets with tethering capabilities and data terminals

Over the longer term, we think demand for data access outside of the home by tablet PC users will increase. In our view, this demand increase will be beneficial for mobile data terminals overall. For people who use both mobile phones and tablet PCs, we expect to see a switch from a data terminal to a handset with tethering capabilities or a shift from an existing smartphone/feature phone to a handset with tethering capabilities. On the other hand, people who do not use mobile phones often (e.g., businesspeople) may purchase a contract for a new data terminal or upgrade an existing data terminal to eMobile's tethering-capable handset.

4) Changes in ARPU driven by smartphone subscriber growth

We forecast overall ARPU at DoCoMo and KDDI will turn positive in FY3/13

Overall ARPU for NTT DoCoMo and KDDI looks set to turn positive

Mobile operators aim to counter falling voice revenue by increasing data revenue through the introduction of smartphones. Smartphones are selling well and we expect ARPU growth to be boosted by a likely peak in FY3/13 for the subscription rate to voice service discount plans. We look for overall ARPU growth to turn positive at NTT DoCoMo in FY3/13 Q3 and at KDDI in FY3/13 Q4.

Smartphone sales and discount plan penetration

While data ARPU growth driven by smartphone sales is the main factor behind our forecast for an overall ARPU upswing, near term we expect basic charges and voice ARPU to be the biggest influence on ARPU. We expect the decline in usage charge (minutes of use, or MOU) and access charge revenue to continue, but also look for the contribution of discount plans to be positive (assuming business users account for 10% of demand, we think discount plan penetration rates will peak in FY3/13 H1 for NTT DoCoMo and around the middle of FY3/13 for KDDI).

Gap between monthly charges of DoCoMo and KDDI

To promote a shift to smartphones, carriers are offering handset discounts that are spread across monthly charges over the two years. The discount amount is deducted from the basic charge and voice ARPU; we estimate the monthly

deduction at around ¥700 for NTT DoCoMo and ¥1,600-¥1,700 for KDDI. After the monthly discount, prices for handsets of comparable functionality are about the same and we do not expect any significant difference in costs for users.

Figure 54. KDDI: ARPU assumptions

	FY11/3	FY12/3E					FY13/3E				
		Q1	Q2	Q3	Q4	FY	Q1	Q2	Q3	Q4	FY
Telecom revenue (=a+b, ¥bn)	1,917.0	461.8	472.6	471.3	433.5	1,839.3	464.3	478.0	484.1	455.9	1,882.2
# of subscribers (000')	32,999	33,352	33,763	34,083	34,558	34,558	34,933	35,119	35,749	36,419	36,419
ARPU (¥)	4,940	4,640	4,700	4,630	4,210	4,530	4,460	4,550	4,550	4,210	4,420
- Voice ARPU (¥)	2,620	2,240	2,230	2,090	1,600	2,030	1,720	1,700	1,600	1,170	1,540
- Data ARPU (¥)	2,320	2,400	2,470	2,540	2,610	2,500	2,740	2,850	2,950	3,040	2,880
a) Smartphone revenue (¥bn)	20.7	26.4	41.0	58.2	74.3	199.8	100.3	124.5	147.8	162.0	534.6
# of subscribers (000')	1,090	1,750	2,675	3,695	5,068	5,068	6,363	7,710	9,138	10,654	10,654
Smartphone penetration (%)	3.3%	5.2%	7.9%	10.8%	14.7%	14.7%	18.2%	22.0%	25.6%	29.3%	29.3%
ARPU (¥)	1,650	5,710	5,690	5,610	5,170	4,970	5,370	5,420	5,370	4,980	5,190
- Voice ARPU (¥)	380	730	700	600	140	410	300	320	270	-120	160
- Data ARPU (¥)	1,270	4,980	4,990	5,010	5,030	4,560	5,070	5,100	5,100	5,100	5,030
b) Revenue from other handsets (¥bn)	1,896.3	439.6	431.6	413.1	359.3	1,643.6	364.0	353.5	336.3	293.8	1,347.6
# of subscribers (000')	31,909	31,602	31,088	30,388	29,489	29,489	28,570	27,409	26,611	25,765	25,765
ARPU (¥)	4,960	4,610	4,590	4,480	4,000	4,460	4,180	4,210	4,150	3,740	4,060
- Voice ARPU (¥)	2,650	2,330	2,300	2,200	1,740	2,160	1,900	1,920	1,870	1,480	1,790
- Data ARPU (¥)	2,310	2,280	2,290	2,280	2,260	2,300	2,280	2,290	2,280	2,260	2,270

Source: Company data, Citi Investment Research and Analysis.

Figure 55. NTT DoCoMo: ARPU assumptions

	FY11/3	FY12/3E					FY13/3E				
		Q1	Q2	Q3	Q4	FY	Q1	Q2	Q3	Q4	FY
Telecom revenue (=a+b+c+d, ¥bn)	3,407.1	850.6	862.4	858.7	811.1	3,382.7	858.6	895.6	896.1	850.5	3,500.8
# of subscribers (000')	58,010	58,415	58,974	59,344	60,045	60,045	60,715	61,365	61,765	62,235	62,235
ARPU (¥)	4,980	4,960	4,990	4,930	4,620	4,780	4,830	4,980	4,940	4,660	4,770
- Voice ARPU (¥)	2,500	2,340	2,310	2,230	1,810	2,150	1,960	1,970	1,900	1,520	1,820
- Data ARPU (¥)	2,480	2,620	2,680	2,700	2,810	2,630	2,870	3,010	3,040	3,140	2,950
a) Smartphone revenue (¥bn)	65.9	68.9	96.7	130.4	160.2	456.2	206.4	249.2	287.8	312.9	1,056.3
# of subscribers (000')	2,520	3,820	5,459	7,159	9,302	9,302	11,357	13,471	15,470	17,803	17,803
Smartphone penetration (%)	4.3	6.5	9.3	12.1	15.5	15.5	18.7	22.0	25.0	28.6	28.6
ARPU (¥)	2,180	7,240	6,950	6,890	6,490	6,440	6,660	6,690	6,630	6,270	6,490
- Voice ARPU (¥)	480	2,070	1,780	1,720	1,320	1,550	1,490	1,520	1,460	1,100	1,360
- Data ARPU (¥)	1,700	5,170	5,170	5,170	5,170	4,890	5,170	5,170	5,170	5,170	5,130
b) Revenue from other 3G handsets (¥bn)	3,271.8	771.9	774.9	740.2	666.6	2,953.5	668.2	663.7	623.1	553.9	2,508.9
# of subscribers (000')	54,251	53,626	52,886	51,886	50,743	50,743	49,358	47,894	46,295	44,432	44,432
ARPU (¥)	5,080	4,770	4,850	4,710	4,330	4,690	4,450	4,550	4,410	4,070	4,400
- Voice ARPU (¥)	2,550	2,340	2,350	2,290	1,890	2,230	2,060	2,090	2,030	1,670	1,980
- Data ARPU (¥)	2,530	2,430	2,500	2,420	2,440	2,460	2,390	2,460	2,380	2,400	2,420
c) Revenue from other 2G handsets(1.0bn Yen)	68.2	9.9	7.7	4.4	0	22.0	0	0	0	0	0
# of subscribers (000')	1,239	969	629	299	0	0	0	0	0	0	0
ARPU (¥)	2,761	3,230	3,200	3,180	0	3,138	0	0	0	0	0
- Voice ARPU (¥)	2,160	2,680	2,650	2,650	0	2,440	0	0	0	0	0
- Data ARPU (¥)	600	550	550	530	0	698	0	0	0	0	0
d) Difference (¥bn)	1.2	-0.0	-16.9	-16.4	-15.7	-49.0	-15.9	-17.3	-14.8	-16.4	-64.3

Source: Company data, Citi Investment Research and Analysis.

Figure 56. Softbank: ARPU assumptions

	FY11/3	FY12/3E					FY13/3E				
		Q1	Q2	Q3	Q4	FY	Q1	Q2	Q3	Q4	FY
Telecom revenue (=a+b, ¥bn)	1,186.9	325.5	339.5	349.2	327.5	1,341.7	357.3	368.6	375.9	351.9	1,453.6
# of subscribers ('000')	25,409	26,139	26,869	27,649	28,329	28,329	28,929	29,439	29,939	30,519	30,519
ARPU (¥)	4,210	4,210	4,270	4,270	3,900	4,160	4,160	4,210	4,220	3,880	4,120
- Voice ARPU (¥)	1,890	1,780	1,790	1,760	1,330	1,660	1,530	1,530	1,490	1,090	1,410
- Data ARPU (¥)	2,310	2,440	2,480	2,510	2,570	2,500	2,630	2,680	2,730	2,790	2,710
a) Smartphone revenue (¥bn)	242.2	83.3	94.0	107.4	113.2	397.9	131.2	145.9	160.4	164.1	601.6
# of subscribers ('000')	4,373	4,816	5,545	6,347	7,154	7,154	7,947	8,850	9,747	10,700	10,700
Smartphone penetration (%)	20.0%	21.3%	23.6%	26.0%	28.2%	28.2%	27.5%	30.1%	32.6%	35.1%	35.1%
ARPU (¥)	5,970	6,040	6,050	6,021	5,590	5,750	5,790	5,790	5,750	5,350	5,610
- Voice ARPU (¥)	1,820	1,780	1,790	1,760	1,330	1,600	1,530	1,530	1,490	1,090	1,380
- Data ARPU (¥)	4,150	4,260	4,260	4,261	4,260	4,150	4,260	4,260	4,260	4,260	4,230
b) Revenue from other handsets (¥bn)	944.7	243.0	245.3	242.1	214.3	944.8	226.1	222.9	215.1	187.5	851.6
# of subscribers ('000')	21,036	21,322	21,324	21,302	21,175	21,175	20,982	20,589	20,192	19,818	19,818
ARPU (¥)	3,880	3,830	3,840	3,790	3,360	3,730	3,580	3,580	3,520	3,120	3,460
- Voice ARPU (¥)	1,890	1,780	1,790	1,760	1,330	1,680	1,530	1,530	1,490	1,090	1,420
- Data ARPU (¥)	1,990	2,050	2,050	2,030	2,030	2,050	2,050	2,050	2,030	2,030	2,040

Source: Company data, Citi Investment Research and Analysis.

Figure 57. Three mobile operators: Key data

	FY08/3	FY09/3	FY 10/3	FY 11/3	FY 12/3E	FY 13/3E	FY 14/3E	FY 15/3E	FY 16/3E
Total subscribers (000')									
KDDI	30,339	30,843	31,872	32,999	34,558	36,419	38,219	39,319	39,919
NTT DoCoMo	53,388	54,601	56,082	58,010	60,045	62,235	61,735	60,935	59,835
Softbank	18,586	20,633	21,877	25,409	28,329	30,519	31,949	32,749	32,849
Total	102,313	106,077	109,831	116,418	122,932	129,173	131,903	133,003	132,603
Subscriber share									
KDDI	29.7%	29.1%	29.0%	28.3%	28.1%	28.2%	29.0%	29.6%	30.1%
NTT DoCoMo	52.2%	51.5%	51.1%	49.8%	48.8%	48.2%	46.8%	45.8%	45.1%
Softbank	18.2%	19.5%	19.9%	21.8%	23.0%	23.6%	24.2%	24.6%	24.8%
Net adds (000')									
KDDI	5,142	5,142	3,764	3,754	6,587	6,514	6,241	2,730	1,100
KDDI	2,150	504	1,029	1,127	1,559	1,861	1,800	1,100	600
NTT DoCoMo	314	1,213	1,481	1,928	2,035	2,190	-500	-800	-1,100
Softbank	2,678	2,047	1,244	3,532	2,920	2,190	1,430	800	100
Smartphone subscribers (000')									
KDDI	0	0	0	1,090	5,068	10,654	16,788	22,391	27,504
NTT DoCoMo	0	0	0	2,520	9,302	17,803	25,262	32,302	38,815
Softbank	0	700	2,390	4,373	7,154	10,700	14,615	18,412	22,007
Total	0	700	2,390	7,983	21,525	39,158	56,665	73,104	88,325
Smartphone subs/total subs									
KDDI	0.0%	0.0%	0.0%	3.3%	14.7%	29.3%	43.9%	56.9%	68.9%
NTT DoCoMo	0.0%	0.0%	0.0%	4.3%	15.5%	28.6%	40.9%	53.0%	64.9%
Softbank	0.0%	3.4%	10.9%	17.2%	25.3%	35.1%	45.7%	56.2%	67.0%
Total	0.0%	0.7%	2.2%	6.9%	17.5%	30.3%	43.0%	55.0%	66.6%
Handset sales (000')									
KDDI	15,859	10,810	10,200	11,570	12,578	13,117	13,630	13,340	13,110
NTT DoCoMo	25,739	20,127	18,037	19,055	19,965	21,011	21,620	20,950	20,040
Softbank	9,896	8,106	9,122	10,252	10,934	11,144	10,950	10,621	10,058
Total	51,494	39,043	37,359	40,877	43,477	45,273	46,200	44,911	43,208
Churn rate (%)									
KDDI	0.95%	0.76%	0.72%	0.73%	0.66%	0.65%	0.65%	0.65%	0.65%
NTT DoCoMo	0.80%	0.50%	0.46%	0.47%	0.49%	0.48%	0.48%	0.48%	0.48%
Softbank	1.30%	1.00%	1.37%	0.97%	1.05%	1.05%	1.04%	1.03%	1.03%
Total ARPU (¥)									
KDDI	6,260	5,800	5,410	4,940	4,530	4,420	4,460	4,470	4,450
NTT DoCoMo	6,320	5,650	5,270	4,980	4,780	4,770	4,890	4,900	4,880
Softbank	4,600	4,070	4,070	4,210	4,160	4,120	4,050	3,990	3,920
Voice ARPU (¥)									
KDDI	4,130	3,590	3,150	2,620	2,030	1,540	1,150	750	360
NTT DoCoMo	4,160	3,320	2,880	2,500	2,150	1,820	1,540	1,210	850
Softbank	3,120	2,320	2,050	1,890	1,660	1,410	1,140	870	590
Data ARPU (¥)									
KDDI	2,130	2,210	2,260	2,320	2,500	2,880	3,310	3,720	4,090
NTT DoCoMo	2,160	2,330	2,390	2,480	2,630	2,950	3,350	3,690	4,030
Softbank	1,480	1,740	2,020	2,310	2,500	2,710	2,910	3,120	3,330
YoY change in total ARPU (¥)									
KDDI	-350	-460	-390	-470	-410	-110	40	10	-20
NTT DoCoMo	-400	-670	-380	-290	-200	-10	120	10	-20
Softbank	-860	-530	0	140	-50	-40	-60	-60	-70

Source: Company data, Citi Investment Research and Analysis.

Company Focus

- Company Update
- Rating Change
- Target Price Change
- Estimate Change

Sell/Medium Risk	3M
<i>from Buy/High Risk</i>	
Price (02 Sep 11)	¥28,390
Target price	¥22,000
<i>from ¥80,000</i>	
Expected share price return	-22.5%
Expected dividend yield	2.8%
Expected total return	-19.7%
Market Cap	¥98,376M
	US\$1,267M

Price Performance (RIC: 9427.T, BB: 9427 JP)



eAccess (9427)

Big risk of further ARPU decline, significant concerns of an earnings undershoot

- **Turning bearish** — We revise our forecasts and downgrade our rating to Sell from Buy. With competition increasing, we think eAccess will see slower subscriber acquisition. In addition, from FY3/13 we expect to see more handsets with tethering capabilities launched by competitors. eAccess appears to have a focus on subscriber growth in its corporate DNA, and we see significant risk of an ARPU decline medium term. In our view, the market will remain concerned about earnings falling below consensus unless there is improvement in subscriber acquisition momentum, so we feel soft share price performance will continue.
- **Net adds momentum slowing** — We estimate subscriber numbers by channel as a more rigorous measure of ability to attract subscribers. Excluding sales by other companies (MVNO/FMC, corporate sales; both generate low ARPU), we estimate that while quarterly net adds via direct sales and mass merchandisers came to 150,000-200,000 in FY3/10, they fell to 50,000-100,000 in FY3/11.
- **Firm's handsets with tethering capabilities seen as offshoots of data communications terminals** — We think that while similar products at competitors are seen as offshoots of smartphones (sporting WiFi router functionality), eAccess products are seen as offshoots of data communications terminals (sporting voice and application functionality). We think the latter does not satisfy needs for mobile phone functionality.
- **KDDI a threat, increasing risk of rise in eMobile churn rate** — With KDDI's multi-network strategy, we anticipate price competition from handsets with tethering functionality. We think customers that make heavy use of both voice and data communications could start to cancel contracts for data terminals and use handsets with tethering capabilities to serve both needs.
- **FY3/12 forecasts** — The weighting of MVNO subscribers is rising, and we think the pace of subscriber acquisition at eAccess has slowed somewhat. eAccess seems to have a focus on subscriber growth in its corporate DNA (operating covenant (2): set subscriber requirements must be satisfied), and we see a major risk that ARPU could decline in the medium term. We think FY3/12 earnings will fall below consensus forecasts.
- **FY3/13 and out** — From FY3/13, we think earnings will expand slowly but remain below consensus forecasts. However, from the fall/winter of 2011, we think competitors will launch more handsets with tethering functionality, and this suggests that the firm's churn rate is likely to rise. As such, concern remains that a decline in ARPU could mean further earnings downside.
- **Valuations** — Our DCF-based target price is ¥22,000. By business, this corresponds to an FY3/13E EV/EBITDA of 3.6x for mobile communications and 2.3x for fixed-line communications. We think the mobile communications segment will fall below its previous 3.9x level.

Consol.	Sales		OP			RP		NP		EPS	PE
	¥M	YOY (%)	¥M	YOY (%)	OPM (%)	¥M	YOY (%)	¥M	YOY (%)	¥	X
3/10A	83,067	-12.1	19,151	14.6	23.1	10,828	nm	4,149	nm	2,492	11.4
3/11A	181,541	118.5	14,967	-21.8	8.2	5,088	-53.0	14,565	251.0	5,451	5.2
3/12CE	200,000	10.2	30,000	100.4	15.0	17,000	234.1	17,000	16.7	4,855	5.8
3/12E	256,517	41.3	33,687	125.1	13.1	25,147	394.2	21,447	47.2	5,696	5.0
3/12RE	196,015	8.0	28,849	92.8	14.7	15,849	211.5	15,849	8.8	4,326	6.6
3/13E	289,691	12.9	52,154	54.8	18.0	44,317	76.2	40,617	89.4	10,788	2.6
3/13RE	198,800	1.4	35,030	21.4	17.6	24,130	52.2	24,130	52.2	6,586	4.3
3/14E	201,160	1.2	38,470	9.8	19.1	29,570	22.5	29,570	22.5	8,071	3.5

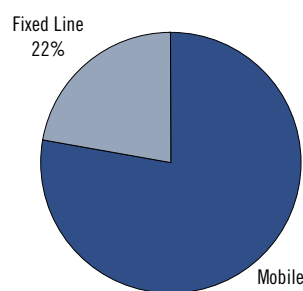
A: Actuals, E: CIRA Ests, CE: Company Ests, RE: CIRA Revised Ests, CRE: Company Revised Ests, NA: Not Available, NM: Not Meaningful

Investment Dashboard

Reasons to sell

- Competition in mobile data communications, eMobile's primary market, is heating up, and we think its pace of subscriber acquisition is slowing. eAccess appears to have a focus on subscriber growth in its genes, so we see significant risk of an ARPU decline
- We look for more handsets with tethering capabilities from FY3/13, and this could push ARPU down further
- Concerns about earnings shortfalls should linger unless subscriber acquisition momentum picks up, so we think the shares will remain soft

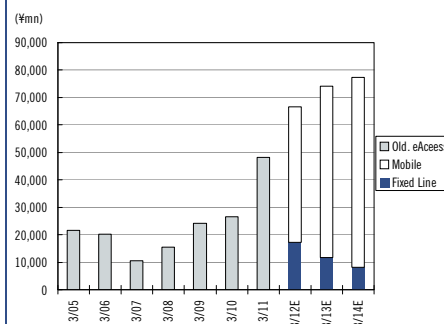
Sales breakdown (FY3/11)



Source: Company data.

eMobile earnings trends

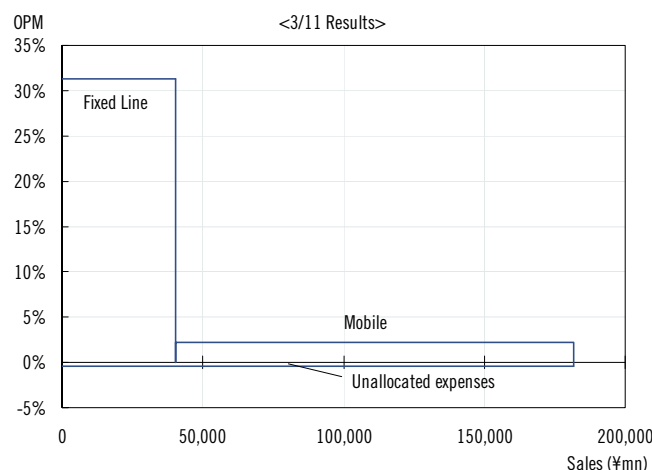
EBITDA



Source: Company data, Citi Investment Research and Analysis.

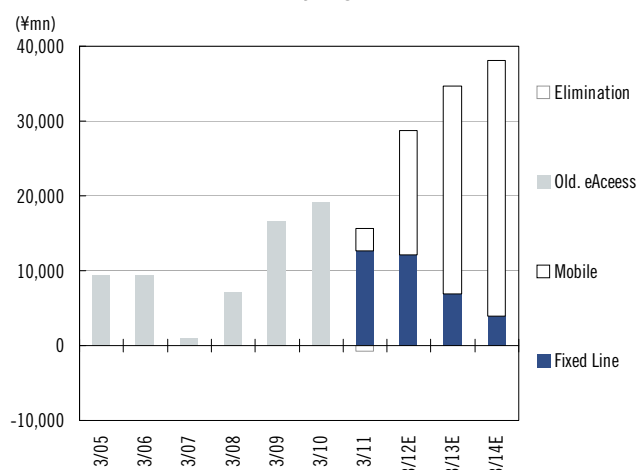
Business portfolio

<3/11 Results>



Source: Company data.

OP by segment

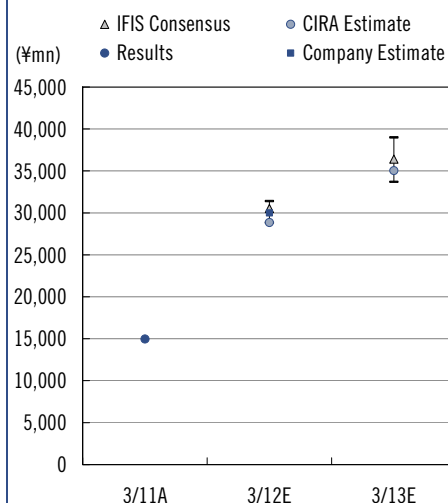


Source: Company data, Citi Investment Research and Analysis.

Alternate scenario: What would make it a Hold

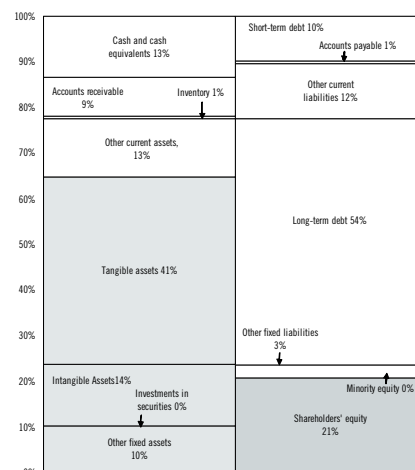
- If handset competitiveness improved due to the launch of revolutionary products or other factors, subscriber acquisition momentum via direct sales could improve and eMobile's ARPU may not decline as much as expected
- In this case, a drop for the EV/EBITDA would be less likely, and we would think the current 3.9x appropriate for the mobile communications business. This would suggest a theoretical share price of ¥28,000

OP forecast comparison



Source: Company data, IFIS (September 5) Citi Investment Research and Analysis.

Balance sheet (end-FY3/11)



Source: Company data.

Financial data and key figures

Figure 58. eAccess: Consolidated earnings model

¥mn	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Revenues	67,564	94,467	83,067	181,541	196,015	198,800	201,160	201,240	191,290
(YoY, %)	20.1	39.8	-12.1	118.5	8.0	1.4	1.2	0.0	-4.9
Mobile					154,188	171,080	180,550	185,470	179,140
Fixed					41,827	27,720	20,610	15,770	12,150
(old) Network	54,303	66,989	71,018	44,804					
(old) Device	15,533	28,272	12,170	142,637					
(old) Mobile	1,508	0	0	7,022					
Elimination	-3,780	-795	-121	-12,921					
EBITDA	15,474	24,142	26,650	48,811	65,593	74,620	77,760	78,950	76,800
(YoY, %)	48.2	56.0	10.4	83.2	34.4	13.8	4.2	1.5	-2.7
(Margin %)	22.9	25.6	32.1	26.9	33.5	37.5	38.7	39.2	40.1
Operating profit	7,092	16,712	19,151	14,967	28,849	35,030	38,470	39,700	37,780
(YoY, %)	576.1	135.6	14.6	-21.8	92.8	21.4	9.8	3.2	-4.8
(Margin %)	10.5	17.7	23.1	8.2	14.7	17.6	19.1	19.7	19.8
Mobile					16,695	28,130	34,570	37,650	36,770
Fixed					12,154	6,900	3,900	2,050	1,010
(old) Network	12,271	15,582	18,320	12,844					
(old) Device	-1,056	1,130	831	117					
(old) Mobile	-4,120	0	0	2,633					
Elimination	-5	0	0	-627					
Non-operating gains/losses	-15,457	-19,302	-8,323	-9,879	-13,000	-10,900	-8,900	-7,900	-7,400
Recurring profit	-8,365	-2,590	10,828	5,088	15,849	24,130	29,570	31,800	30,380
(YoY, %)	434.8	-69.0	-518.1	-53.0	208.5	51.2	22.8	6.0	-4.5
(Margin %)	-12.4	-2.7	13.0	2.8	8.0	12.0	14.5	15.4	15.5
Extraordinary gains/losses	4,900	-1,743	122	-7,511	0	0	0	0	0
Pre-tax profit	-3,465	-4,333	10,950	-2,423	15,849	24,130	29,570	31,800	30,380
(-) Income tax, etc	5,496	5,386	6,729	-16,988	0	0	0	13,360	12,760
(-) Minority interests	-2,610	129	72	0	0	0	0	0	0
Net profit	-6,351	-9,849	4,148	14,565	15,849	24,130	29,570	18,440	17,620
(YoY, %)	-798.7	55.1	-142.1	251.1	8.8	52.2	22.5	-37.6	-4.4
(Margin %)	-9.4	-10.4	5.0	8.0	8.1	12.1	14.7	9.2	9.2

Source: Company data, Citi Investment Research and Analysis.

Figure 59. eAccess: Consolidated balance sheet

¥mn	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Current assets	70,717	86,666	45,709	124,438	97,511	91,595	90,155	88,863	72,084
Cash and deposits	47,619	68,541	26,110	47,080	26,722	21,586	19,126	17,274	3,875
Working capital	22,002	15,756	17,755	75,939	69,190	66,370	67,690	68,250	64,870
Deferred tax assets	1,097	2,405	1,854	4,939	4,339	3,639	3,339	3,339	3,339
Bad debt	-1	-36	-10	-3,520	-2,740	-2,740	-1,800	-1,300	-780
Fixed assets	50,874	42,386	40,730	228,147	225,003	218,273	215,313	215,103	213,193
Tangibles	12,449	19,313	15,936	144,724	146,980	146,550	146,290	146,080	144,170
Intangibles	2,340	3,418	2,614	47,800	47,800	47,800	47,800	47,800	47,800
Investment/other fixed assets	36,085	19,655	22,180	35,623	30,223	23,923	21,223	21,223	21,223
Securities/Investment	34,016	15,595	9,760	1,481	1,481	1,481	1,481	1,481	1,481
Deferred tax assets	1,363	2,932	1,514	15,030	9,630	3,330	630	630	630
Others	706	1,128	10,906	19,112	19,112	19,112	19,112	19,112	19,112
Total Assets	121,591	129,052	86,864	352,952	322,881	310,235	305,835	304,333	285,644
Current liabilities	19,158	69,968	24,134	79,409	70,785	73,419	82,120	97,040	41,770
Short-term debt	1,300	56,143	5,596	35,456	34,525	36,639	44,900	53,130	0
Others	17,858	13,825	18,538	43,953	36,260	36,780	37,220	43,910	41,770
Long-term liabilities	83,000	46,382	49,575	200,517	165,992	129,353	89,453	56,323	76,323
Long-term debt	83,000	43,192	46,090	190,499	155,974	119,335	79,435	46,305	66,305
Others	0	3,190	3,485	10,018	10,018	10,018	10,018	10,018	10,018
Total liabilities	102,158	116,350	73,709	279,926	236,777	202,772	171,573	153,363	118,093
Net Assets	19,433	12,702	13,155	73,026	86,104	107,463	134,262	150,970	167,551
Owner's equity	23,538	9,960	12,612	73,037	86,115	107,474	134,273	150,981	167,562
Unrealized gains	-1,708	-363	36	-11	-11	-11	-11	-11	-11
Minority Interests	603	3,105	507	0	0	0	0	0	0
Total liabilities & equity	121,591	129,052	86,864	352,952	322,881	310,235	305,835	304,333	285,644

Source: Company data, Citi Investment Research and Analysis.

Figure 60. eAccess: Consolidated statements of cash flow

¥mn	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Net income	-6,351	-9,849	4,148	14,565	15,849	24,130	29,570	18,440	17,620
Noncash expenses	18,733	25,622	15,299	20,331	41,964	45,660	41,790	38,720	38,990
Depreciation, impairment	7,108	7,430	7,499	33,126	36,744	39,590	39,290	39,250	39,020
Other non-cash expenses	11,625	18,192	7,800	-12,795	5,220	6,070	2,500	-530	-30
Net working investment	26,634	-4,904	-1,261	30,379	435	-1,530	380	20	-1,570
Operating cash flow	-14,252	20,677	20,708	4,517	57,378	71,320	70,980	57,140	58,180
Capex	-25,740	15,372	3,318	207,100	39,000	39,160	39,030	39,040	37,110
Other investment	38,500	-714	9,970	-73	0	0	0	0	0
Free cash flow	11,488	5,305	17,390	-202,583	18,378	32,160	31,950	18,100	21,070
Dividends	3,304	3,260	3,473	4,437	2,771	2,771	2,771	1,732	1,039

Source: Company data, Citi Investment Research and Analysis.

Figure 61. eAccess: Key data

	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
ADSL subs (000')	1,843	1,759	2,285	1,928	1,539	1,209	943	726	559
Net adds (000')	-82	-84	526	-357	-389	-330	-266	-217	-167
Churn rate (%)	1.88	1.97	1.90	2.03	2.09	2.12	2.12	2.12	2.12
ARPU (¥)	2,058	2,011	2,015	1,961	1,911	1,623	1,575	1,575	1,575
eMobile subs (000')	412	1,410	2,352	3,118	3,851	4,671	5,308	5,803	5,822
Share vs. 4-firm total (%)	0.4%	1.3%	2.1%	2.6%	3.0%	3.5%	3.9%	4.2%	4.2%
Net adds (ths)	412	999	942	766	733	820	637	494	20
# of handset sales (000')	466	1,098	1,509	1,629	1,899	2,288	2,476	2,574	2,294
Churn rate (%)	1.00	1.00	1.05	1.38	1.54	1.62	1.72	1.77	1.81
ARPU (¥)	4,130	3,520	3,340	3,160	2,820	2,530	2,300	2,140	2,010

Note: Share figures relative to total for NTT DoCoMo, KDDI, Softbank, and eMobile. We exclude Willcom and WiMAX.
Source: Company data, Citi Investment Research and Analysis.

Figure 62. eAccess: Wireless business (past figures are our estimates)

	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Revenues	14,498	61,449	113,605	142,637	154,188	171,080	180,550	185,470	179,140
(YoY, %)	2688.1	323.8	84.9	25.6	8.1	11.0	5.5	2.7	-3.4
Telecom revenues	4,360	39,165	80,336	107,967	117,776	129,330	137,820	142,700	140,340
Handset revenues	9,100	22,282	33,269	34,669	36,412	41,750	42,730	42,770	38,800
Others	1,038	2	0	1	0	0	0	0	0
Operating costs	52,709	98,326	119,697	140,004	137,493	142,950	145,980	147,820	142,370
Depreciation/disposal	10,621	18,406	24,304	28,232	32,794	34,790	34,970	35,280	35,370
Network cost	NM	16,594	18,438	18,379	17,670	16,810	15,160	15,700	15,440
SAC/SRC	12,917	30,232	42,175	57,450	57,140	59,680	64,330	65,170	64,040
Handset procurement	8,918	20,136	20,124	20,581	13,672	16,280	15,270	14,980	12,290
Other cost	20,253	12,957	14,656	15,362	16,217	15,390	16,250	16,690	15,230
Operating profit	-38,211	-36,877	-6,092	2,633	16,695	28,130	34,570	37,650	36,770
(YoY, %)	NM	NM	NM	NM	534.1	68.5	22.9	8.9	-2.3
(Margin %)	NM	NM	NM	1.8	10.7	16.3	19.0	19.9	20.1

Note: We use past figures for the eMobile business. They may not match figures used in consolidated results.
Source: Citi Investment Research and Analysis.

Figure 63. eAccess: Fixed-line business (past figures are our estimates)

(¥mn)	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Revenues	67,257	78,623	77,029	70,906	41,827	27,720	20,610	15,770	12,150
(YoY, %)	20.1	16.9	-2.0	-7.9	-41.0	-33.7	-25.6	-23.5	-23.0
Network	NM	NM	65,201	60,961	41,827	27,720	20,610	15,770	12,150
Device	NM	NM	11,827	9,945	0	0	0	0	0
Operating costs	54,976	64,200	59,635	53,494	29,673	20,820	16,710	13,720	11,140
Depreciation/disposal	7,299	4,930	6,418	6,786	6,200	5,600	4,960	4,480	4,060
Network cost	11,891	11,651	18,695	18,529	12,020	7,480	5,560	4,260	3,160
Outsourcing	4,637	4,012	5,196	4,103	4,350	3,200	2,620	2,150	1,700
SAC	4,914	4,641	5,034	2,854	3,000	1,700	1,360	1,090	820
Labor cost	2,276	2,422	2,706	2,523	2,090	1,600	1,320	1,090	910
Other cost	23,959	36,544	21,586	18,699	2,013	1,240	890	650	490
Operating profit	12,281	14,423	17,395	10,662	12,154	6,900	3,900	2,050	1,010
(YoY, %)	-2.0	17.4	20.6	-38.7	14.0	-43.2	-43.5	-47.4	-50.7
(Margin %)	18.3	18.3	22.6	15.0	29.1	24.9	18.9	13.0	8.3

Note: We use past figures for eAccess. They may not match figures used in consolidated results.
Source: Company data, Citi Investment Research and Analysis.

Figure 64 eAccess: DCF assumptions

WACC	5.29%
Risk-free rate	1.00%
Beta	0.75
Risk premium	7.30%
Equity cost	6.50%
Debt cost	4.80%
D/E Ratio	71.01%

Source: Company data, Bloomberg, Citi Investment Research and Analysis.

Figure 65. eAccess: Estimating enterprise value via DCF

Projected period	Five years
Terminal growth (%)	-5.00%
Terminal value	190,013
PV of terminal value	146,813
PV of cash flow	107,922
Net debt (FY3/11A)	178,875
Equity value	75,859
Shares issued (000')	3,464
Theoretical fair value (¥)	21,901

Source: Company data, Bloomberg, Citi Investment Research and Analysis.

Figure 66. eAccess: Theoretical share price matrix using different assumptions (¥)

Discount rate	Terminal growth rate						
	-6.50%	-6.00%	-5.50%	-5.00%	-4.50%	-4.00%	-3.50%
3.79%	26,334	28,658	31,233	34,101	37,315	40,940	45,063
4.29%	22,757	24,817	27,086	29,600	32,400	35,537	39,077
4.79%	19,496	21,329	23,340	25,556	28,010	30,743	33,806
5.29%	16,510	18,148	19,938	21,901	24,065	26,461	29,131
5.79%	13,766	15,235	16,835	18,582	20,500	22,613	24,953
6.29%	11,234	12,557	13,992	15,555	17,262	19,134	21,198
6.79%	8,892	10,087	11,380	12,781	14,307	15,975	17,804

Source: Company data, Bloomberg, Citi Investment Research and Analysis.

Company Focus

- Company Update
- Rating Change
- Target Price Change
- Estimate Change

Buy/Low Risk	1L
<i>from Buy/High Risk</i>	
Price (02 Sep 11)	¥3,605
Target price	¥3,900
<i>from ¥5,700</i>	
Expected share price return	8.2%
Expected dividend yield	3.9%
Expected total return	12.1%
Market Cap	¥4,769,895M
	US\$61,456M

Price Performance (RIC: 9432.T, BB: 9432 JP)



Nippon Telegraph and Telephone (9432) Robust ability to generate earnings should boost shareholder return expectations

- **We retain our bullish stance** — As FMC services become more commonplace, we think demand for fixed-line broadband services will increase, and NTT should benefit from this market expansion. In addition, subsidiary earnings have improved more than expected. We think the FY3/13 profit targets in NTT's medium-term plan are achievable. In our view, NTT's robust ability to generate earnings should increase expectations for shareholder return, and we think the stock's appeal as a defensive play will increase.
- **Fixed-line broadband demand rising** — Smartphones enable users to access a diverse range of content, so we anticipate explosive growth for data traffic. In our view, data offloading leveraging FMC services is an effective way of dealing with this problem. As FMC services become more commonplace, we think fixed-line broadband services demand will increase.
- **NTT set to benefit from expansion in fixed-line broadband market** — If FMC services become mainstream, we expect a great leap forward for firms that can bundle mobile and fixed-line services. However, NTT dominates the FTTH and ADSL markets, so it looks poised to benefit from market expansion. As such, we expect firmness for broadband subscribers to continue.
- **FY3/12 forecasts** — NTT Communications is doing better than expected. While NTT East and West saw operations suspended temporarily by the March 11 disaster, sales of value-added services (fiber-optic phone services, etc.) have been strong since July, and we think ARPU will improve and subscriber acquisition will progress. Moreover, smartphone sales are ahead of plan at NTT DoCoMo, and overall subsidiary earnings are better than expected. We think FY3/12 earnings will beat NTT forecasts.
- **FY3/13 profit targets** — We anticipate progress in FTTH subscriber acquisition (our end-FY3/13 estimate is 19.79mn), and this business should be in the black for the fiscal year. We also expect profit growth for NTT DoCoMo and NTT Data, so the firm's FY3/13 OP target of ¥1.3trn looks achievable.
- **Valuations** — Based on DCF and a sum-of-the-parts approach, we set a target price of ¥3,900. This corresponds to an FY3/13E EV/EBITDA of 2.2x for the fixed-line business.

Consol.	Sales		OP		Pretax Profit		NP		EPS		PE
	¥M	YOY (%)	¥M	YOY (%)	OPM(%)	¥M	YOY (%)	¥M	YOY (%)	¥	X
3/10A	10,181,376	-2.3	1,117,693	0.7	11.0	1,120,071	1.3	492,266	-8.6	372	9.7
3/11A	10,305,003	1.2	1,214,909	8.7	11.8	1,175,797	5.0	509,629	3.5	385	9.4
3/12CE	10,540,000	2.3	1,240,000	2.1	11.8	1,230,000	4.6	540,000	6.0	434	8.3
3/12E	10,197,605	-1.0	1,159,023	-4.6	11.4	1,176,066	0.0	522,570	2.5	395	9.1
3/12RE	10,531,776	2.2	1,263,727	4.0	12.0	1,253,727	6.6	554,897	8.9	440	8.2
3/13E	10,232,746	0.3	1,186,373	2.4	11.6	1,212,454	3.1	539,359	3.2	408	8.8
3/13RE	10,746,223	2.0	1,342,835	6.3	12.5	1,332,835	6.3	587,915	6.0	491	7.3
3/14E	10,927,539	1.7	1,403,439	4.5	12.8	1,393,439	4.5	610,979	3.9	510	7.1

A: Actuals, E: CIRA Ests, CE: Company Ests, RE: CIRA Revised Ests, CRE: Company Revised Ests, NA: Not Available, NM: Not Meaningful

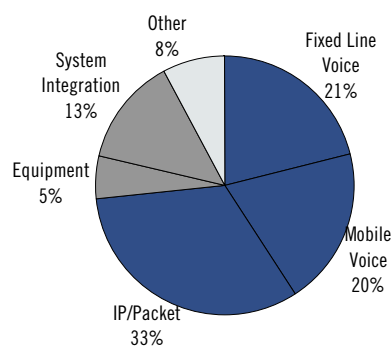
Investment Dashboard

Reasons to Buy

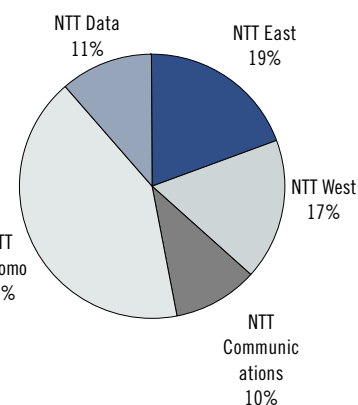
- Explosive growth for data traffic looks likely as smartphones become more popular, and we think data offloading leveraging FMC services would be an effective way to deal with this
- As FMC services become more commonplace, demand for fixed-line broadband is likely to increase, and NTT should benefit from this market expansion. In addition, subsidiary earnings are better than expected. We think the firm's FY3/13 profit target is achievable
- NTT's robust ability to generate earnings should increase expectations for shareholder return, and we think the stock's appeal as a defensive play will increase

Sales breakdown (FY3/11)

By service



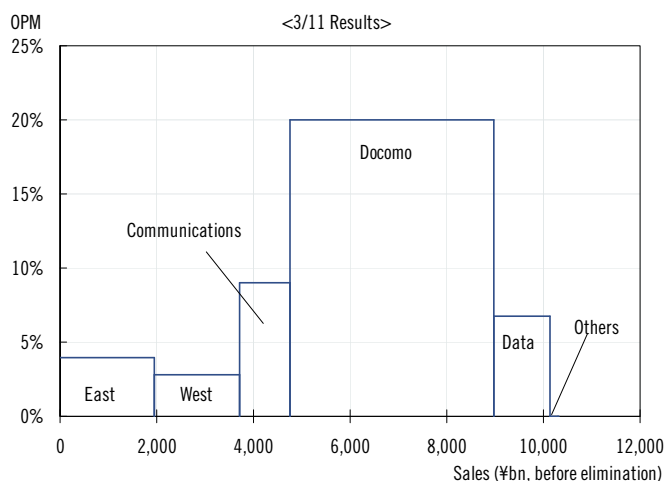
By company



Source: Company data.

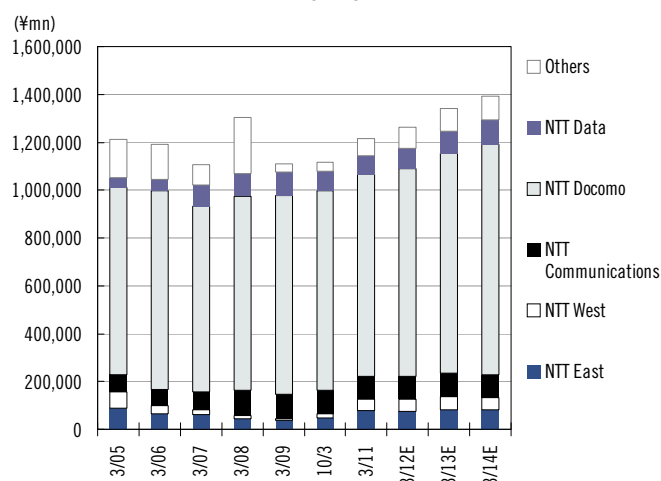
Business portfolio

<3/11 Results>



Source: Company data.

OP by segment

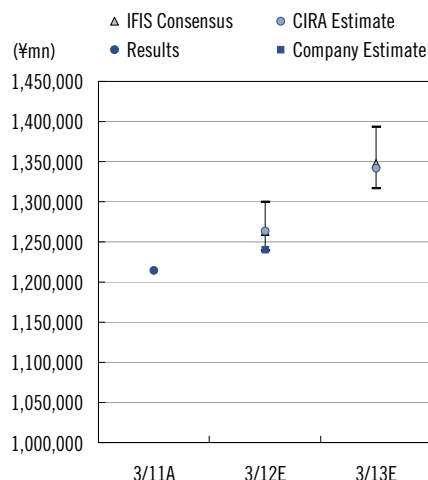


Source: Company data, Citi Investment Research and Analysis.

Alternate scenario: A more bullish case

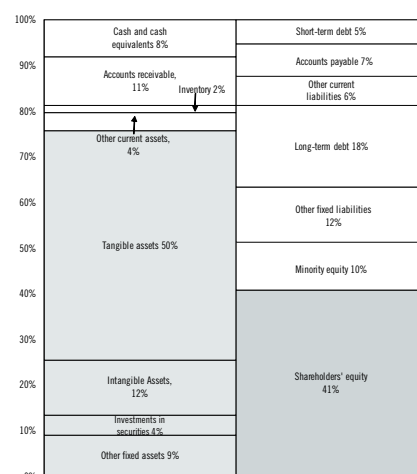
- If the government were to ease regulations via measures like abolishing the NTT Law
- If the NTT law were abolished, we think the government would sell its 33% stake, but EPS would grow if NTT could buy these shares back and cancel them
- In light of expected FCF over the next several years, if NTT were to buy back shares and bring the government's holding down to 20% (before cancellation), then we estimate EPS would rise 15%-20%, producing a theoretical share price of ¥4,800

OP forecast comparison



Source: Company data, IFIS (September 5), Citi Investment Research and Analysis.

Balance sheet (end-FY3/11)



Source: Company data.

Financial data and key figures

Figure 67. NTT: Consolidated earnings model

(¥mn)	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Revenues	10,680,891	10,416,305	10,181,376	10,305,003	10,531,776	10,746,223	10,927,539	10,859,532	10,678,952
(YoY, %)	-0.7	-2.5	-2.3	1.2	2.2	2.0	1.7	-0.6	-1.7
NTT East	2,002,759	1,952,991	1,928,652	1,957,146	1,888,885	1,864,850	1,840,430	1,809,420	1,764,800
NTT West	1,901,232	1,824,320	1,780,821	1,758,058	1,690,127	1,654,370	1,618,470	1,581,370	1,537,630
NTT Communications	1,154,504	1,127,189	1,079,268	1,033,415	1,002,560	984,220	964,733	938,893	908,402
NTT Data	1,074,405	1,139,092	1,142,940	1,161,962	1,225,375	1,293,663	1,355,767	1,400,200	1,409,700
NTT DoCoMo	4,711,827	4,447,980	4,284,404	4,224,273	4,247,159	4,400,100	4,561,190	4,509,870	4,411,180
Other subsidiaries	1,611,433	1,629,108	1,557,433	1,732,734	2,079,280	2,183,240	2,248,740	2,271,230	2,271,230
Internal transaction/elimination	-1,775,269	-1,704,375	-1,592,142	-1,562,585	-1,601,610	-1,634,220	-1,661,790	-1,651,450	-1,623,990
EBITDA	3,606,998	3,369,820	3,240,781	3,282,173	3,353,529	3,428,900	3,487,894	3,476,222	3,415,402
(YoY, %)	8.0	-6.6	-3.8	1.3	2.2	2.2	1.7	-0.3	-1.7
(Margin %)	33.8	32.4	31.8	31.9	31.8	31.9	31.9	32.0	32.0
NTT East	500,280	488,252	485,888	510,281	513,911	513,750	511,070	506,860	499,720
NTT West	476,025	450,549	443,091	461,671	456,831	458,030	454,680	448,440	441,060
NTT Communications	238,112	219,407	212,364	197,515	203,512	203,970	203,563	200,613	193,382
NTT Data	243,596	256,441	236,189	230,563	234,088	243,950	252,742	275,700	287,400
NTT DoCoMo	1,660,132	1,704,816	1,582,431	1,582,099	1,605,584	1,663,270	1,715,830	1,693,130	1,642,650
Others/elimination	488,853	250,355	280,818	300,044	339,603	345,930	350,010	351,480	351,190
Operating profits	1,304,609	1,109,752	1,117,693	1,214,909	1,263,727	1,342,835	1,403,439	1,393,062	1,341,742
(YoY, %)	17.8	-14.9	0.7	8.7	4.0	6.3	4.5	-0.7	-3.7
(Margin %)	12.2	10.7	11.0	11.8	12.0	12.5	12.8	12.8	12.6
NTT East	44,992	36,697	47,634	77,155	76,351	80,620	80,580	80,310	77,000
NTT West	13,924	7,767	18,475	49,646	50,681	55,700	57,890	54,830	51,500
NTT Communications	104,730	100,874	97,513	93,268	95,452	100,200	100,373	97,503	90,322
NTT Data	95,913	98,547	81,689	78,306	84,088	93,175	101,667	119,900	129,300
NTT DoCoMo	808,312	830,959	834,245	844,729	866,885	917,460	963,970	940,070	892,650
Other subsidiaries/Consolidation items	248,459	49,992	68,854	101,436	120,600	126,630	130,430	131,730	131,730
Internal transaction/elimination	-11,721	-15,084	-30,717	-29,631	-30,330	-30,950	-31,470	-31,280	-30,760
Nonoperating profits	17,682	-4,589	2,378	-39,112	-10,000	-10,000	-10,000	-10,000	-10,000
Pretax profits	1,322,291	1,105,163	1,120,071	1,175,797	1,253,727	1,332,835	1,393,439	1,383,062	1,331,742
(YoY, %)	16.2	-16.4	1.3	5.0	6.6	6.3	4.5	-0.7	-3.7
(Margin %)	12.4	10.6	11.0	11.4	11.9	12.4	12.8	12.7	12.5
(-) Income taxes	520,777	370,083	447,001	475,592	501,490	533,130	557,380	553,220	532,700
(-) Minority interests	197,384	194,485	189,598	192,246	201,260	215,910	229,410	228,710	219,930
Equity method	31,026	-1,916	8,794	1,670	3,920	4,120	4,330	4,550	4,780
Net income	635,156	538,679	492,266	509,629	554,897	587,915	610,979	605,682	583,892
(YoY, %)	33.2	-15.2	-8.6	3.5	8.9	6.0	3.9	-0.9	-3.6
(Margin %)	5.9	5.2	4.8	4.9	5.3	5.5	5.6	5.6	5.5

Source: Company data, Citi Investment Research and Analysis.

Figure 68. NTT: Consolidated balance sheet

(¥mn)	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Current assets	3,990,131	4,068,051	4,245,699	4,770,297	4,422,269	4,508,458	4,571,591	4,854,895	5,126,421
Cash and deposits	1,187,132	1,073,041	1,293,289	1,602,333	1,313,995	1,369,174	1,410,247	1,743,541	2,096,397
Working capital	2,526,821	2,728,530	2,694,617	2,923,083	2,906,770	2,965,960	3,016,010	2,997,240	2,947,390
Deferred tax assets	276,178	266,480	257,793	244,881	201,504	173,324	145,334	114,114	82,634
Fixed assets	14,528,648	14,728,337	14,693,356	14,895,299	14,694,794	14,459,029	14,215,794	13,957,504	13,688,304
Tangibles	10,385,579	10,201,519	10,057,546	9,900,640	9,782,398	9,647,946	9,507,502	9,352,254	9,187,886
Investment/other fixed assets	4,143,069	4,526,818	4,635,810	4,994,659	4,912,396	4,811,083	4,708,292	4,605,250	4,500,418
Total assets	18,518,779	18,796,388	18,939,055	19,665,596	19,117,063	18,967,487	18,787,385	18,812,399	18,814,725
Current liabilities	3,911,909	3,694,199	3,588,310	3,689,072	3,349,026	3,456,853	3,224,421	3,153,998	3,099,294
Short-term debt	1,227,666	991,069	1,091,920	1,040,043	647,886	691,498	405,849	353,263	350,000
Others	2,684,243	2,703,130	2,496,390	2,649,029	2,701,140	2,765,355	2,818,572	2,800,735	2,749,294
Long-term liabilities	5,332,111	5,956,559	5,579,866	5,895,592	5,059,206	4,171,708	3,569,359	3,028,096	2,490,978
Long-term debt	3,477,228	3,739,082	3,417,701	3,529,016	2,874,130	2,175,632	1,762,783	1,402,520	1,045,702
Others	1,854,883	2,217,477	2,162,165	2,366,576	2,185,076	1,996,076	1,806,576	1,625,576	1,445,276
Total liabilities	9,244,020	9,650,758	9,168,176	9,584,664	8,408,232	7,628,561	6,793,780	6,182,094	5,590,272
Shareholders' equity	9,274,759	9,145,630	9,770,879	10,080,932	10,708,831	11,338,926	11,993,605	12,630,305	13,224,453
Owner's equity	7,437,189	7,640,027	7,977,759	8,324,442	8,751,081	9,165,266	9,590,535	9,998,525	10,372,743
Unrealized gains	-26,428	-341,917	-189,606	-303,708	-303,708	-303,708	-303,708	-303,708	-303,708
Minority interests	1,863,998	1,847,520	1,982,726	2,060,198	2,261,458	2,477,368	2,706,778	2,935,488	3,155,418
Liabilities & equity	18,518,779	18,796,388	18,939,055	19,665,596	19,117,063	18,967,487	18,787,385	18,812,399	18,814,725

Source: Company data, Citi Investment Research and Analysis.

Figure 69. NTT: Consolidated statements of cash flow

(¥mn)	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Net income	635,156	538,679	492,266	509,629	554,897	587,915	610,979	605,682	583,892
Noncash expense	2,607,470	2,345,330	2,260,537	2,279,804	2,390,919	2,397,005	2,408,805	2,407,590	2,389,530
Depreciation, impairment	2,302,389	2,260,068	2,123,088	2,067,264	2,089,802	2,086,065	2,084,455	2,083,160	2,073,660
Other non-cash expenses	305,081	85,262	137,449	212,540	301,117	310,940	324,350	324,430	315,870
Net working investment	-279,688	228,629	146,318	21,197	-57,369	7,730	6,530	-2,451	-6,513
Operating cash flow	3,522,314	2,655,380	2,606,485	2,768,236	3,003,185	2,977,190	3,013,254	3,015,723	2,979,935
Capex	2,359,575	2,124,417	2,072,278	2,034,198	1,942,000	1,918,000	1,908,900	1,889,100	1,868,200
Other investment	132,090	73,719	49,372	175,321	0	0	0	0	0
Free cash flow	1,162,739	530,963	534,207	734,038	1,061,185	1,059,190	1,104,354	1,126,623	1,111,735
Dividends	117,468	135,338	152,177	158,783	163,258	173,730	185,711	197,692	209,674

Source: Company data, Citi Investment Research and Analysis.

Figure 70. NTT: Fixed-line network-related data

(000', ¥/mo)	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
PSTN/ISDN	46,034	42,085	38,330	34,883	31,490	28,100	24,730	21,020	17,860
East (000')	22,905	20,967	19,040	17,319	15,590	13,950	12,280	10,440	8,870
West (000')	23,129	21,118	19,290	17,564	15,900	14,150	12,450	10,580	8,990
DSL	4,656	3,992	3,381	2,857	2,373	1,942	1,570	1,260	1,010
East (000')	2,410	2,058	1,700	1,418	1,163	942	750	600	480
- ARPU (¥)	2,800	2,700	2,760	2,640	2,510	2,350	2,180	2,030	1,890
West (000')	2,246	1,934	1,681	1,439	1,210	1,000	820	660	530
- ARPU (¥)	2,600	2,400	2,520	2,440	2,340	2,230	2,120	1,970	1,840
FTTH (Incl. NGN)	8,778	11,134	13,251	15,058	17,180	19,790	22,260	24,360	25,680
East (000')	4,963	6,291	7,533	8,511	9,750	11,210	12,560	13,690	14,370
- ARPU (¥)	5,310	5,580	5,740	5,880	5,960	5,930	5,920	5,860	5,800
West (000')	3,815	4,843	5,718	6,547	7,430	8,580	9,700	10,670	11,310
- ARPU (¥)	5,460	5,620	5,780	5,890	5,990	5,990	6,040	5,980	5,920

Source: Company data, Citi Investment Research and Analysis.

Figure 71. Summary of earnings at NTT East

¥mn	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Revenues	2,002,759	1,952,991	1,928,652	1,957,146	1,888,885	1,864,850	1,840,430	1,809,420	1,764,800
(YoY, %)	-2.8	-2.5	-1.2	1.5	-3.5	-1.3	-1.3	-1.7	-2.5
Voice	1,031,970	911,264	816,170	742,278	654,288	573,470	493,940	415,000	342,140
Data	462,693	563,908	645,510	724,493	787,445	869,570	948,330	1,015,020	1,058,770
Lease	180,809	169,392	154,574	149,488	135,054	121,550	109,400	101,740	96,650
Other telecom	193,450	181,224	174,113	159,825	153,413	149,510	145,550	141,610	137,990
Non-telecom	133,834	127,201	138,283	181,061	158,683	150,750	143,210	136,050	129,250
Operational costs	1,957,767	1,916,294	1,881,018	1,879,991	1,812,534	1,784,230	1,759,850	1,729,110	1,687,800
Depreciation/removal	455,288	451,555	438,254	433,126	437,560	433,130	430,490	426,550	422,720
Network	38,363	37,534	36,698	33,143	29,440	25,810	22,230	18,680	15,400
Other operational	1,333,629	1,300,162	1,271,548	1,240,642	1,193,834	1,182,080	1,171,080	1,154,630	1,126,890
Handset procurement	130,487	127,043	134,518	173,080	151,700	143,210	136,050	129,250	122,790
EBITDA	500,280	488,252	485,888	510,281	513,911	513,750	511,070	506,860	499,720
(YoY, %)	-2.9	-2.4	-0.5	5.0	0.7	-0.0	-0.5	-0.8	-1.4
(Margin %)	25.0	25.0	25.2	26.1	27.2	27.5	27.8	28.0	28.3
Operating profit	44,992	36,697	47,634	77,155	76,351	80,620	80,580	80,310	77,000
(YoY, %)	-24.9	-18.4	29.8	62.0	-1.0	5.6	-0.0	-0.3	-4.1
(Margin %)	2.2	1.9	2.5	3.9	4.0	4.3	4.4	4.4	4.4

Source: Company data, Citi Investment Research and Analysis.

Figure 72. Summary of earnings at NTT West

(¥mn)	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Revenues	1,901,232	1,824,320	1,780,821	1,758,058	1,690,127	1,654,370	1,618,470	1,581,370	1,537,630
(YoY, %)	-2.6	-4.0	-2.4	-1.3	-3.9	-2.1	-2.2	-2.3	-2.8
Voice	1,016,667	896,413	798,161	729,085	644,853	564,830	487,480	405,180	330,530
Data	385,876	460,441	525,558	582,095	637,076	704,840	782,590	844,610	889,480
Lease	158,294	149,122	140,428	133,103	123,834	112,700	104,810	97,470	92,600
Other telecom	174,855	164,024	158,013	153,077	140,624	132,570	125,020	117,430	110,100
Non-telecom	165,539	154,318	158,658	160,696	143,737	139,430	135,250	131,190	127,250
Operational costs	1,887,308	1,816,553	1,762,346	1,708,412	1,639,446	1,598,670	1,560,580	1,526,540	1,486,130
Depreciation/removal	462,101	442,782	424,616	412,025	406,150	402,330	396,790	393,610	389,560
Network	31,874	33,829	35,767	32,379	28,630	25,080	21,640	17,990	14,680
Other operational	1,225,199	1,181,688	1,137,611	1,104,421	1,061,936	1,032,810	1,007,850	984,670	955,530
Handset procurement	168,134	158,254	164,352	159,587	142,730	138,450	134,300	130,270	126,360
EBITDA	476,025	450,549	443,091	461,671	456,831	458,030	454,680	448,440	441,060
(YoY, %)	-5.1	-5.4	-1.7	4.2	-1.0	0.3	-0.7	-1.4	-1.6
(Margin %)	25.0	24.7	24.9	26.3	27.0	27.7	28.1	28.4	28.7
Operating Profit	13,924	7,767	18,475	49,646	50,681	55,700	57,890	54,830	51,500
(YoY, %)	-32.0	-44.2	137.9	168.7	2.1	9.9	3.9	-5.3	-6.1
(Margin %)	0.7	0.4	1.0	2.8	3.0	3.4	3.6	3.5	3.3

Source: Company data, Citi Investment Research and Analysis.

Figure 73. Summary of earnings at NTT Communications

¥mn	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Sales	1,154,504	1,127,189	1,079,268	1,033,415	1,002,560	984,220	964,733	938,893	908,402
Revenues	0.8	-2.4	-4.3	-4.2	-3.0	-1.8	-2.0	-2.7	-3.2
(YoY, %)	450,326	413,825	378,944	353,322	324,317	293,520	261,233	227,273	193,182
Voice	334,189	354,080	364,871	361,159	378,704	387,210	393,770	397,950	400,750
IP data	147,604	133,215	120,154	111,365	81,100	70,840	62,050	54,470	47,930
Solutions	192,927	197,079	186,539	181,471	191,360	204,750	219,080	230,030	236,930
Others	29,458	28,990	28,760	26,098	27,079	27,900	28,600	29,170	29,610
Operating costs	1,049,774	1,026,315	981,755	940,147	907,108	884,020	864,360	841,390	818,080
Depreciation/disposal	133,382	118,533	114,851	104,247	108,060	103,770	103,190	103,110	103,060
Related business costs	294,972	271,219	255,117	249,190	232,810	223,710	214,000	203,440	192,710
Other operating costs	621,420	636,563	611,787	586,710	566,238	556,540	547,170	534,840	522,310
EBITDA	238,112	219,407	212,364	197,515	203,512	203,970	203,563	200,613	193,382
(YoY, %)	12.5	-7.9	-3.2	-7.0	3.0	0.2	-0.2	-1.4	-3.6
(Margin %)	20.6	19.5	19.7	19.1	20.3	20.7	21.1	21.4	21.3
Operating profit	104,730	100,874	97,513	93,268	95,452	100,200	100,373	97,503	90,322
(YoY, %)	35.4	-3.7	-3.3	-4.4	2.3	5.0	0.2	-2.9	-7.4
(Margin %)	9.1	8.9	9.0	9.0	9.5	10.2	10.4	10.4	9.9

Source: Company data, Citi Investment Research and Analysis.

Figure 74. NTT: Estimating enterprise value using a sum-of-the-parts approach

Segment	Per-share value (¥)	Weighting (%)	NTT's share in earnings (¥mn)	Stake (%)	Equity value (¥mn)	Net debt FY11/3 (¥mn)	Enterprise value (¥mn)	EBITDA FY13/3E (¥mn)	OP FY13/3E (¥mn)	Valuation method
Fixed services	776	19.5%	929,664	100.0	929,664	1,725,103	2,654,767	1,175,750	236,520	DCF
NTT Docomo(9437)	3,376	84.7%	4,044,874	66.7%	6,067,918	-478,201	5,589,717	1,663,270	917,460	DCF
NTT Data(9613)	302	7.6%	361,682	54.2%	667,310	203,731	871,041	243,950	93,175	Market Cap
NTT Urban(8933)	99	2.5%	118,944	67.3%	176,737	482,080	658,817	48,245	24,912	Market Cap
Others	295	7.4%	353,841	100.0	353,841	0	353,841	297,685	70,768	OP multiple (5.0x)
Net Debt	-863	-21.7%	-1,034,013	100.0%	-1,034,013	1,034,013				
Total	3,985	100.0%	4,774,991		7,161,456	2,966,726	10,128,182	3,428,900	1,342,835	

Note: We use IFIS consensus estimates for NTT Data and NTT Urban Development.
Source: Company data, Citi Investment Research and Analysis.

Figure 75. NTT's three fixed-line companies: DCF assumptions

WACC	4.86%
Risk-free rate	1.00%
Beta	0.73
Risk premium	7.30%
Equity cost	6.32%
Debt cost	1.20%
D/E ratio	28.55%

Source: Company data, Bloomberg, Citi Investment Research and Analysis.

Figure 76. NTT's three fixed-line companies: Estimating enterprise value via DCF

Projected period	Five years
Terminal growth (%)	-5.00%
Terminal Value of fixed services	2,203,270
PV of terminal value	1,737,910
PV of cash flow from fixed services	916,857
Net debt of fixed services(FY3/11A)	1,725,103
Equity value	929,664
Shares issued ('000')	1,198,135
Theoretical fair value (¥)	776

Source: Company data, Bloomberg, Citi Investment Research and Analysis.

Figure 77. NTT's three fixed-line companies: Theoretical share prices using different assumptions (¥)

Discount rate	Terminal growth rate						
	-6.50%	-6.00%	-5.50%	-5.00%	-4.50%	-4.00%	-3.50%
4.11%	739	808	885	969	1,064	1,170	1,290
4.36%	685	750	822	901	990	1,089	1,200
4.61%	634	695	763	837	920	1,012	1,116
4.86%	584	642	706	776	853	940	1,036
5.11%	537	592	652	718	791	871	961
5.36%	492	544	601	663	731	807	891
5.61%	449	498	552	610	674	745	824

Source: Company data, Bloomberg, Citi Investment Research and Analysis.

Company Focus

- Company Update
- Rating Change
- Target Price Change
- Estimate Change

Buy/Low Risk	1L
<i>from Hold/Medium Risk</i>	
Price (02 Sep 11)	¥577,000
Target price	¥780,000
<i>from ¥490,000</i>	
Expected share price return	35.2%
Expected dividend yield	2.6%
Expected total return	37.8%
Market Cap	¥2,449,851M
	US\$31,564M

Price Performance (RIC: 9433.T, BB: 9433 JP)



KDDI (9433)

We expect progress in subscriber acquisition by leveraging the multi-network strategy

- **Our top pick in the sector** — We revise our earnings forecasts up and upgrade our rating to Buy from Hold. KDDI positions its multi-network strategy based on FMC as a competitive advantage. With smartphones becoming increasingly popular data traffic should increase significantly, and we think KDDI is able to provide added value to its customers like reliable network speed, low rates, and seamless network connection. We see huge scope for earnings growth via increased subscribership over the longer term.
- **Locus of competition changing** — In the smartphone space, the gap between carriers in terms of price, handsets, and services is shrinking. On the other hand, smartphone users are able to access a large variety of content, so we expect explosive growth in data traffic. As a result, we think competitiveness will depend upon whether or not a company can provide a reliable network environment.
- **FMC strategy key** — Explosive growth for data traffic looks likely as smartphones become more popular, and we think data offloading leveraging FMC services would be an effective way to deal with this.
- **KDDI's strategy is a positive** — KDDI intends to lighten the load on its network by leveraging fixed-line services in the home (FTTH, xDSL, CATV, etc.) and its mobile services outside the home (3G/3.9G, WiMAX, public WiFi, etc.). We think KDDI is able to provide added value to its customers via things like reliable network speed, low rates (we think a fixed-mobile bundle is possible), and seamless network connection.
- **FY3/12 forecasts** — The firm has succeeded in expanding its user base by introducing handsets with cool designs as well as overseas handsets. Since July, smartphone subscriber acquisition has been solid. In H2, the firm plans further improvements to its handset line-up (adding WiMax and tethering functions) and to boost sales via mass merchandisers. Subscriber acquisition momentum should accordingly improve. Adding in fixed-line earnings improvement as well, we think the company forecasts are achievable.
- **FY3/13 and out** — We think overall ARPU will turn up in FY3/13 Q4 due to increased smartphone sales and a peak for simple plan subscribers. In the longer term, the firm plans to capture demand from smartphone users and for data communications leveraging its multi-network strategy, and this should mean market share growth. Earnings expansion driven by subscriber acquisition should continue, in our view.
- **Valuations** — Our DCF-based target price is ¥780,000, corresponding to an FY3/13 EV/EBITDA of 4.3x for mobile communications and 2.3x for the fixed-line business. The mobile communications multiple is at a premium to peers.

Consol.	Sales		OP			RP		NP		EPS	PE
	¥M	YOY (%)	¥M	YOY (%)	OPM (%)	¥M	YOY (%)	¥M	YOY (%)	¥	X
3/10A	3,442,147	-1.6	443,862	0.1	12.9	422,870	-4.0	212,766	-4.5	47,727	12.1
3/11A	3,434,545	-0.2	471,911	6.3	13.7	440,676	4.2	255,122	19.9	58,649	9.8
3/12CE	3,460,000	0.7	475,000	0.7	13.7	450,000	2.1	250,000	-2.0	58,881	9.8
3/12E	3,448,590	0.4	421,477	-10.7	12.2	409,665	-7.0	234,103	-8.2	52,559	11.0
3/12RE	3,447,634	0.4	482,886	2.3	14.0	458,026	3.9	254,646	-0.2	62,612	9.2
3/13E	3,494,955	1.3	453,659	7.6	13.0	450,362	9.9	260,042	11.1	58,382	9.9
3/13RE	3,523,010	2.2	517,860	7.2	14.7	494,620	8.0	275,720	8.3	70,910	8.1
3/14E	3,659,100	3.9	562,820	8.7	15.4	542,470	9.7	303,180	10.0	77,972	7.4

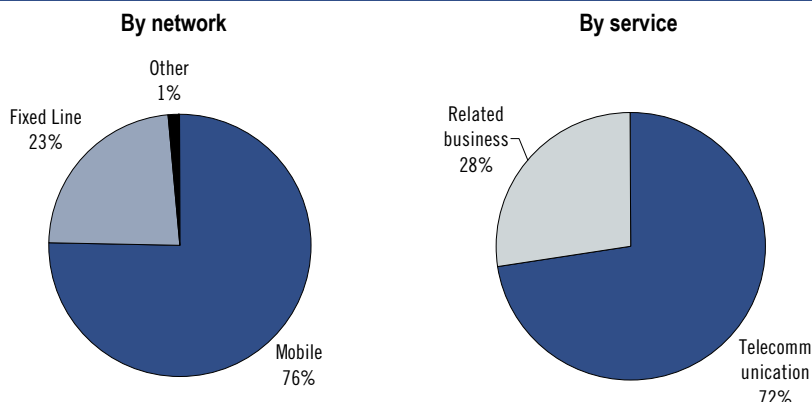
A: Actuals, E: CIRA Ests, CE: Company Ests, RE: CIRA Revised Ests, CRE: Company Revised Ests, NA: Not Available, NM: Not Meaningful

Investment Dashboard

Reasons to Buy

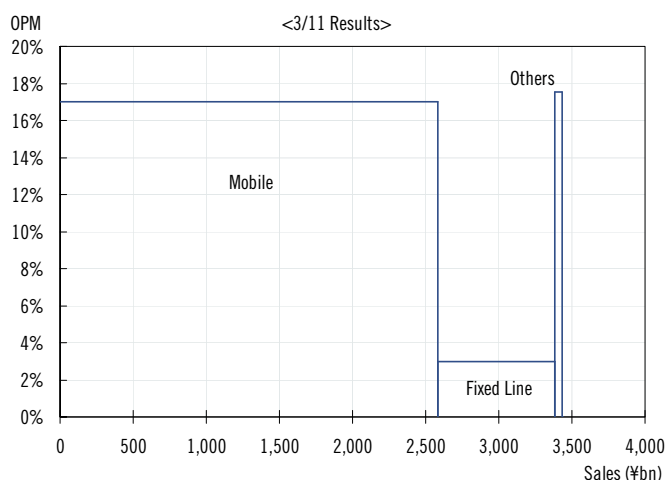
- As smartphone popularity increases, we expect explosive growth in data traffic. As a result, we think competitiveness will depend upon whether or not a company can provide a reliable network environment
- We think data offloading leveraging FMC services would be an effective way to deal with this
- KDDI positions its multi-network strategy based on FMC as a competitive advantage. We think KDDI is able to provide added value to its customers like reliable network speed, low rates, and seamless network connection. We see huge scope for earnings growth in the longer term

Sales breakdown (FY3/11)



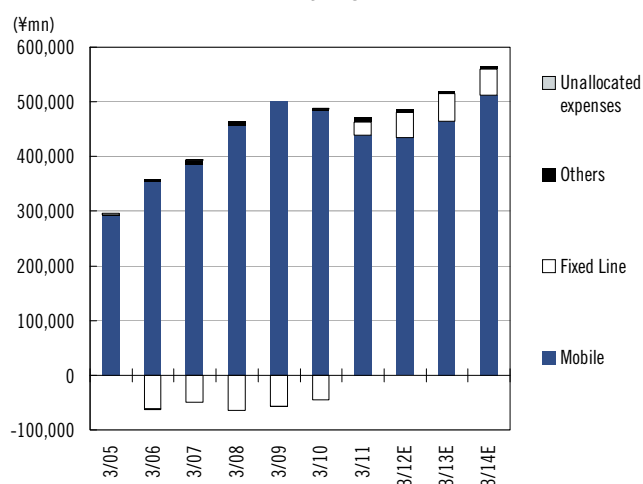
Source: Company data.

Business portfolio



Source: Company data.

OP by segment

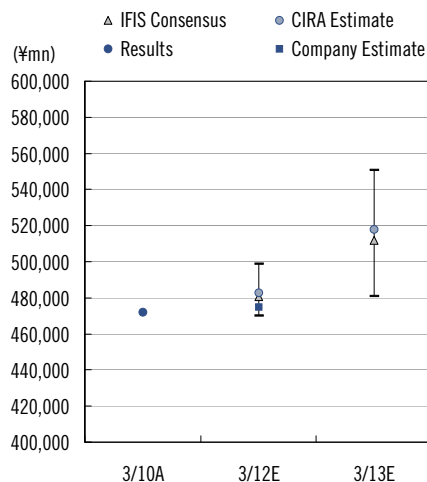


Source: Company data, Citi Investment Research and Analysis.

Alternate scenario: What would make it a Hold

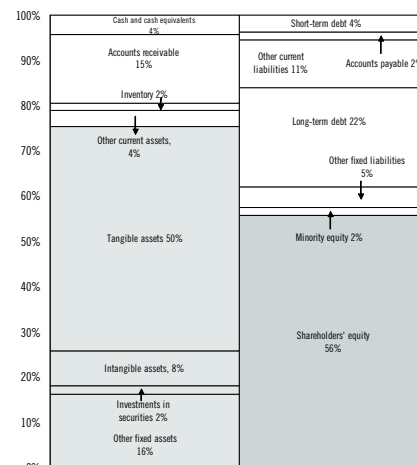
- We see a risk that FMC services will be less popular than expected and a multi-network strategy will fail to act as a differentiator
- In this case, we think NTT DoCoMo's share would remain high and KDDI would struggle
- Were medium-term growth expectations to disappear, we would apply an EV/EBITDA of 3.3x to the mobile communications business, inline with that for NTT DoCoMo. This would produce a theoretical share price of ¥580,000

OP forecast comparison



Source: Company data, IFIS (September 5), Citi Investment Research and Analysis.

Balance sheet (end-FY3/11)



Source: Company data.

Financial data and key figures

Figure 78. KDDI: Consolidated earnings model

¥mn	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Revenues	3,596,284	3,497,509	3,442,147	3,434,545	3,447,634	3,523,010	3,659,100	3,719,550	3,737,040
(YoY, %)	7.8	-2.7	-1.6	-0.2	0.4	2.2	3.9	1.7	0.5
Cellular	2,862,599	2,719,211	2,650,135	2,590,724	2,603,788	2,671,770	2,808,020	2,867,610	2,888,130
Fixed line	718,646	848,712	839,178	897,251	912,479	931,690	939,000	940,920	937,790
Other business	167,159	72,777	112,247	114,327	103,544	95,700	92,080	91,020	91,020
Adjustment	-152,120	-143,191	-159,413	-167,757	-172,177	-176,140	-180,000	-180,000	-180,000
EBITDA	769,209	904,030	927,253	936,315	933,056	969,780	1,014,340	1,030,700	1,035,490
(Margin %)	21.4	25.8	26.9	27.3	27.1	27.5	27.7	27.7	27.7
Cellular	692,239	821,881	826,834	774,390	748,326	788,070	836,020	859,610	873,230
Fixed line	58,129	82,301	94,669	151,586	167,682	171,890	168,800	161,720	153,090
Other business	20,338	2,459	5,935	10,014	10,559	9,620	9,320	9,170	9,070
Adjustment	-1,497	-2,611	-185	325	6,489	200	200	200	100
Operating profit	400,451	443,207	443,862	471,911	482,886	517,860	562,820	578,280	582,270
(YoY, %)	16.2	10.7	0.1	6.3	2.3	7.2	8.7	2.7	0.7
(Margin %)	11.1	12.7	12.9	13.7	14.0	14.7	15.4	15.5	15.6
Cellular	455,044	501,461	483,742	438,886	430,331	462,470	510,020	530,610	541,130
Fixed Line	-64,668	-56,560	-44,217	23,989	46,337	49,990	47,600	42,520	35,890
Other business	9,014	-2,476	3,506	8,530	5,629	4,800	4,600	4,550	4,550
Adjustment	1,061	782	831	506	589	600	600	600	600
Non-operating gains/losses	7,475	-2,752	-20,992	-31,235	-24,860	-23,240	-20,350	-17,680	-15,500
Recurring profit	407,926	440,455	422,870	440,676	458,026	494,620	542,470	560,600	566,770
(YoY, %)	16.2	8.0	-4.0	4.2	3.9	8.0	9.7	3.3	1.1
(Margin %)	11.3	12.6	12.3	12.8	13.3	14.0	14.8	15.1	15.2
Extraordinary gains/losses	-28,721	-45,592	-54,244	-95,417	0	0	0	0	0
Pretax profits	379,205	394,863	368,626	345,259	458,026	494,620	542,470	560,600	566,770
(-) Income tax	157,711	170,323	150,208	81,237	196,970	212,040	231,950	239,470	242,000
(-) Minority Interests	3,706	1,803	5,652	8,900	6,410	6,860	7,340	7,850	8,400
Net Profits	217,786	222,736	212,764	255,122	254,646	275,720	303,180	313,280	316,370
(YoY, %)	16.6	2.3	-4.5	19.9	-0.2	8.3	10.0	3.3	1.0
(Margin %)	6.1	6.4	6.2	7.4	7.4	7.8	8.3	8.4	8.5

Source: Company data, Citi Investment Research and Analysis.

Figure 79. KDDI: Consolidated balance sheet

(¥mn)	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Current assets	652,301	870,237	869,378	932,098	811,793	885,668	988,421	1,073,719	1,231,697
Cash and deposits	76,998	201,206	166,863	187,323	117,977	151,684	173,094	241,477	416,264
Working capital	522,387	597,030	635,117	680,696	636,688	684,355	772,838	796,132	784,707
Deferred tax assets	52,916	72,001	67,398	64,079	57,128	49,629	42,489	36,111	30,727
Fixed assets	2,226,972	2,558,893	2,950,156	2,846,817	2,839,854	2,820,805	2,798,835	2,780,817	2,766,273
Tangibles	1,617,530	1,952,061	1,941,046	1,872,821	1,879,670	1,874,380	1,864,340	1,855,670	1,847,810
Intangibles	322,600	312,060	322,743	290,927	290,103	288,943	288,413	289,173	291,153
Investment/other fixed assets	286,842	294,772	686,367	683,069	670,081	657,482	646,082	635,974	627,310
Investment	70,596	64,696	465,406	430,785	424,545	419,315	414,925	411,065	407,655
Deferred tax assets	99,925	111,400	100,392	128,686	121,735	114,236	107,096	100,718	95,334
Others	116,321	118,676	120,569	123,598	123,801	123,931	124,061	124,191	124,321
Total assets	2,879,274	3,429,132	3,819,536	3,778,918	3,651,647	3,706,473	3,787,256	3,854,536	3,997,970
Current liabilities	607,127	710,115	736,927	607,278	655,790	652,470	649,900	577,130	544,367
Short-term debt	99,206	141,661	213,107	140,103	178,000	170,600	163,800	111,300	75,487
Others	507,921	568,454	523,820	467,175	477,790	481,870	486,100	465,830	468,860
Long-term liabilities	556,416	837,687	1,004,159	999,800	823,293	651,533	483,623	366,733	284,076
Long-term debt	472,622	725,837	872,743	829,165	651,165	480,565	316,765	205,465	129,978
Others	83,794	111,850	131,416	170,635	172,128	170,968	166,858	161,268	154,098
Total liabilities	1,163,543	1,547,802	1,741,086	1,607,078	1,479,083	1,304,003	1,133,523	943,863	828,443
Net assets	1,715,730	1,881,329	2,078,450	2,171,839	2,172,564	2,402,470	2,653,733	2,910,673	3,169,607
Owner's equity	1,633,356	1,784,244	1,925,890	2,009,223	2,003,538	2,226,584	2,470,507	2,719,597	2,970,081
Unrealized gains	18,570	18,529	34,326	28,612	28,612	28,612	28,612	28,612	28,612
Minority Interests	63,804	78,556	118,234	134,004	140,414	147,274	154,614	162,464	170,864
Total liabilities & equity	2,879,273	3,429,131	3,819,536	3,778,917	3,651,647	3,706,473	3,787,256	3,854,536	3,997,990

Source: Company data, Citi Investment Research and Analysis.

Figure 80. Consolidated statements of cash flow

¥mn	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Net profits	217,786	222,736	212,764	255,122	254,646	275,720	303,180	313,280	316,370
Noncash expense	372,803	462,625	489,041	473,685	456,580	458,780	458,860	460,270	461,720
Depreciation, impairment	390,326	528,868	534,779	516,926	450,170	451,920	451,520	452,420	453,320
Other non-cash expenses	-17,523	-66,243	-45,738	-43,241	6,410	6,860	7,340	7,850	8,400
Net working capital	45,356	-26,869	-38,186	11,454	-64,547	21,587	77,593	24,503	-21,295
Operating cash flow	545,233	712,230	739,991	717,353	775,773	712,913	684,447	749,047	799,445
Capex	500,056	547,979	494,541	422,157	465,200	453,570	448,250	451,110	453,340
Other investment	-57,632	-227,491	-429,900	-18,388	-4,700	-5,000	-5,400	-5,700	-6,060
Free cash flow	-12,455	-63,240	-184,450	276,808	305,873	254,343	230,797	292,237	340,105
Dividends	45,570	50,005	54,489	58,986	56,532	52,674	59,258	64,190	65,836

Source: Company data, Citi Investment Research and Analysis.

Figure 81. KDDI: Mobile communications data

	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Mobile subs (000')	30,339	30,843	31,872	32,999	34,558	36,419	38,219	39,319	39,919
Share vs. total for 4 firms (%)	29.5%	28.7%	28.4%	27.6%	27.3%	27.2%	27.9%	28.3%	28.8%
Net adds (000')	2,150	504	1,029	1,127	1,559	1,861	1,800	1,100	600
# of handset sales (000')	15,859	10,810	10,200	11,570	12,578	13,117	13,630	13,340	13,110
Churn rate (%)	1.02%	0.95%	0.76%	0.72%	0.73%	0.66%	0.65%	0.65%	0.65%
Smartphone subs (000')	0	0	0	1,090	5,068	10,654	16,788	22,391	27,504
Smartphone penetration (%)	0.0%	0.0%	0.0%	3.3%	14.7%	29.3%	43.9%	56.9%	68.9%
Total ARPU (¥)	6,260	5,800	5,410	4,940	4,530	4,420	4,460	4,470	4,450
Voice ARPU (¥)	4,130	3,590	3,150	2,620	2,030	1,540	1,150	750	360
Data ARPU (¥)	2,130	2,210	2,260	2,320	2,500	2,880	3,310	3,720	4,090
YoY chg in total ARPU (¥)	-350	-460	-390	-470	-410	-110	40	10	-20

Note: Share figures relative to total for NTT DoCoMo, KDDI, Softbank, and eMobile. We exclude Willcom and WiMAX.
Source: Company data, Citi Investment Research and Analysis.

Figure 82. KDDI: Mobile communications business

(¥mn)	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Revenues	2,862,599	2,719,211	2,650,135	2,590,724	2,603,788	2,671,770	2,808,020	2,867,610	2,888,230
(YoY, %)	6.9	-5.0	-2.5	-2.2	0.5	2.6	5.1	2.1	0.7
Telecom services	2,149,208	2,100,289	2,004,921	1,880,301	1,790,404	1,819,330	1,926,010	2,003,470	2,038,150
Handset sales	702,471	607,716	632,886	702,066	804,821	844,040	873,610	855,740	841,580
Others/adjustment	10,920	11,206	12,328	8,357	8,563	8,400	8,400	8,400	8,500
Operational costs	2,407,555	2,217,750	2,166,393	2,151,838	2,173,457	2,209,300	2,298,000	2,337,000	2,347,000
Depreciation/removal	237,195	320,420	343,092	335,504	317,995	325,600	326,000	329,000	332,000
Network	191,000	181,000	164,000	141,000	151,000	155,000	164,000	174,000	179,000
Sales incentives/commissions	827,000	638,000	608,000	586,000	562,000	567,000	606,000	623,000	620,000
Handset procurement	585,000	419,000	392,000	418,000	450,000	461,000	478,000	468,000	460,000
Other operational	567,360	659,330	659,301	671,334	692,462	700,700	724,000	743,000	756,000
EBITDA	692,239	821,881	826,834	774,390	748,326	788,070	836,020	859,610	873,230
(YoY, %)	15.7	18.7	0.6	-6.3	-3.4	5.3	6.1	2.8	1.6
(Margin %)	24.2	30.2	31.2	29.9	28.7	29.5	29.8	30.0	30.2
Operating profit	455,044	501,461	483,742	438,886	430,331	462,470	510,020	530,610	541,130
(YoY, %)	18.0	10.2	-3.5	-9.3	-1.9	7.5	10.3	4.0	2.0
(Margin %)	15.9	18.4	18.3	16.9	16.5	17.3	18.2	18.5	18.7

Source: Company data, Citi Investment Research and Analysis.

Figure 83. KDDI: Fixed-line business data

	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Fixed service subs (000')									
ADSL	1,396	1,224	1,031	825	660	528	420	340	270
FTTH	710	1,099	1,513	1,901	2,338	2,806	3,230	3,620	3,910
Fixed service ARPU (¥)									
FTTH	4,600	4,690	4,460	4,360	4,430	4,300	4,100	3,860	3,620

Source: Company data, Citi Investment Research and Analysis.

Figure 84. KDDI: Fixed-line business

(¥mn)	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Revenues	718,646	848,712	839,178	897,251	912,479	931,690	939,000	940,920	937,790
(YoY, %)	0.6	18.1	-1.1	6.9	1.7	2.1	0.8	0.2	-0.3
KDDI (telecom services)	575,195	561,070	537,126	521,860	513,030	510,740	502,440	493,380	481,420
Voice	303,431	285,000	262,666	251,998	241,837	231,460	217,570	202,340	188,180
Data	271,389	275,637	274,460	269,862	271,193	279,280	284,870	291,040	293,240
Others	375	433	0	0	0	0	0	0	0
KNSL (telecom services)	31,802	0	0	0	0	0	0	0	0
JCN	0	57,825	75,757	89,686	93,836	103,850	111,120	116,680	122,510
CTC	0	39,217	46,542	54,416	60,597	64,740	66,680	68,680	69,370
Others/adjustment	111,649	190,600	179,753	231,289	245,016	252,360	258,760	262,180	264,490
Operational costs	783,314	905,272	883,395	873,262	866,145	881,700	891,400	898,400	901,900
Depreciation/removal	122,796	138,859	138,887	127,980	121,345	121,900	121,200	119,200	117,200
Other operational	633,459	660,518	766,413	744,508	745,282	760,978	773,372	776,303	774,160
EBITDA	58,129	82,301	94,669	151,586	167,682	171,890	168,800	161,720	153,090
(YoY, %)	-28.1	41.6	15.0	60.1	10.6	2.5	-1.8	-4.2	-5.3
(Margin %)	8.1	9.7	11.3	16.9	18.4	18.4	18.0	17.2	16.3
Operating profit	-64,668	-56,560	-44,217	23,989	46,337	49,990	47,600	42,520	35,890
(YoY, %)	NM	NM	NM	-154.3	93.2	7.9	-4.8	-10.7	-15.6
(Margin %)	-9.0	-6.7	-5.3	2.7	5.1	5.4	5.1	4.5	3.8

Source: Company data, Citi Investment Research and Analysis.

Figure 85. KDDI: WACC assumptions

WACC	5.15%
Risk-free rate	1.00%
Beta	0.76
Risk premium	7.30%
Equity cost	6.54%
Debt cost	1.40%
D/E ratio	27.09%

Source: Company data, Bloomberg, Citi Investment Research and Analysis.

Figure 86. KDDI: DCF model

Projected period	Five years
Terminal growth (%)	-5.00%
Terminal value	3,259,513
PV of terminal value	2,535,962
PV of cash flow	1,303,919
Net debt (FY3/11A)	781,945
Equity value	3,057,936
Shares issued ('000')	3,888
Theoretical fair price (¥)	786,445

Source: Company data, Bloomberg, Citi Investment Research and Analysis.

Figure 87. KDDI: Theoretical share prices at different assumptions (¥)

Discount rate	Terminal growth rate						
	-6.50%	-6.00%	-5.50%	-5.00%	-4.50%	-4.00%	-3.50%
3.65%	850,017	886,334	926,620	971,565	1,022,026	1,079,084	1,144,124
4.15%	796,122	828,246	863,699	903,028	946,904	996,165	1,051,867
4.65%	747,148	775,698	807,062	841,676	880,074	922,912	971,007
5.15%	702,458	727,942	755,820	786,445	820,244	857,738	899,567
5.65%	661,521	684,360	709,247	736,471	766,378	799,385	836,000
6.15%	623,891	644,433	666,739	691,045	717,634	746,844	779,080
6.65%	589,188	607,727	627,792	649,580	673,322	699,294	727,825

Source: Company data, Bloomberg, Citi Investment Research and Analysis.

Company Focus

- Company Update
- Rating Change
- Target Price Change
- Estimate Change

Hold/Low Risk	2L
<i>from Buy/Low Risk</i>	
Price (02 Sep 11)	¥140,500
Target price	¥145,000
<i>from ¥160,000</i>	
Expected share price return	3.2%
Expected dividend yield	4.0%
Expected total return	7.2%
Market Cap	¥5,826,198M
	US\$75,065M

Price Performance (RIC: 9437.T, BB: 9437 JP)



NTT DoCoMo (9437)

Likely to lag peers should FMC services become mainstream

- **We downgrade to Hold** — We revise our forecasts and downgrade our rating to Hold from Buy. Smartphone sales are strong, but we think the market has already priced in firm short-term earnings (the consensus OP estimate is ¥864.1bn). In the longer term, there is concern of a rapid increase in data traffic as smartphone popularity increases, and NTT DoCoMo is dependent on its mobile network, so we think it will see its competitiveness decline. Therefore, our investment stance is neutral.
- **Locus of competition changing** — In the smartphone space, the gap between carriers in terms of price, handsets, and services is shrinking. On the other hand, smartphone users are able to access a large variety of content, so we expect explosive growth in data traffic. As a result, we think competitiveness will depend upon whether or not a company can provide a reliable network environment.
- **Leveraging its mobile network to the fullest** — To cope with rapidly increasing data traffic, NTT DoCoMo plans to migrate users to its next-generation network quickly and make more efficient usage of its frequency bands. In addition, using small multiband amplifiers, the firm plans to distribute traffic to multiple frequency bands.
- **Likely to lag peers should FMC become mainstream** — NTT DoCoMo cannot provide bundled services (mobile and fixed-line) based on telecom law and MiC guidelines, and it would be hard for it to increase efficiency (lower costs) via network integration. What is more, to leverage its mobile network to the fullest, the firm needs to continuously augment next-generation network equipment, so we think capex will remain high. This means the firm is likely to lag behind peers that can offer FMC services in terms of network and prices.
- **FY12 forecasts** — Smartphone sales soared to 700,000 units in July thanks to new models released at the end of June. We expect to see an improved handset line-up for winter, with some models sporting LTE technology, and think smartphone sales will continue to be at a pace well above what the firm expects (NTT DoCoMo's forecast is 6mn units, our forecast is 6.78mn units). We expect FY3/12 earnings to overshoot plan.
- **FY3/13 and out** — We think overall ARPU will turn up from FY3/13 Q3 on expanded smartphone sales and a peak for value plan subscribers. However, in the longer term we think DoCoMo's competitiveness will decline as it is dependent on its mobile network. This should mean a market share decline, and we think earnings will turn down after peaking in FY3/14.
- **Valuations** — Our DCF-based TP is ¥145,000. This corresponds to an FY3/13E EV/EBITDA multiple of 3.3x, in line with the current FY3/12E multiple of 3.4x.

Consol.	Sales		OP		OPM(%)	Pretax Profit		NP		EPS		PE
	¥M	YOY (%)	¥M	YOY (%)		¥M	YOY (%)	¥M	YOY (%)	¥	X	
3/10A	4,284,404	-3.7	834,245	0.4	19.5	836,157	7.1	494,781	4.9	11,870	11.8	
3/11A	4,224,273	-1.4	844,729	1.3	20.0	835,338	-0.1	490,485	-0.9	11,808	11.9	
3/12CE	4,230,000	0.1	850,000	0.6	20.1	854,000	2.2	502,000	2.3	12,106	11.6	
3/12E	4,428,953	4.8	861,306	2.0	19.4	861,420	3.1	513,852	4.8	12,351	11.4	
3/12RE	4,247,159	0.5	866,885	2.6	20.4	870,755	4.2	511,935	4.4	12,345	11.4	
3/13E	4,474,192	1.0	876,469	1.8	19.6	878,409	2.0	524,045	2.0	12,595	11.2	
3/13RE	4,400,100	3.6	917,460	5.8	20.9	922,640	6.0	542,400	6.0	13,080	10.7	
3/14E	4,561,190	3.7	963,970	5.1	21.1	969,640	5.1	570,030	5.1	13,746	10.2	

A: Actuals, E: CIRA Ests, CE: Company Ests, RE: CIRA Revised Ests, CRE: Company Revised Ests, NA: Not Available, NM: Not Meaningful

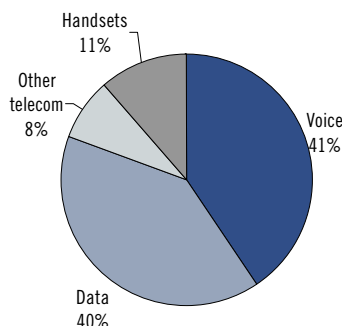
Investment Dashboard

Reasons to Hold

- We think data offloading leveraging FMC services would be an effective way to deal with explosive growth in traffic expected as smartphones become more popular
- However, NTT DoCoMo cannot provide bundled services (mobile and fixed-line) based on the NTT law, and it would be hard for it to increase efficiency (lower costs) via network integration. What is more, to leverage its mobile network to the fullest, the firm needs to continuously augment next-generation network equipment, so we think capex will remain high
- The firm is likely to lag behind peers that can offer FMC services in terms of network and prices

Sales breakdown (FY3/11)

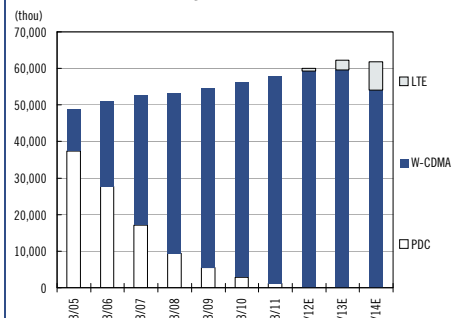
By service



Source: Company data.

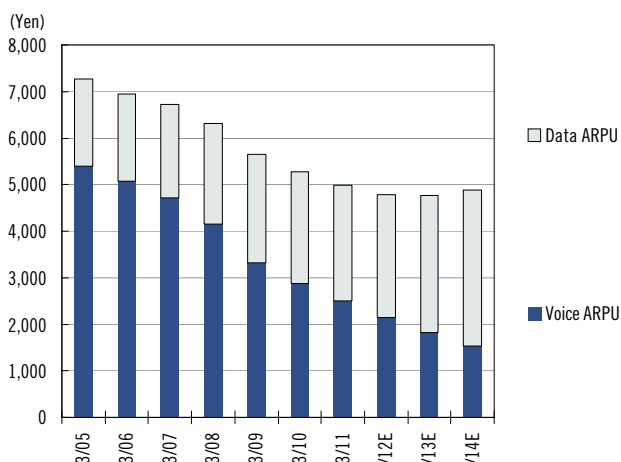
Subscriber trends

By network



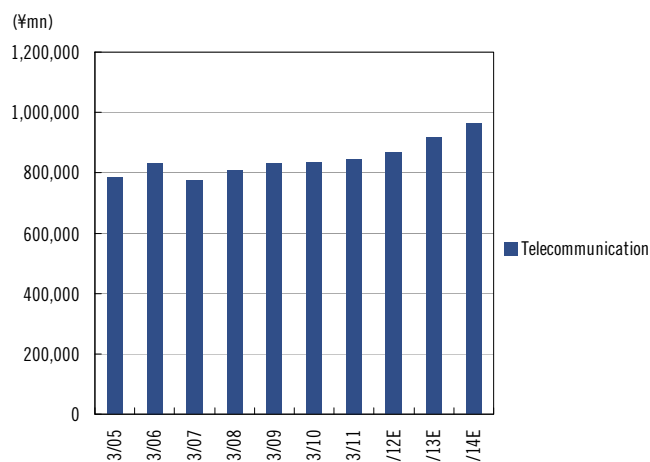
Source: Company data, Citi Investment Research and Analysis.

ARPU trends



Source: Company data, Citi Investment Research and Analysis.

OP by segment

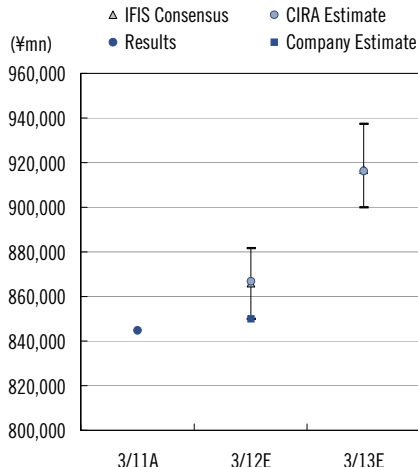


Source: Company data, Citi Investment Research and Analysis.

Alternate scenario: What would make it a Buy

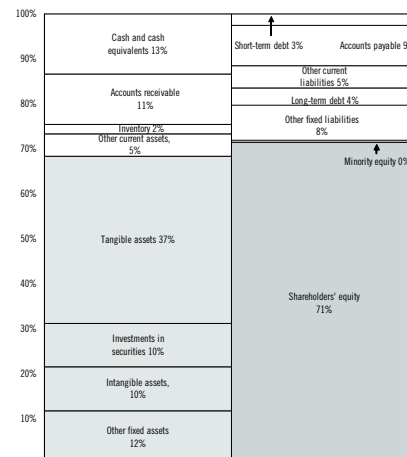
- We see a risk that FMC services will be less popular than expected and a multi-network strategy will fail to act as a differentiator
- In this case, we think NTT DoCoMo's share would remain high and that growth in smartphone subscribers would boost earnings
- Given increased expectations for growth, we think the EV/EBITDA would rise. Applying the 3.8x multiple we use for Softbank to NTT DoCoMo's mobile communications business would produce a theoretical share price of ¥164,000

OP forecast comparison



Source: Company data, IFIS (September 5), Citi Investment Research and Analysis.

Balance sheet (end-FY3/11)



Source: Company data.

Financial data and key figures

Figure 88. NTT DoCoMo: Consolidated earnings model

¥mn	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Revenues	4,711,827	4,447,980	4,284,404	4,224,273	4,247,159	4,400,100	4,561,190	4,509,870	4,411,180
(YoY, %)	-1.6	-5.6	-3.7	-1.4	0.5	3.6	3.7	-1.1	-2.2
Cellular	4,019,000	3,661,300	3,499,500	3,407,100	3,382,706	3,496,790	3,637,280	3,606,500	3,536,150
Voice revenue	2,645,100	2,149,600	1,910,500	1,712,200	1,522,129	1,336,220	1,146,380	891,480	616,830
Data revenue	1,373,900	1,511,700	1,589,000	1,694,900	1,860,577	2,160,570	2,492,000	2,716,110	2,920,420
Others	136,800	179,800	277,500	339,700	369,018	389,180	394,220	390,090	384,050
Handset sales	546,600	606,900	507,500	477,400	495,435	514,130	529,690	513,280	490,980
Operational costs	3,903,515	3,617,021	3,450,159	3,379,544	3,380,274	3,482,640	3,597,220	3,569,800	3,518,530
Depreciation/removal	851,820	873,857	748,186	737,370	738,699	745,810	751,860	753,060	750,000
Network	345,100	316,700	281,900	261,304	236,784	244,800	253,980	251,790	246,970
Service retention cost	274,660	275,469	295,567	286,754	303,726	316,750	334,170	342,520	347,660
Sales incentives/commissions	528,971	506,074	555,305	512,002	494,591	504,530	527,000	513,760	495,790
Handset procurement	1,150,261	827,856	698,495	662,829	639,928	672,350	691,840	670,400	641,280
Other costs	752,703	817,065	870,706	919,285	966,546	998,400	1,038,370	1,038,270	1,036,830
EBITDA	1,660,132	1,704,816	1,582,431	1,582,099	1,605,584	1,663,270	1,715,830	1,693,130	1,642,650
(YoY, %)	4.3	2.7	-7.2	0.0	1.5	3.6	3.2	-1.3	-3.0
(Margin %)	35.2	38.3	36.9	37.5	37.8	37.8	37.6	37.5	37.2
Operating profit	808,312	830,959	834,245	844,729	866,885	917,460	963,970	940,070	892,650
(YoY, %)	4.5	2.8	0.4	1.3	2.6	5.8	5.1	-2.5	-5.0
(Margin %)	17.2	18.7	19.5	20.0	20.4	20.9	21.1	20.8	20.2
Non-operating gains/losses	-7,624	-50,486	1,912	-9,391	3,870	5,180	5,670	6,150	6,400
Pretax profits	800,688	780,473	836,157	835,338	870,755	922,640	969,640	946,220	899,050
(YoY, %)	3.6	-2.5	7.1	-0.1	4.2	6.0	5.1	-2.4	-5.0
(Margin %)	17.0	17.5	19.5	19.8	20.5	21.0	21.3	21.0	20.4
(-) Income tax	322,955	308,400	338,197	337,837	354,400	375,510	394,640	385,110	365,910
(-) Minority Interests	84	-472	2,327	1,508	4,420	4,730	4,970	5,120	5,270
Equity-method earnings	13,553	-672	-852	-5,508	0	0	0	0	0
Net profits	491,202	471,873	494,781	490,485	511,935	542,400	570,030	555,990	527,870
(YoY, %)	7.4	-3.9	4.9	-0.9	4.4	6.0	5.1	-2.5	-5.1
(Margins %)	10.4	10.6	11.5	11.6	12.1	12.3	12.5	12.3	12.0

Source: Company data, Citi Investment Research and Analysis.

Figure 89. NTT DoCoMo: Consolidated balance sheet

¥mn	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Current assets	1,767,780	1,827,728	2,060,978	2,155,299	2,316,913	2,594,707	2,874,317	3,066,485	3,257,757
Cash and deposits	699,113	601,996	760,725	906,579	1,061,951	1,284,935	1,480,175	1,687,013	1,947,515
Working capital	960,630	1,122,829	1,199,708	1,165,111	1,115,500	1,187,090	1,288,810	1,282,380	1,219,290
Deferred tax assets	108,037	102,903	100,545	83,609	139,462	122,682	105,332	97,092	90,952
Fixed assets	4,443,054	4,660,492	4,695,797	4,636,294	4,596,739	4,637,709	4,691,699	4,735,109	4,773,779
Tangibles	2,834,607	2,691,485	2,607,590	2,523,319	2,489,617	2,459,607	2,437,547	2,410,587	2,377,387
Intangibles	714,148	733,113	827,127	877,829	877,829	877,829	877,829	877,829	877,829
Investment/other fixed assets	894,299	1,235,894	1,261,080	1,235,146	1,229,293	1,300,273	1,376,323	1,446,693	1,518,563
Investment	536,849	713,558	729,121	653,594	705,894	761,854	821,734	884,604	950,614
Deferred tax assets	123,403	248,896	257,911	331,633	265,780	272,560	279,910	278,150	274,290
Others	357,450	522,336	531,959	581,552	523,399	538,419	554,589	562,089	567,949
Total assets	6,210,834	6,488,220	6,756,775	6,791,593	6,913,652	7,232,416	7,566,016	7,801,594	8,031,536
Current liabilities	1,234,315	1,148,435	1,188,162	1,123,168	999,250	1,029,550	1,061,490	998,760	1,084,350
Short-term debt	77,374	29,000	180,794	173,378	48,300	48,300	48,300	0	110,000
Others	1,156,941	1,119,435	1,007,368	949,790	950,950	981,250	1,013,190	998,760	974,350
Long-term liabilities	698,735	996,477	906,167	790,831	738,267	703,527	669,827	666,307	548,587
Long-term debt	401,090	610,233	429,553	255,000	206,700	158,400	110,000	110,000	0
Others	297,645	386,244	476,614	535,831	531,567	545,127	559,827	556,307	548,587
Total liabilities	1,933,050	2,144,912	2,094,329	1,913,999	1,737,517	1,733,077	1,731,317	1,665,067	1,632,937
Net assets	4,277,784	4,343,308	4,662,446	4,877,594	5,176,135	5,499,339	5,834,699	6,136,527	6,398,599
Owner's equity	4,276,086	4,407,274	4,673,256	4,927,391	5,221,512	5,539,986	5,870,376	6,167,084	6,423,886
Unrealized gains	410	-65,689	-37,379	-76,955	-76,955	-76,955	-76,955	-76,955	-76,955
Minority interests	1,288	1,723	26,569	27,158	31,578	36,308	41,278	46,398	51,668
Total liabilities & equity	6,210,834	6,488,220	6,756,775	6,791,593	6,913,652	7,232,416	7,566,016	7,801,594	8,031,536

Source: Company data, Citi Investment Research and Analysis.

Figure 90. NTT DoCoMo: Consolidated statements of cash flow

¥mn	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Net profits	491,202	471,873	494,781	490,485	511,935	542,400	570,030	555,990	527,870
Non-cash expenses	795,995	846,991	736,208	722,507	743,122	750,540	756,830	758,180	755,270
Depreciation, impairment	830,784	847,463	733,881	720,999	738,702	745,810	751,860	753,060	750,000
Other non-cash expenses	-34,789	-472	2,327	1,508	4,420	4,730	4,970	5,120	5,270
Net working investment	-172,696	145,187	48,171	-74,045	-38,429	37,860	64,270	6,940	-40,170
Operating cash flow	1,459,893	1,173,677	1,182,818	1,287,037	1,293,486	1,255,080	1,262,590	1,307,230	1,323,310
Capex	780,036	759,149	725,568	673,876	705,000	715,800	729,800	726,100	716,800
Other investment	100,240	-271,834	-438,358	218,506	-60,000	-64,200	-68,700	-72,130	-75,730
Free cash flow	679,857	142,694	18,892	831,667	528,486	475,080	464,090	509,000	530,780
Dividends	190,543	203,838	208,709	216,283	217,814	223,926	239,640	259,282	271,068

Source: Company data, Citi Investment Research and Analysis.

Figure 91. NTT DoCoMo: Key data

	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Mobile subs ('000')	53,388	54,601	56,082	58,010	60,045	62,235	61,735	60,935	59,835
Share vs. total for 4 firms (%)	52.0%	50.8%	50.0%	48.5%	47.4%	46.5%	45.0%	43.9%	43.2%
Net adds ('000')	314	1,213	1,481	1,928	2,035	2,190	-500	-800	-1,100
# of handset sales ('000')	26,048	25,739	20,127	18,037	19,055	19,965	21,011	21,620	20,950
Churn rate (%)	0.80%	0.50%	0.46%	0.47%	0.49%	0.48%	0.48%	0.48%	0.48%
Smartphone subs ('000')	0	0	0	2,520	9,302	17,803	25,262	32,302	38,815
Smartphone penetration (%)	0.0%	0.0%	0.0%	4.3%	15.5%	28.6%	40.9%	53.0%	64.9%
Total ARPU (¥)	6,320	5,650	5,270	4,980	4,780	4,770	4,890	4,900	4,880
Voice ARPU (¥)	4,160	3,320	2,880	2,500	2,150	1,820	1,540	1,210	850
Data ARPU (¥)	2,160	2,330	2,390	2,480	2,630	2,950	3,350	3,690	4,030
YoY chg in total ARPU (¥)	-400	-670	-380	-290	-200	-10	120	10	-20

Note: Share figures relative to total for NTT DoCoMo, KDDI, Softbank, and eMobile. We exclude Willcom and WiMax.
Source: Company data, Citi Investment Research and Analysis.

Figure 92. NTT DoCoMo: WACC assumptions

WACC	5.91%
Risk-free rate	1.00%
Beta	0.67
Risk premium	7.30%
Equity cost	5.91%
Debt cost	1.00%
D/E Ratio	0.00%

Source: Company data, Bloomberg, Citi Investment Research and Analysis.

Figure 93. NTT DoCoMo: DCF model

Projected period	Five years
Terminal growth (%)	-5.00%
Terminal value	4,516,605
PV of terminal value	3,392,390
PV of cash flow	2,197,327
Net debt (FY3/11A)	-478,201
Equity value	6,067,918
Shares issued ('000')	41,468
Theoretical fair price (¥)	146,329

Source: Company data, Bloomberg, Citi Investment Research and Analysis.

Figure 94. NTT DoCoMo: Theoretical share prices at different assumptions (¥)

Discount rate	Terminal growth rate						
	-6.50%	-6.00%	-5.50%	-5.00%	-4.50%	-4.00%	-3.50%
4.41%	154,612	158,833	163,481	168,623	174,342	180,742	187,951
4.91%	148,016	151,777	155,899	160,437	165,457	171,042	177,290
5.41%	141,981	145,345	149,017	153,042	157,473	162,376	167,829
5.91%	136,437	139,458	142,743	146,329	150,260	154,588	159,376
6.41%	131,329	134,050	137,000	140,209	143,712	147,551	151,778
6.91%	126,606	129,066	131,725	134,606	137,741	141,162	144,913
7.41%	122,228	124,458	126,862	129,459	132,274	135,336	138,679

Source: Company data, Bloomberg, Citi Investment Research and Analysis.

Company Focus

- Company Update
- Rating Change
- Target Price Change
- Estimate Change

Hold/Medium Risk	2M
<i>from Buy/Medium Risk</i>	
Price (02 Sep 11)	¥2,680
Target price	¥2,900
<i>from ¥2,520</i>	
Expected share price return	8.2%
Expected dividend yield	0.2%
Expected total return	8.4%
Market Cap	¥2,968,222M
	US\$38,243M

Price Performance (RIC: 9984.T, BB: 9984 JP)



SoftBank (9984)

Major rebound unlikely for now

- **We downgrade to Hold** — We revise our forecasts and downgrade to Hold from Buy. In the longer term, we expect moderate subscriber growth via the provision of low-priced FMC services. However, earnings upside looks limited over the next two years due to plans to increase capex. Therefore, we do not expect a major share price rebound. In the short term, expectations for the launch of new handsets are rising, and the key question is whether mobile business momentum will improve.
- **Locus of competition changing** — In the smartphone space, the gap between carriers in terms of price, handsets, and services is shrinking. On the other hand, smartphone users are able to access a large variety of content, so we expect explosive growth in data traffic. As a result, we think competitiveness will depend upon whether or not a company can provide a reliable network environment.
- **FMC strategy key** — Explosive growth for data traffic looks likely as smartphones become more popular, and we think data offloading leveraging FMC services would be an effective way to deal with this.
- **Softbank able to provide low-priced FMC services** — Softbank plans capex of ¥1trn over the next two years, centering on investment to rapidly boost mobile network capacity. In the in-home space, the firm plans data offloading to fixed-line networks. In addition to its own fixed-line network, we think Softbank will distribute WiFi routers and femtocell and use fixed-line networks of other providers used by subscribers. We believe fixed network usage, whether Softbank's or that of other providers, will enable the firm to reduce costs and provide low-cost FMC services.
- **FY3/12 forecasts** — The pace of smartphone subscriber acquisition slowed in April-June and the rise in data ARPU slowed as well, so overall ARPU fell YoY. In addition, competitors are expanding market share via the launch of Android handsets, so competition is intensifying. We think earnings growth will slow in FY3/12 and our OP forecast is in line with the market consensus.
- **FY3/13 and out** — In the longer term, we anticipate progress in subscriber acquisition via the provision of low-cost FMC services. Increased capex will mean higher depreciation costs, but we anticipate gradual earnings growth via an increase in subscriber numbers.
- **Valuations** — Our DCF- and sum-of-the-parts-based target price is ¥2,900. This corresponds to an FY3/13E EV/EBITDA of 3.8x for the mobile business and 2.3x for the fixed-line business.

Consol.	Sales		OP			RP		NP		EPS	PE
	¥M	YOY (%)	¥M	YOY (%)	OPM(%)	¥M	YOY (%)	¥M	YOY (%)	¥	X
3/10A	2,763,406	3.4	465,872	29.7	16.9	340,998	51.1	96,718	124.0	86	31.0
3/11A	3,004,640	8.7	629,164	35.1	20.9	520,415	52.6	189,717	96.2	169	15.9
3/12E	3,096,894	3.1	600,015	-4.6	19.4	507,535	-2.5	231,641	22.1	207	13.0
3/12RE	3,183,488	6.0	692,555	10.1	21.8	588,535	13.1	315,215	66.2	280	9.6
3/13E	3,230,404	4.3	667,122	11.2	20.7	584,212	15.1	272,133	17.5	243	11.0
3/13RE	3,316,270	4.2	730,230	5.4	22.0	668,810	13.6	327,710	4.0	291	9.2
3/14E	3,387,820	2.2	767,830	5.1	22.7	724,430	8.3	356,240	8.7	317	8.5

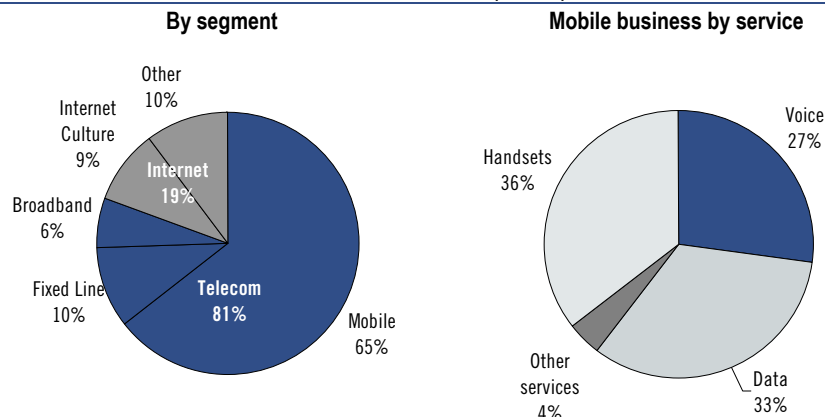
A: Actuals, E: CIRA Ests, CE: Company Ests, RE: CIRA Revised Ests, CRE: Company Revised Ests, NA: Not Available, NM: Not Meaningful

Investment Dashboard

Reasons to Hold

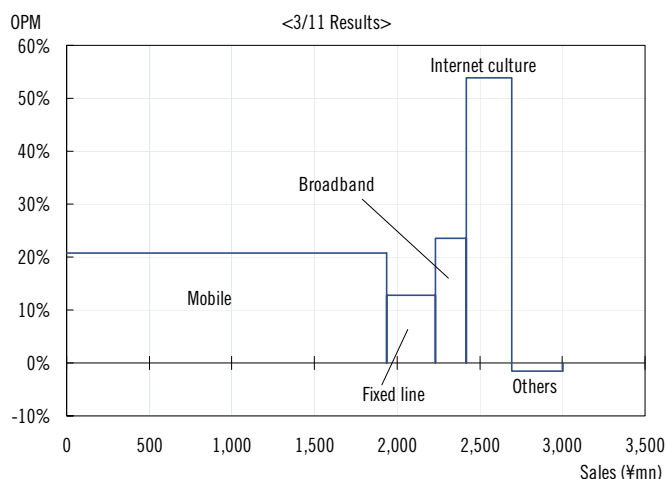
- We think data offloading leveraging FMC services would be an effective way to deal with explosive growth in traffic expected as smartphones become more popular
- In the longer term, we anticipate progress in subscriber acquisition via the provision of low-cost FMC services
- However, earnings upside looks limited over the next two years due to plans to increase capex. Therefore, we do not expect a major share price rebound

Sales breakdown (FY3/11)



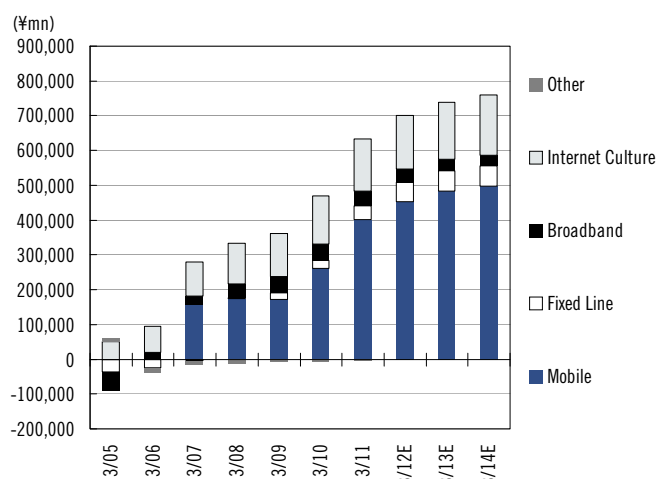
Source: Company data; mobile business breakdown our estimates.

Business portfolio



Source: Company data.

OP by segment

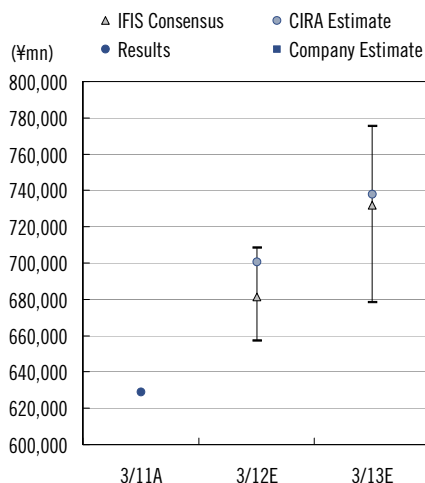


Source: Company data, Citi Investment Research and Analysis.

Alternate scenario: What would make it a Sell

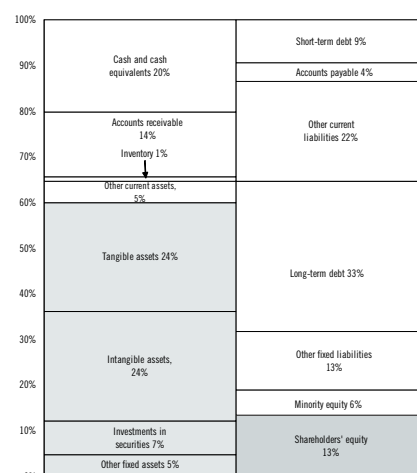
- If new customer acquisition via the launch of new handsets is limited and net adds momentum does not improve, we see a risk that mobile business earnings could peak
- In this case, the dropout of growth expectations would likely push EV/EBITDA down to 3.0x, below that for NTT DoCoMo. This would suggest a theoretical share price of ¥2,400

OP forecast comparison



Source: Company data, IFIS (September 5), Citi Investment Research and Analysis.

Balance sheet (end-FY3/11)



Source: Company data.

Financial data and key figures

Figure 95. Softbank: Consolidated earnings model

¥mn	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Revenues	2,776,168	2,673,035	2,763,406	3,004,640	3,183,488	3,316,270	3,387,820	3,389,390	3,335,150
(YoY, %)	9.1	-3.7	3.4	8.7	6.0	4.2	2.2	0.0	-1.6
Mobile telecom	1,630,851	1,562,890	1,701,414	1,944,551	2,151,060	2,280,740	2,337,860	2,342,960	2,296,510
Fixed line telecom	370,740	363,632	348,692	356,561	355,042	350,420	347,330	335,260	320,100
Broadband	258,069	235,199	202,127	190,055	167,029	149,870	144,490	139,160	133,880
Internet culture	247,642	254,238	270,755	283,615	296,990	314,890	332,550	345,940	357,380
e-commerce	270,723	258,184	249,343	0	0	0	0	0	0
Others	99,873	88,286	331,849	343,635	348,536	355,510	355,510	355,510	355,510
Elimination	-101,733	-78,502	-85,140	-113,776	-135,169	-135,160	-129,920	-129,440	-128,230
EBITDA	624,879	715,201	821,077	923,330	1,002,125	1,063,170	1,101,600	1,128,350	1,121,100
(YoY, %)	21.6	14.5	14.8	12.5	8.5	6.1	3.6	2.4	-0.6
(Margin %)	22.51	26.76	29.71	30.73	31.48	32.06	32.52	33.29	33.61
Mobile telecom	376,969	397,274	496,110	538,311	660,855	718,450	753,530	778,930	771,470
Fixed line telecom	40,643	51,072	52,856	76,924	82,720	81,490	77,670	74,250	70,620
Broadband	65,674	71,855	71,801	65,194	57,831	52,610	49,130	47,310	45,520
Others	141,594	195,000	200,310	242,901	200,719	210,620	221,270	227,860	233,490
Operating profit	324,287	359,121	465,871	629,163	692,555	730,230	767,830	789,260	779,470
(YoY, %)	19.6	10.7	29.7	35.1	10.1	5.4	5.1	2.8	-1.2
(Margin %)	11.68	13.43	16.86	20.94	21.75	22.02	22.66	23.29	23.37
Mobile telecom	174,570	171,389	260,895	402,411	445,181	476,450	506,890	523,900	511,330
Fixed line telecom	3,340	18,968	23,065	38,006	55,463	58,420	57,260	55,900	53,950
Broadband	39,700	47,253	48,399	43,154	37,301	33,390	31,060	30,250	29,350
Internet culture	115,237	125,098	136,585	150,305	156,005	163,300	173,950	180,540	186,170
e-commerce	3,156	4,636	5,793	0	0	0	0	0	0
Others	-5,121	-194	5,878	7,092	10,415	10,670	10,670	10,670	10,670
Elimination	-6,595	-8,030	-8,953	-11,806	-11,810	-12,000	-12,000	-12,000	-12,000
Non-operating gains/losses	-65,673	-133,459	-124,874	-108,749	-104,020	-61,420	-43,400	-33,050	-21,810
Recurring profit	258,614	225,662	340,997	520,414	588,535	668,810	724,430	756,210	757,660
(Margin %)	9.32	8.44	12.34	17.32	18.49	20.17	21.38	22.31	22.72
Extraordinary gains/losses	-32,726	-118,323	-51,748	-39,801	54,400	0	0	0	0
Pretax profits	225,888	107,339	289,249	480,613	642,935	668,810	724,430	756,210	757,660
(-) Income tax	78,182	19,716	144,559	232,947	270,030	280,900	304,260	317,610	318,220
(-) Minority Interests	39,079	44,450	47,973	57,950	57,690	60,200	63,930	66,230	68,200
Net profits	108,627	43,173	96,717	189,716	315,215	327,710	356,240	372,370	371,240
(YoY, %)	277.0	-60.3	124.0	96.2	66.2%	4.0%	8.7%	4.5%	-0.3%
(Margin %)	3.91	1.62	3.50	6.31	9.90	9.88	10.52	10.99	11.13

Source: Company data, Citi Investment Research and Analysis.

Figure 96. Softbank: Consolidated balance sheet

¥mn	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Current assets	1,582,744	1,520,313	1,694,440	1,862,617	1,562,611	1,478,437	1,473,573	1,564,149	1,519,916
Cash, marketable securities	491,161	460,870	694,395	939,756	722,846	603,248	603,394	707,770	672,437
Account receivables	887,723	858,084	816,550	657,774	567,828	595,882	579,842	565,512	559,902
Inventories	72,150	42,320	37,030	49,887	44,570	46,430	47,430	47,450	46,690
Deferred tax assets	105,850	93,021	74,290	90,907	90,907	90,907	90,907	90,907	90,907
Others	25,860	66,018	72,175	124,293	136,460	141,970	152,000	152,510	149,980
Fixed assets	2,973,337	2,865,034	2,766,483	2,791,725	2,875,067	3,027,877	3,089,187	3,133,027	3,158,707
Tangibles	1,029,265	1,000,946	950,703	1,113,447	1,299,764	1,459,644	1,529,144	1,583,414	1,619,054
Intangibles	1,238,309	1,222,108	1,152,386	1,120,345	1,102,582	1,092,582	1,082,582	1,072,582	1,062,582
Goodwill	974,435	956,730	900,768	839,238	819,238	799,238	779,238	759,238	739,238
Others	263,874	265,378	251,618	281,107	283,344	293,344	303,344	313,344	323,344
Investment & others	705,763	641,980	663,394	557,933	472,721	475,651	477,461	477,031	477,071
Investment	464,997	320,102	370,027	340,436	253,036	253,036	253,036	253,036	253,036
Deferred tax assets	126,887	158,228	152,654	109,145	96,445	86,845	76,125	65,695	55,735
Others	113,879	163,650	140,713	108,352	123,240	135,770	148,300	158,300	168,300
Deferred assets	2,818	1,322	1,951	1,381	1,381	1,381	1,381	1,381	1,381
Total assets	4,558,901	4,386,671	4,462,873	4,655,724	4,439,060	4,507,696	4,564,142	4,698,558	4,680,005
Current liabilities	1,240,704	1,349,583	1,378,878	1,644,407	1,474,840	1,549,560	1,494,530	1,630,899	1,179,400
Short-term debt	501,111	639,532	492,360	539,450	359,200	387,500	302,200	434,069	0
Others	739,593	710,051	886,518	1,104,957	1,115,640	1,162,060	1,192,330	1,196,830	1,179,400
Long-term liabilities	2,469,472	2,212,290	2,120,024	2,131,699	1,717,109	1,329,609	1,027,409	593,350	593,350
Long-term debt	2,031,856	1,760,858	1,730,109	1,538,349	1,123,759	736,259	434,059	0	0
Others	437,616	451,432	389,915	593,350	593,350	593,350	593,350	593,350	593,350
Total liabilities	3,710,176	3,561,873	3,498,902	3,776,106	3,191,949	2,879,169	2,521,939	2,224,249	1,772,750
Net Assets	848,725	824,798	963,971	879,618	1,247,111	1,628,527	2,042,203	2,474,309	2,907,255
Owner's equity	302,949	343,050	427,144	585,037	894,840	1,216,056	1,565,802	1,931,678	2,296,424
Unrealized gains	80,914	31,334	43,864	34,920	34,920	34,920	34,920	34,920	34,920
Minority interests	464,862	450,414	492,963	259,661	317,351	377,551	441,481	507,711	575,911
Total liabilities & equity	4,558,901	4,386,671	4,462,873	4,655,724	4,439,060	4,507,696	4,564,142	4,698,558	4,680,005

Source: Company data, Citi Investment Research and Analysis.

Figure 97. Softbank: Consolidated statements of cash flow

¥mn	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Net profits	108,627	43,173	96,717	189,716	315,215	327,710	356,240	372,370	371,240
Non-cash expenses	336,794	400,530	403,179	352,117	367,260	393,140	397,700	405,320	409,830
Depreciation & amortization	300,592	356,080	355,206	294,167	309,570	332,940	333,770	339,090	341,630
Reserve provisions	-35,660	-12,957	27,161	6,011	19,956	1,400	8,970	430	170
Evaluation losses, minority interests	-28,575	57,407	20,812	51,939	37,734	58,800	54,960	65,800	68,030
Net working capital	431,771	-4,154	-168,154	-284,004	-123,236	-5,206	-25,740	-14,300	8,720
Operating cash flow	13,650	447,857	668,050	825,837	805,711	726,056	779,690	791,990	772,360
Capex and investment	248,943	240,637	223,818	208,553	478,124	482,820	393,270	383,360	367,270
Free cash flow	-235,293	181,562	390,888	561,720	404,987	233,236	376,420	398,630	395,090
Dividends	2,639	6,801	7,296	21,396	5,412	6,494	6,494	6,494	6,494

Source: Company data, Citi Investment Research and Analysis.

Figure 98. Softbank: Key mobile business data

	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Mobile subs (000')	18,586	20,633	21,877	25,409	28,329	30,519	31,949	32,749	32,849
Share vs. total for 4 firms (%)	18.1%	19.2%	19.5%	21.3%	22.3%	22.8%	23.3%	23.6%	23.7%
Net adds (000')	2,678	2,047	1,244	3,532	2,920	2,190	1,430	800	100
# of handset sales (000')	9,896	8,106	9,122	10,252	10,934	11,144	10,950	10,621	10,058
Churn rate (%)	1.30%	1.00%	1.37%	0.97%	1.05%	1.05%	1.04%	1.03%	1.03%
Smartphone subs (000')	0	700	2,390	4,373	7,154	10,700	14,615	18,412	22,007
Smartphone penetration (%)	0.0%	3.4%	10.9%	17.2%	25.3%	35.1%	45.7%	56.2%	67.0%
Total ARPU (¥)	4,600	4,070	4,070	4,210	4,160	4,120	4,050	3,990	3,920
Voice ARPU (¥)	3,120	2,320	2,050	1,890	1,660	1,410	1,140	870	590
Data ARPU (¥)	1,480	1,740	2,020	2,310	2,500	2,710	2,910	3,120	3,330
YoY chg in total ARPU (¥)	-860	-530	0	140	-50	-40	-60	-60	-70

Note: Share figures relative to total for NTT DoCoMo, KDDI, Softbank, and eMobile. We exclude Willcom and WiMAX.

Source: Company data, Citi Investment Research and Analysis.

Figure 99. Softbank Mobile earnings summary

	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Revenues	1,631,275	1,579,106	1,723,859	1,971,085	2,180,090	2,309,840	2,363,860	2,368,960	2,322,510
(YoY, %)	4.4	-3.2	9.2	14.3	10.6	6.0	2.3	0.2	-2.0
Cellular	1,017,149	1,031,154	1,121,929	1,271,678	1,427,876	1,541,000	1,608,310	1,636,110	1,628,530
Voice revenue	646,726	544,605	524,016	534,359	535,552	496,920	428,670	337,750	230,810
Data revenue	306,628	409,085	516,063	652,580	806,903	956,680	1,091,740	1,209,960	1,308,820
Others	63,795	77,463	81,851	84,739	85,421	87,400	87,900	88,400	88,900
Handset sales	614,126	547,952	601,930	699,489	752,214	768,840	755,550	732,850	693,980
Operating costs	1,468,871	1,389,741	1,430,732	1,573,707	1,747,887	1,846,890	1,870,470	1,858,560	1,824,680
Depreciation/removal	207,997	200,009	194,392	177,652	220,600	247,500	252,140	260,530	265,640
Network/infrastructure	141,751	133,209	121,197	113,556	119,950	129,600	135,100	137,400	136,800
Sales, incentives, commissions	263,807	263,815	290,000	348,000	384,000	398,000	398,380	384,520	362,140
Handset procurement	400,745	423,351	468,150	561,401	625,337	654,290	655,850	641,010	625,600
Other operational costs	454,571	369,357	356,993	373,098	398,000	417,500	429,000	435,100	434,500
EBITDA	376,969	397,274	496,110	538,311	660,855	718,450	753,530	778,930	771,470
(YoY, %)	-57.3	5.4	24.9	8.5	22.8	8.7	4.9	3.4	-1.0
(Margin %)	23.1	25.2	28.8	27.3	30.3	31.1	31.9	32.9	33.2
Operating profit	162,404	189,365	293,127	397,378	432,255	462,950	493,390	510,400	497,830
(YoY, %)	20.7	16.6	54.8	35.6	8.8	7.1	6.6	3.4	-2.5
(Margin %)	10.0	12.0	17.0	20.2	19.8	20.0	20.9	21.5	21.4

Source: Company data, Citi Investment Research and Analysis.

Figure 100. Softbank: Fixed-line business and broadband business data

	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Yahoo!BB ADSL subs (000)	4,809	4,299	3,769	3,150	2,678	2,276	1,876	1,526	1,226
Yahoo! BB ADSL ARPU (¥)	4,500	4,304	4,202	4,423	4,166	3,855	3,835	3,815	3,795
Otoku line subs (000)	1,401	1,608	1,669	1,671	1,660	1,640	1,591	1,543	1,497
Otoku line ARPU (¥)	6,180	6,287	6,474	6,600	6,724	6,737	6,636	6,537	6,439

Source: Company data, Citi Investment Research and Analysis.

Figure 101. Softbank Telecom earnings summary

	08/3	09/3	10/3	11/3	12/3E	13/3E	14/3E	15/3E	16/3E
Revenues	371,946	369,769	372,928	388,267	403,610	412,030	414,330	412,260	407,100
(YoY, %)	-1.3	-0.6	0.9	4.1	4.0	2.1	0.6	-0.5	-1.3
Voice	199,743	189,871	186,051	186,349	185,770	182,210	175,010	166,960	159,290
Data	86,187	88,406	84,909	81,205	82,830	85,310	89,580	92,270	93,650
Lease	35,539	32,144	31,578	38,076	39,980	39,980	39,980	39,980	39,980
Non-traffic	50,476	59,347	70,389	82,636	95,030	104,530	109,760	113,050	114,180
Operating costs	368,273	353,944	354,870	347,780	361,330	368,760	372,220	371,510	368,300
Depreciation/removal	36,970	35,247	34,798	36,437	40,440	38,220	35,560	33,500	31,820
Network/infrastructure	138,986	125,663	118,073	114,922	117,260	116,850	118,780	116,690	114,240
Maintenance	58,279	58,286	55,095	51,710	48,430	49,440	49,720	51,530	52,920
Other operational costs	87,555	81,222	82,283	72,172	72,520	72,260	71,570	70,310	68,840
Non-traffic	46,483	53,526	64,621	72,539	82,680	91,990	96,590	99,480	100,480
EBITDA	40,643	51,072	52,856	76,924	82,720	81,490	77,670	74,250	70,620
(YoY, %)	4.9	25.7	3.5	45.5	7.5	-1.5	-4.7	-4.4	-4.9
(Margin %)	10.9	13.8	14.2	19.8	20.5	19.8	18.7	18.0	17.3
Operating profit	3,673	15,825	18,058	40,487	42,280	43,270	42,110	40,750	38,800
(YoY, %)	122.3	330.8	14.1	124.2	4.4	2.3	-2.7	-3.2	-4.8
(Margin %)	1.0	4.3	4.8	10.4	10.5	10.5	10.2	9.9	9.5

Source: Company data, Citi Investment Research and Analysis.

Figure 102. WACC assumptions for Softbank's two telecom firms

WACC	6.13%
Risk-free rate	1.00%
Beta	1.097
Risk premium	7.30%
Equity cost	9.03%
Debt cost	1.50%
D/E Ratio	38.56%

Source: Company data, Bloomberg, Citi Investment Research and Analysis.

Figure 103. DCF model for Softbank's two telecom firms

Projected period	Five years
Terminal growth (%)	-5.0%
Terminal value	2,684,751
PV of terminal value	1,994,280
PV of cash flow	855,258
Net debt (FY3/11A)	951,116
Equity value	1,898,422
Shares issued (ths)	1,082,350
Theoretical fair value (¥)	1,754

Source: Company data, Bloomberg, Citi Investment Research and Analysis.

Figure 104. Softbank's two telecom firms: Theoretical share prices at different assumptions (¥)

Discount rate	Terminal growth rate						
	-6.50%	-6.00%	-5.50%	-5.00%	-4.50%	-4.00%	-3.50%
3.33%	1,930	2,023	2,125	2,238	2,363	2,503	2,660
3.83%	1,787	1,870	1,961	2,060	2,171	2,293	2,429
4.33%	1,655	1,730	1,811	1,900	1,997	2,105	2,224
4.83%	1,535	1,602	1,675	1,754	1,841	1,936	2,041
5.33%	1,424	1,485	1,550	1,621	1,698	1,783	1,876
5.83%	1,322	1,377	1,436	1,499	1,569	1,644	1,727
6.33%	1,227	1,277	1,330	1,388	1,450	1,518	1,592

Source: Company data, Bloomberg, Citi Investment Research and Analysis.

Figure 105. Softbank: Estimating enterprise value using sum-of-the-parts (base case)

Company	Per-share value	Weighting	Softbank's share in earnings	Stake	Equity value	Net debt FY11/3	Enterprise value	Valuation method
	(¥)	(%)	(¥mn)	(%)	(¥mn)	(¥mn)	(¥mn)	
Mobile, Fixed	1,754	61.9%	1,898,422	100.0%	1,898,422	951,116	2,849,538	DCF
Broadband (ADSL)	114	4.0%	123,107	100.0%	123,107	NA	123,107	EV/EBITDA (2.3x)
Yahoo! Japan	550	19.4%	595,672	42.2%	1,411,522	-188,687	1,222,835	Market cap
Investment (JPY)	20	0.7%	21,185	58.0%	36,525	0	36,525	See Figure 9
Investment (USD)	113	4.0%	122,154	58.0%	210,611	0	210,611	See Figure 9
Investment (HKD)	464	16.4%	502,455	58.0%	866,302	0	866,302	See Figure 9
Net Debt	-347	-12.3%	-375,614	100.0%	-375,614	375,614	0	
Tax Asset	164	5.8%	177,752	100.0%	177,752	0	177,752	
Total	2,832	100.0%	3,065,133		4,348,627	1,138,043	5,486,670	

Note: Our forex assumptions are ¥75.0/\$, ¥10.0/HKD, and ¥12.0/RMB. The value of the Internet and other businesses are based on the value of firms Softbank is invested in, including Yahoo! Japan. Stakes (%) are after taxes.

Source: Company data, Citi Investment Research and Analysis.

Figure 106. Estimating enterprise value for major firms Softbank is invested in (base case)

Company	Per-share Value based on Yen	Softbank's share in earnings	Currency	Softbank's share in earnings	Stake	Equity Value	Valuation method
	(¥)	(¥mn)		(mn)	(%)	(mn)	
Yahoo! Inc. (YHOO)	0	33	USD	0.5	0.002	22,260	Target price
Zynga	52	56,250	USD	750	5.0	15,000	We adopt the low end of the market's expected range of \$15bn-\$20bn (via Bloomberg, etc.)
Alibaba Group HD	800	866,302	HKD	86,630	32.6	265,730	Combination for Alibaba, Taobao, and Alipay
- Alibaba (1688.HK)			HKD		24.0	40,730	Market cap
- Taobao			HKD		32.6	187,500	We use the estimate (\$25bn) of our China telecoms and Internet team
- Alipay			HKD		24.0	37,500	We use \$5bn, within the range (\$2bn-\$6bn) for the amount of shares to be handed over to Alibaba Group Holdings when Alipay lists based on an agreement between Alibaba Group Holdings, Yahoo! Inc., and Softbank
Oak Pacific Interactive (RenRen Inc)	87	94,178	USD	1,256	43.3	2,900	Market cap
Synacast Corporation (PP Live)	56	60,150	USD	802	40.1	2,000	We use the estimate (\$2bn) of our China telecoms and Internet team

Note: Our forex assumptions are ¥75.0/\$, ¥10.0/HKD, and ¥12.0/RMB. The 32.6% stake for Alibaba Group is Softbank's 32.6% stake + Yahoo! Inc's 39.0% stake x Softbank's 0.002% stake in Yahoo! Inc. We put the value of Alipay shares transferred to Alibaba Group Holdings at \$2bn-\$6bn, or Alipay's actual enterprise value x 37.5%.

Source: Company data, Citi Investment Research and Analysis.

Investment strategy, Valuation, Risks

eAccess

Investment strategy

We rate the shares of eAccess Sell/Medium Risk (3M), with a ¥22,000 target price.

Competition is intensifying in the mobile data communication market, eAccess's main business. We believe this is due to the entry of new competitors as well as its declining superiority in terms of price and circuit speed. We use subscriber numbers by channel as a better measure of the company's ability to acquire subscribers. This shows the MVNO business weighting is increasing and the pace of direct subscriber acquisition is slowing.

Also, from FY3/13, competitors plan to attract subscribers by introducing terminals with tethering functionality. We expect competition from KDDI, with its multi-network platform, to be particularly fierce. We believe people who use both mobile phones and data communication terminals may have already started to cancel data terminal contracts and instead use a mobile with tethering functionality. Competitors are promoting smartphone derivatives (with WiFi router functionality), while eAccess offers data terminal derivatives (with voice and app functionality). We do not believe the mobile phone functionality of eAccess's products will be sufficient to meet people's needs.

eAccess seems to have a focus on net subscriber growth in its corporate DNA (operating covenant (2): set subscriber requirements must be satisfied). As a result, we believe it could lower prices in FY3/12 and see a significant risk of ARPU declining over the longer term. Concerns about earnings downside versus consensus forecasts are unlikely to ease without improvement in subscriber momentum, so we think share price performance will remain soft. We thus rate the shares Sell.

Valuation

We calculate the enterprise value of telecom companies using a DCF model and our long term forecasts. This is because (1) the likelihood of major changes to telecom administration(deregulation) and the industry structure, which has been a talking point in recent years, has eased somewhat; (2) we expect smartphone penetration over the next few years to return mobile service revenue to a growth trajectory at some telecom companies; and (3) against the backdrop of smartphone penetration, we see potential for market shares to change depending on strategies to capture subscribers, creating upside earnings potential. We believe investor interest is shifting from near-term earnings trends to longer-term growth potential.

Our DCF model assumes a growth rate (FCF terminal growth from FY3/16) of -5% as we expect the domestic telecom market to contract over the long term. We adopt a equity risk premium of 7.3%, derived by deducting a risk free rate of 1% from the recent TOPIX return of 8.3%. And we adopt a beta of 0.75, the five-year average for the stock versus TOPIX. Based on these assumptions we calculate WACC of 5.3%.

Using these assumptions, our DCF model gives a fair value of close to ¥22,000, which we adopt as our target price. Based on our FY3/13 forecasts, our target price equates to an EV/EBITDA of 3.4x and PBR of 0.9x, and based on our FY3/12 forecasts a dividend yield of 3.6%. By segment, the mobile business EV/EBITDA is 3.6x and the fixed-line business is 2.3x. The mobile business premium has declined slightly (previous multiple was 3.9x).

Risks

We think the main risks that the share price could diverge from our target price include: 1) trends in NGN and FTTH strategies at NTT, KDDI, and other major carriers leading to changes in eAccess's rate policy and sales strategy and consequently in ARPU, SACs, and SRCs, churn rate, and replacement rate; 2) a slower-than-expected shift to smartphones preventing differentiation through FMC/multi-network models on an industrywide basis (i.e., a recovery in demand for data communication terminals); 3) eMobile's handset procurement costs declining; 4) tablet penetration being accompanied by a larger-than-expected increase in overall demand for data communication terminals; 5) an improvement in terminal competitiveness boosting market share; 6) eAccess's operating costs, capex, construction costs falling well short of our forecasts; 7) significant changes in business portfolios or management strategies at the company or its peers resulting from M&A and other activity. If the impact of any of these factors on our business model or earnings forecasts varies from our expectations, the share price may diverge from our target price.

We rate the shares Medium Risk (M) based on their three-year historical volatility, which places them in the sixth through ninth deciles (medium risk) in terms of share price risk compared with our coverage universe.

Nippon Telegraph and Telephone

Investment strategy

We rate the shares of NTT Buy/Low Risk (1L), with a ¥3,900 target price.

Smartphone penetration is increasing in Japan. In the smartphone space, we expect differentiation between mobile operators in terms of price, handsets, and services to gradually diminish. At the same time, as smartphones increase the diversity of content accessible by users, we expect tremendous traffic growth. We believe the ability to provide a network environment that accommodates this growth will be crucial to the competitiveness of mobile operators moving forward. In our view, data offloading using a FMC service is likely to be an effective solution.

We think data offloading leveraging FMC services is an effective measure for dealing with the expected sharp rise in traffic. In addition to FMC services becoming mainstream, we think demand for fixed-line broadband will increase.

Assuming FMC services become mainstream, we anticipate a great leap forward for firms that can provide bundled services bringing together fixed and mobile networks. However, NTT has a dominant share in the FTTH and ADSL markets, so we think it is likely to benefit from market expansion and that its broadband subscriber numbers will continue to expand steadily. Given that earnings at subsidiaries like NTT Communications and NTT DoCoMo are improving faster than had been expected, we think the FY3/13 OP target of ¥1.3trn in its medium-term plan is achievable. A robust ability to generate profits should increase expectations for shareholder return, and we see the stock as highly appealing for its defensiveness. Our investment stance is bullish.

Valuation

We calculate the enterprise value of telecom companies using a DCF model and our long term forecasts. This is because (1) the likelihood of major changes to telecom administration (deregulation) and industry structure, which has been a

talking point in recent years, has eased somewhat; (2) we expect smartphone penetration over the next few years to return mobile services revenue to a growth trajectory at some telecom companies; and (3) against the backdrop of smartphone penetration, we see potential for market shares to change depending on strategies to capture subscribers, creating upside earnings potential. Based on the above, we believe investor interest will shift from near-term earnings trends to longer-term growth potential.

However, NTT operates a diverse range of businesses, so we use a sum-of-the-parts methodology to value the stock. For the three fixed-line communications firms (NTT East, NTT West, NTT Communications) and NTT DoCoMo we use the DCF method. For other listed subsidiaries we use market cap, and for unlisted subsidiaries we use OP multiples (5.0x).

Our DCF model assumes a growth rate (FCF terminal growth from FY3/16) of -5% as we expect the domestic telecom market to contract over the long term. We adopt a equity risk premium of 7.3%, derived by deducting a risk-free rate of 1% from the recent TOPIX return of 8.3%. And we adopt a beta of 0.73, the five-year average for the stock versus TOPIX. Based on these assumptions we calculate WACC of 4.9%.

We set our target price at ¥3,900, which is close to the fair value derived from the above assumptions. Based on our FY3/13 forecasts our target price corresponds to an EV/EBITDA of 2.2x and a PBR of 0.5x, and based on our FY3/12 forecasts a dividend yield of 3.6%.

Risks

We see the main risks that the share price will not reach our target price as 1) faster than expected take-up for FMC services, resulting in subscriber numbers at NTT DoCoMo that are far lower than our expectations; 2) increasing competition in the smartphone market prompting changes in rate policy and sales strategy at NTT DoCoMo, resulting in changes in ARPU, SAC, SRC, and cancellation/replacement rates; 3) a rise in costs for NTT DoCoMo handsets, 4) operating costs, capex, and construction costs that are far higher than we currently expect in the fixed-line communications business, 5) major changes in the current direction of administrative policy and legal frameworks having a large negative impact on potential market sizes and profitability in mobile, fixed-line, Internet, and broadcasting businesses; and 6) major changes in business portfolios or management strategies at the company or its peers resulting from M&A or other activity. If the impact of any of these factors on NTT's business model or earnings forecasts differs from our expectations, the share price could diverge from our target price.

We rate the shares Low Risk (L) based on their three-year historical volatility, which places them in the tenth decile (low risk) in terms of share price risk compared with our coverage universe.

KDDI

Investment strategy

We rate the shares of KDDI Buy/Low Risk (1L), with a ¥780,000 target price.

Smartphone penetration is increasing in Japan. In the smartphone space, we expect differentiation between mobile operators in terms of price, handsets, and services to gradually diminish. At the same time, as smartphones increase the

diversity of content accessible by users, we expect tremendous traffic growth. We believe the ability to provide a network environment that accommodates this growth will be crucial to the competitiveness of mobile operators moving forward. In our view, data offloading using a FMC service is likely to be an effective solution.

KDDI believes a FMC-based multiple network will be a source of competitive superiority. This will involve using fixed-line networks (FTTH, XDSL, CATV, etc) in the home and mobile networks (3G/3.9G, WiMAX, public WiFi, etc) outside to ease the network load. We believe this will enable KDDI to provide customers the value added service featuring optimal network speed, reasonable rates (bundling of fixed and mobile services possible), and seamless network connection. We expect KDDI to capture more subscribers and longer term we believe earnings upside potential is extremely large. We thus rate the shares Buy.

Valuation

We calculate the enterprise value of telecom companies using a DCF model and our long term forecasts. This is because (1) the likelihood of major changes to telecom administration (deregulation) and industry structure, which has been a talking point in recent years, has eased somewhat; (2) we expect smartphone penetration over the next few years to return mobile services revenue to a growth trajectory at some telecom companies; and (3) against the backdrop of smartphone penetration, we see potential for market shares to change depending on strategies to capture subscribers, creating upside earnings potential. Based on the above, we believe investor interest will shift from near-term earnings trends to longer-term growth potential.

Our DCF model assumes a growth rate (FCF terminal growth from FY3/16) of -5% as we expect the domestic telecom market to contract over the long term. We adopt a equity risk premium of 7.3%, derived by deducting a risk free rate of 1% from the recent TOPIX return of 8.3%. And we adopt a beta of 0.76, the five-year average for the stock versus TOPIX. Based on these assumptions we calculate WACC of 5.2%.

Using these assumptions, our DCF model gives a fair value of close to ¥780,000, which we adopt as our target price. Based on our FY3/13 forecasts, our target price equates to an EV/EBITDA of 4x and PBR of 1.4x, and based on our FY3/12 forecasts a dividend yield of 1.9%. By segment, the mobile business EV/EBITDA is 4.3x and the fixed-line business is 2.5x. Only the mobile business valuation is at a premium to peers.

Risks

We think the main risks that the share price will not reach our target price include: 1) subscribers taking longer than expected to shift to smartphones, so that FMC service fails to gain traction and KDDI is unable to differentiate itself using a multi-network platform (i.e., au subscriber numbers fall well short of our forecasts); 2) intensifying competition in the smartphone market leading to changes in au's rate policy and sales strategy and resultant volatility in ARPU, SACs, SRCs, churn rate, and replacement rate; 3) handset procurement costs for KDDI rising; 4) in the fixed-line business, migration to FTTH and other broadband services taking longer than we expect; 5) actual fixed-line business operating costs, capex, and construction costs exceeding our forecasts by a significant margin; 6) major changes in the current direction of administrative policy and legal frameworks having a large negative impact on potential market sizes and profitability in mobile, fixed-line, Internet, and broadcasting businesses; and 7) major changes in business portfolios or management strategies at the company or its peers resulting from M&A or other

activity. . If the impact of any of these factors on our business model or earnings forecasts differs from our expectations, the share price may diverge from our target price.

We rate the shares Low Risk (L) based on their three-year historical volatility, which places them in the tenth decile (low risk) in terms of share price risk compared with our coverage universe.

NTT DoCoMo

Investment strategy

We rate the shares of NTT DoCoMo Hold/Low Risk (2L), with a ¥145,000 target price.

Smartphone penetration is increasing in Japan. In the smartphone space, we expect differentiation between mobile operators in terms of price, handsets, and services to gradually diminish. At the same time, as smartphones increase the diversity of content accessible by users, we expect tremendous traffic growth. We believe the ability to provide a network environment that accommodates this growth will be crucial to the competitiveness of mobile operators moving forward. In our view, data offloading using a FMC service is likely to be an effective solution.

However, the existing NTT Law prohibits NTT East and NTT West from conducting joint marketing or integrating core networks. For this reason, to cope with surging traffic, NTT DoCoMo is working to quickly migrate subscribers to next generation networks (NGN) and improve bandwidth usage efficiency. We also expect it to use compact amplifiers to disperse traffic across multiple frequencies.

The upshot is that NTT DoCoMo will be unable bundle services with fixed-line communication and find it difficult to improve efficiency (reduce costs) through network integration. To use the full capacity of its mobile network, NTT DoCoMo will have to continually invest in NGN facilities, and we thus expect capex to increase. We believe NTT DoCoMo will be at a disadvantage to competitors providing a FMC service in terms of network capability and prices, and we thus rate the shares Hold.

Valuation

We calculate the enterprise value of telecom companies using a DCF model and our long term forecasts. This is because (1) the likelihood of major changes to telecom administration(deregulation) and the industry structure, which has been a talking point in recent years, has eased somewhat; (2) we expect smartphone penetration over the next few years to return mobile service revenue to a growth trajectory at some telecom companies; and (3) against the backdrop of smartphone penetration, we see potential for market shares to change depending on strategies to capture subscribers, creating upside earnings potential. We believe investor interest is shifting from near-term earnings trends to longer-term growth potential.

Our DCF model assumes a growth rate (FCF terminal growth from FY3/16) of -5% as we expect the domestic telecom market to contract over the long term. We adopt a equity risk premium of 7.3%, derived by deducting a risk free rate of 1% from the recent TOPIX return of 8.3%. And we adopt a beta of 0.67, the five-year average for the stock versus TOPIX. Based on these assumptions we calculate WACC of 5.9%.

Using these assumptions, our DCF model gives a fair value of close to ¥145,000, which we adopt as our target price. Our target price equates to an FY3/13E

EV/EBITDA of 3.4x, an FY3/13E PBR of 1.1x, and an FY3/12E dividend yield of 3.9%.

Risks

We think the main risks preventing the stock from reaching our target price include 1) FMC services gain traction faster than we expect, causing NTT DoCoMo's subscriber numbers to fall well short of our forecasts; 2) intensifying competition in the smartphone market leading to changes in NTT DoCoMo's rate policy and sales strategy and resultant volatility in ARPU, SACs, SRCs, churn rate, and replacement rate; 3) handset procurement costs for NTT DoCoMo rising; 4) major changes in the current direction of administrative policy and legal frameworks having a large negative impact on potential market sizes and profitability in mobile, fixed-line, Internet, and broadcasting; businesses; 5) a significant change in NTT DoCoMo's business resulting from amendments to the NTT Law and changes to the NTT group's operating formats; and 6) major changes in business portfolios or management strategies at the company or its peers resulting from M&A or other activity. If the impact of any of these factors on the business model or earnings varies from our expectations, the share price may diverge from our target price.

We rate the shares Low Risk (L) based on their three-year historical volatility, which places them in the tenth decile (low risk) in terms of share price risk compared with our coverage universe.

SoftBank

Investment strategy

We rate the shares of SoftBank Hold/Medium Risk (2M), with a ¥2,900 target price.

Smartphone penetration is increasing in Japan. In the smartphone space, we expect differentiation between mobile operators in terms of price, handsets, and services to gradually diminish. At the same time, as smartphones increase the diversity of content accessible by users, we expect tremendous traffic growth. We believe the ability to provide a network environment that accommodates this growth will be crucial to the competitiveness of mobile operators moving forward. In our view, data offloading using a FMC service is likely to be an effective solution.

Softbank plans capex of ¥1trn over the next two years, centering on investment to increase mobile network capacity. There are also plans for data offloading to indoor fixed networks. In addition to its own fixed network, we think SoftBank will distribute data to WiFi routers and femtocell and aim to use fixed networks of other providers used by subscribers. We believe the use of fixed networks, whether its own or those of other providers, will enable SoftBank to reduce its cost burden and provide a low-cost FMC service. Longer-term, we expect SoftBank to gradually expand its subscriber base.

However, we think higher capex will limit earnings upside over the next two years, and as we cannot see catalysts for a sharp share price rebound we rate the shares Hold. Near term, expectations of new handset releases are rising and we highlight the potential for an improvement in mobile business momentum.

Valuation

We calculate the enterprise value of telecom companies using a DCF model and our long term forecasts. This is because (1) the likelihood of major changes to

telecom administration(deregulation) and the industry structure, which has been a talking point in recent years, has eased somewhat; (2) we expect smartphone penetration over the next few years to return mobile service revenue to a growth trajectory at some telecom companies; and (3) against the backdrop of smartphone penetration, we see potential for market shares to change depending on strategies to capture subscribers, creating upside earnings potential. We believe investor interest is shifting from near-term earnings trends to longer-term growth potential.

Our DCF model assumes a growth rate (FCF terminal growth from FY3/16) of -5% as we expect the domestic telecom market to contract over the long term. We adopt a equity risk premium of 7.3%, derived by deducting a risk free rate of 1% from the recent TOPIX return of 8.3%. And we adopt a beta a 1.1, the five-year average for the stock versus TOPIX. Based on these assumptions we calculate WACC of 4.8%.

We also use DCF to calculate the enterprise the enterprise value of SoftBank (consolidated). We value Softbank's business portfolio using a sum-on-the-parts approach, using the market values of listed subsidiaries and calculating the value of non-listed subsidiaries by referencing valuations of similar companies.

Our DCF model yields a value of close to ¥2.68trn, which we use as fair enterprise value. Adding business portfolio value of ¥204.3bn (after-tax unrealized gain) and DTA of ¥189.8bn, we arrive at a total theoretical value of ¥3.08trn, which equates to ¥2,844 per share. On this we base our ¥2,850 target price.

Based on our FY3/13 forecasts, our target price equates to an EV/EBITDA of 4x and PBR of 2.6x, and a dividend yield of 0.2%. By segment, the mobile business EV/EBITDA is 3.7x and the fixed-line business is 2.5x (the overall EV/EBITDA of 4x is boosted by the business portfolio).

Risks

We think the main risks that the share price will not reach our target price include: 1) subscribers taking longer than expected to shift to smartphones, so that SoftBank is unable to differentiate itself using a low-cost FMC service (i.e, mobile business subscriber numbers fall well short of our forecasts); 2) intensifying competition in the smartphone market leading to changes in SoftBank Mobile's rate policy and sales strategy and resultant volatility in ARPU, SACs, SRCs, churn rate, and replacement rate; 3) handset procurement costs for SoftBank Mobile rising; 4) changes in securitization and other financing and capital policies, particularly at SoftBank Mobile; 5) actual fixed-line business operating costs, capex, and construction costs exceeding our forecasts by a significant margin; 6) major changes in the current direction of administrative policy and legal frameworks having a large negative impact on potential market sizes and profitability in mobile, fixed-line, Internet, and broadcasting; businesses; 7) changes in national or regional regulations affecting the value of assets held by SoftBank business in Japan or overseas; 8) major changes in business portfolios or management strategies at the company or its peers resulting from M&A or other activity. If the impact of any of these factors on our business model or earnings forecasts differs from our expectations, the share price may diverge from our target price.

We rate the shares Medium Risk (M) based on their three-year historical volatility, which places them in the sixth through ninth deciles (medium risk) in terms of share price risk compared with our coverage universe.

Appendix A-1

Analyst Certification

The research analyst(s) primarily responsible for the preparation and content of this research report are named in bold text in the author block at the front of the product except for those sections where an analyst's name appears in bold alongside content which is attributable to that analyst. Each of these analyst(s) certify, with respect to the section(s) of the report for which they are responsible, that the views expressed therein accurately reflect their personal views about each issuer and security referenced and were prepared in an independent manner, including with respect to Citigroup Global Markets Inc and its affiliates. No part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendation(s) or view(s) expressed by that research analyst in this report.

IMPORTANT DISCLOSURES

eAccess (9427)

Ratings and Target Price History Fundamental Research

Analyst: Hideki Takoh

Covered since October 14 2010

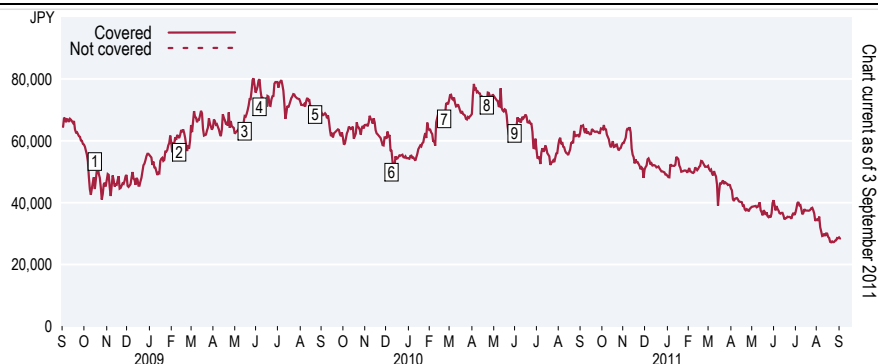


Chart current as of 3 September 2011

	Date	Rating	Target Price	Closing Price
1	16-Oct-08	*1S	69,000	44,400
2	12-Feb-09	*2S	*73,500	60,900
3	15-May-09	2S	*83,000	68,000

* Indicates change

	Date	Rating	Target Price	Closing Price
4	5-Jun-09	2S	*85,000	79,900
5	24-Aug-09	*1M	*87,000	69,800
6	9-Dec-09	*2H	*65,000	56,800

	Date	Rating	Target Price	Closing Price
7	22-Feb-10	2H	*77,000	69,500
8	22-Apr-10	2H	*80,000	72,300
9	1-Jun-10	*1H	80,000	64,300

Rating/target price changes above reflect Eastern Standard Time

eAccess (9427)

Ratings and Target Price History Best Ideas Research Relative Call (3 Month)

Analyst: Hideki Takoh

Covered since October 14 2010

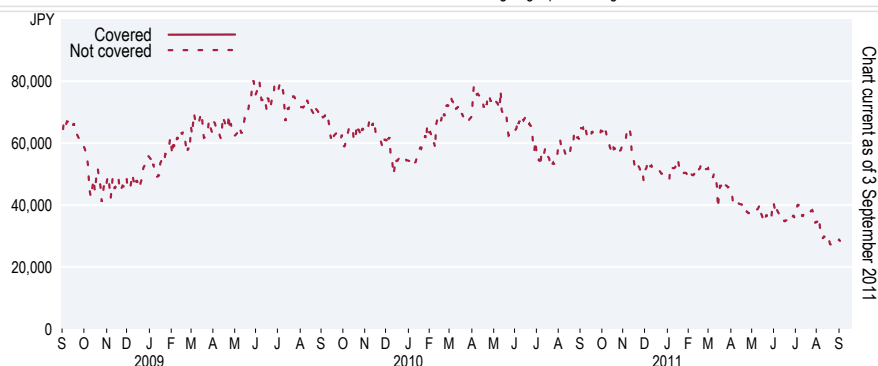


Chart current as of 3 September 2011

* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Nippon Telegraph and Telephone (9432)

Ratings and Target Price History Fundamental Research

Analyst: Hideki Takoh

Covered since October 14 2010



Chart current as of 3 September 2011

	Date	Rating	Target Price	Closing Price
1	16-Oct-08	*1M	5,700	3,870

* Indicates change

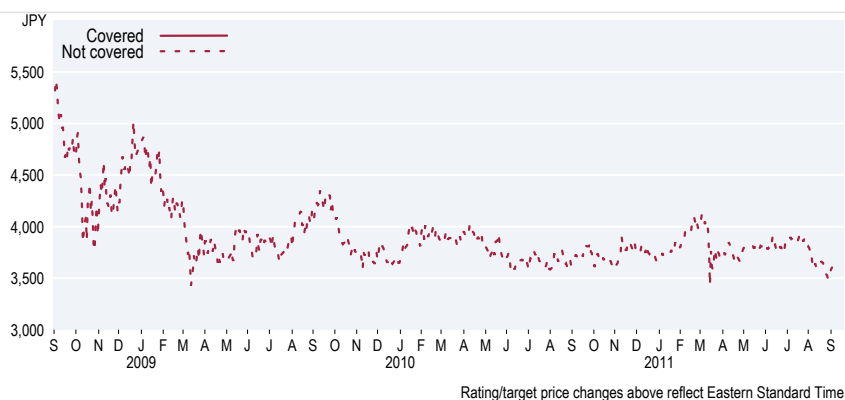
	Date	Rating	Target Price	Closing Price
2	1-Jun-10	*1H	5,700	3,700

Rating/target price changes above reflect Eastern Standard Time

Nippon Telegraph and Telephone (9432)

Ratings and Target Price History Best Ideas Research Relative Call (3 Month)

Analyst: Hideki Takoh
Covered since October 14 2010

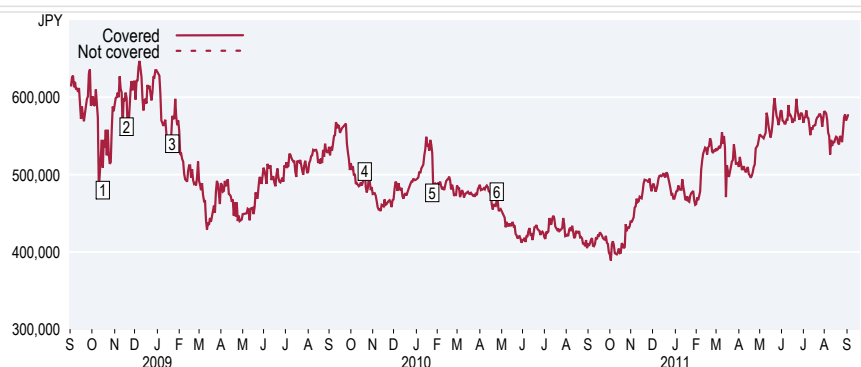


* Indicates change

KDDI (9433)

Ratings and Target Price History Fundamental Research

Analyst: Hideki Takoh
Covered since October 14 2010



	Date	Rating	Target Price	Closing Price
1	16-Oct-08	*1M	*630,000	509,000
2	19-Nov-08	*2M	630,000	599,000

* Indicates change

	Date	Rating	Target Price	Closing Price
3	22-Jan-09	*1M	*650,000	576,000
4	21-Oct-09	*2M	*550,000	504,000

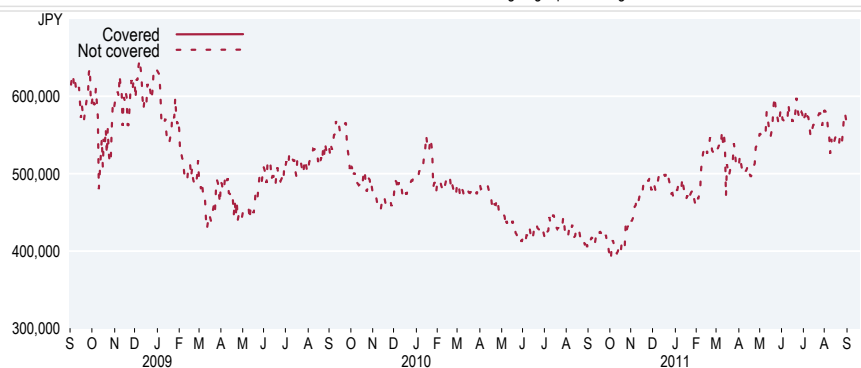
	Date	Rating	Target Price	Closing Price
5	25-Jan-10	*3M	*490,000	528,000
6	26-Apr-10	*2M	490,000	467,000

Rating/target price changes above reflect Eastern Standard Time

KDDI (9433)

Ratings and Target Price History Best Ideas Research Relative Call (3 Month)

Analyst: Hideki Takoh
Covered since October 14 2010



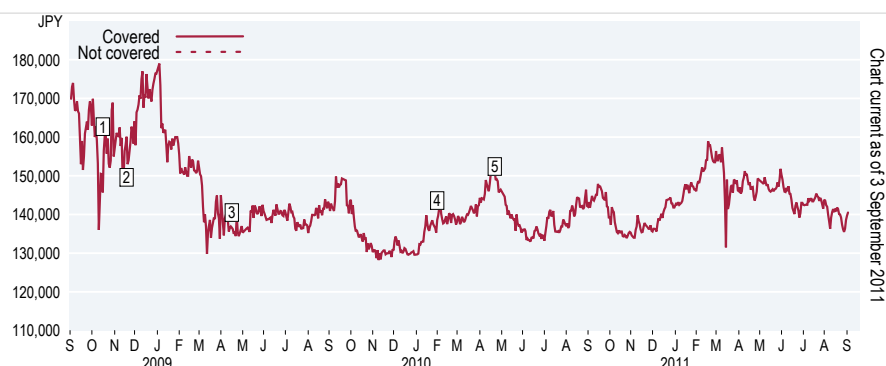
* Indicates change

NTT DoCoMo (9437)

Ratings and Target Price History

Fundamental Research

Analyst: Hideki Takoh
Covered since October 14 2010



	Date	Rating	Target Price	Closing Price
1	16-Oct-08	*1M	170,000	145,700
2	19-Nov-08	*2M	170,000	160,100

* Indicates change

	Date	Rating	Target Price	Closing Price
3	16-Apr-09	2M	*150,000	136,600
4	1-Feb-10	*1M	*160,000	138,600

	Date	Rating	Target Price	Closing Price
5	22-Apr-10	*1L	160,000	151,100

Rating/target price changes above reflect Eastern Standard Time

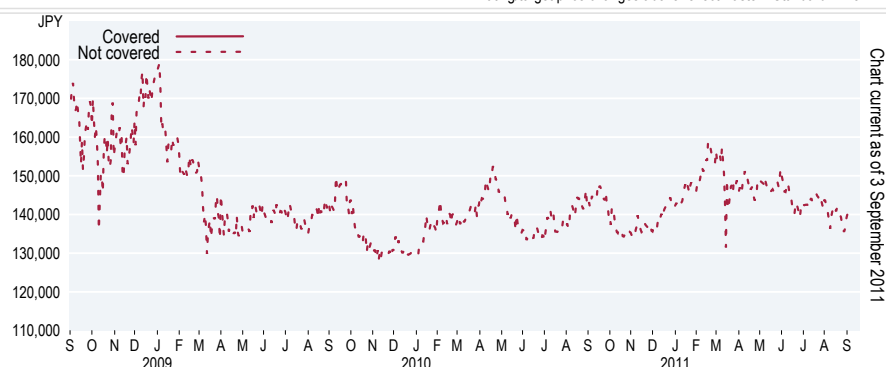
NTT DoCoMo (9437)

Ratings and Target Price History

Best Ideas Research

Relative Call (3 Month)

Analyst: Hideki Takoh
Covered since October 14 2010



* Indicates change

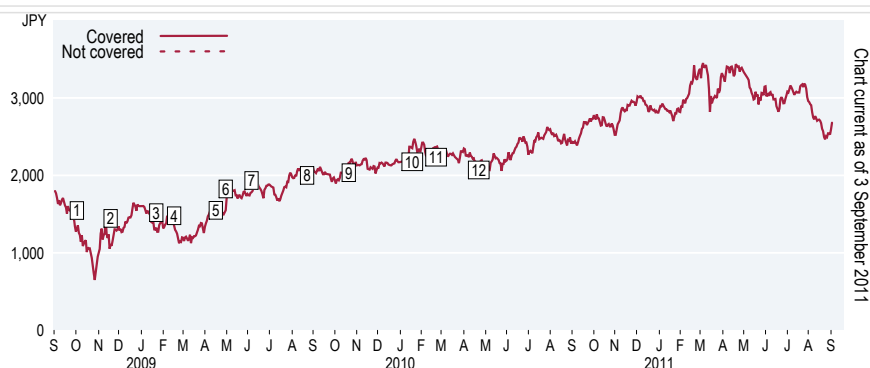
Rating/target price changes above reflect Eastern Standard Time

SoftBank (9984)

Ratings and Target Price History

Fundamental Research

Analyst: Hideki Takoh
Covered since October 14 2010



	Date	Rating	Target Price	Closing Price
1	2-Oct-08	*1S	*1,770	1,305
2	19-Nov-08	1S	*1,825	1,112
3	22-Jan-09	1S	*1,800	1,325
4	17-Feb-09	1S	*1,940	1,351

* Indicates change

	Date	Rating	Target Price	Closing Price
5	16-Apr-09	*2S	*1,870	1,518
6	30-Apr-09	2S	*2,000	1,550
7	5-Jun-09	2S	*2,050	1,782
8	24-Aug-09	*2M	*2,080	2,045

	Date	Rating	Target Price	Closing Price
9	21-Oct-09	2M	*2,090	2,170
10	19-Jan-10	*1M	*2,750	2,351
11	22-Feb-10	1M	*2,650	2,367
12	22-Apr-10	1M	*2,520	2,096

Rating/target price changes above reflect Eastern Standard Time

SoftBank (9984)

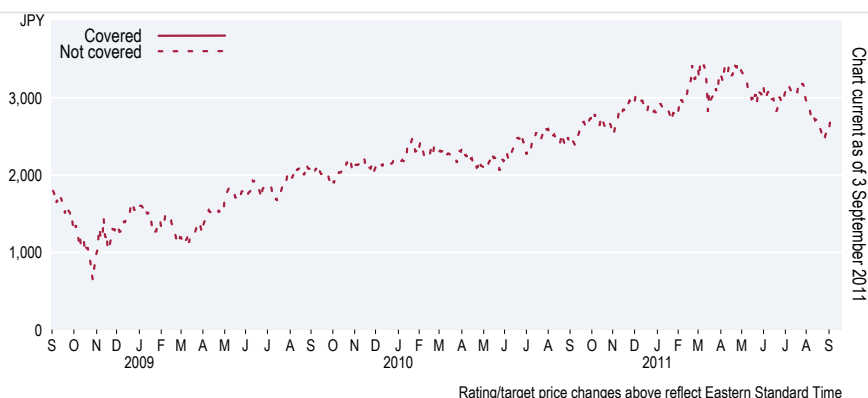
Ratings and Target Price History

Best Ideas Research

Relative Call (3 Month)

Analyst: Hideki Takoh

Covered since October 14 2010



Citigroup Global Markets Korea Securities Limited (CGMK) performs the role of liquidity provider on the warrants of which the underlying asset is SKT. As at 06 Sep 11, CGMK holds 3,399,960 Citi ELW 1328, 2,940,900 Citi ELW 1719, 3,394,670 Citi ELW 1824 Call warrants & 1,388 shares of SKT.

Citigroup Global Markets Korea Securities Limited (CGMK) performs the role of liquidity provider on the warrants of which the underlying asset is KT Corporation. As at 06 Sep 11, CGMK holds 3,400,000 Citi ELW 1648, 3,400,000 Citi ELW 1720, 2,157,810 Citi ELW 1423, 3,365,200 Citi ELW 1827, 3,400,000 Citi ELW 1871 Call warrants & 5,000 shares of KT Corporation.

Citigroup Global Markets Inc. or its affiliates beneficially owns 1% or more of any class of common equity securities of Tata Communications, Telstra Corp Ltd. This position reflects information available as of the prior business day.

Within the past 12 months, Citigroup Global Markets Inc. or its affiliates has acted as manager or co-manager of an offering of securities of KT Corp., China Telecom, China Mobile, SoftBank, Deutsche Telekom AG, France Telecom, SingTel, AT&T Inc, Telefonica SA, Telstra Corp Ltd, TeliaSonera AB, Verizon Communications Inc.

Citigroup Global Markets Inc. or its affiliates has received compensation for investment banking services provided within the past 12 months from SK Telecom, KT Corp., China Telecom, China Unicom, China Mobile, Nippon Telegraph and Telephone, NTT DoCoMo, SoftBank, Axiata Group, BT Group PLC, Deutsche Telekom AG, France Telecom, SingTel, AT&T Inc, Tata Communications, Telefonica SA, Telenor ASA, PT Telkom, Telstra Corp Ltd, TeliaSonera AB, Verizon Communications Inc.

Citigroup Global Markets Inc. or its affiliates expects to receive or intends to seek, within the next three months, compensation for investment banking services from eAccess, China Telecom, China Unicom, China Mobile, SoftBank, Axiata Group, France Telecom, Sprint Nextel, SingTel, AT&T Inc, Telefonica SA, Telenor ASA, Telecom Italia SpA, PT Telkom, TeliaSonera AB.

Citigroup Global Markets Inc. or an affiliate received compensation for products and services other than investment banking services from SK Telecom, KT Corp., China Telecom, China Unicom, China Mobile, Chunghwa Telecom, Taiwan Mobile, Nippon Telegraph and Telephone, KDDI, NTT DoCoMo, SoftBank, Axiata Group, Bharti Airtel, BT Group PLC, Deutsche Telekom AG, France Telecom, Sprint Nextel, SingTel, AT&T Inc, Tata Communications, Telefonica SA, Telenor ASA, Telecom Italia SpA, PT Telkom, Telstra Corp Ltd, TeliaSonera AB, Vodafone Group PLC, Verizon Communications Inc in the past 12 months.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as investment banking client(s): Sprint Nextel, AT&T Inc, Verizon Communications Inc, eAccess, SK Telecom, KT Corp., China Telecom, China Unicom, China Mobile, Nippon Telegraph and Telephone, NTT DoCoMo, SoftBank, Axiata Group, BT Group PLC, Deutsche Telekom AG, France Telecom, SingTel, Tata Communications, Telefonica SA, Telenor ASA, Telecom Italia SpA, PT Telkom, Telstra Corp Ltd, TeliaSonera AB.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, securities-related: SK Telecom, KT Corp., China Telecom, China Unicom, China Mobile, Nippon Telegraph and Telephone, NTT DoCoMo, SoftBank, Axiata Group, Bharti Airtel, BT Group PLC, Deutsche Telekom AG, France Telecom, Sprint Nextel, SingTel, AT&T Inc, Tata Communications, Telefonica SA, Telenor ASA, Telecom Italia SpA, PT Telkom, Telstra Corp Ltd, TeliaSonera AB, Vodafone Group PLC, Verizon Communications Inc.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, non-securities-related: SK Telecom, KT Corp., China Telecom, China Unicom, China Mobile, Chunghwa Telecom, Taiwan Mobile, Nippon Telegraph and Telephone, KDDI, NTT DoCoMo, SoftBank, Axiata Group, Bharti Airtel, BT Group PLC, Deutsche Telekom AG, France Telecom, Sprint Nextel, SingTel, AT&T Inc, Tata Communications, Telefonica SA, Telenor ASA, Telecom Italia SpA, PT Telkom, Telstra Corp Ltd, TeliaSonera AB, Vodafone Group PLC, Verizon Communications Inc.

Analysts' compensation is determined based upon activities and services intended to benefit the investor clients of Citigroup Global Markets Inc. and its affiliates ("the Firm"). Like all Firm employees, analysts receive compensation that is impacted by overall firm profitability which includes investment banking revenues.

The Firm is a market maker in the publicly traded equity securities of China Telecom, China Unicom, China Mobile, KDDI, Deutsche Telekom AG, SingTel, Telenor ASA, Telstra Corp Ltd, Vodafone Group PLC.

For important disclosures (including copies of historical disclosures) regarding the companies that are the subject of this Citi Investment Research & Analysis product ("the Product"), please contact Citi Investment Research & Analysis, 388 Greenwich Street, 28th Floor, New York, NY, 10013, Attention: Legal/Compliance. In addition, the same important disclosures, with the exception of the Valuation and Risk assessments and historical disclosures, are

contained on the Firm's disclosure website at www.citigroupgeo.com. Valuation and Risk assessments can be found in the text of the most recent research note/report regarding the subject company. Historical disclosures (for up to the past three years) will be provided upon request.

Citi Investment Research & Analysis Ratings Distribution

<i>Data current as of 30 Jun 2011</i>	12 Month Rating			Relative Rating		
	Buy	Hold	Sell	Buy	Hold	Sell
Citi Investment Research & Analysis Global Fundamental Coverage	54%	36%	11%	10%	81%	10%
% of companies in each rating category that are investment banking clients	45%	41%	42%	50%	42%	44%

Guide to Citi Investment Research & Analysis (CIRA) Fundamental Research Investment Ratings:

CIRA's stock recommendations include a risk rating and an investment rating.

Risk ratings, which take into account both price volatility and fundamental criteria, are: Low (L), Medium (M), High (H), and Speculative (S).

Investment ratings are a function of CIRA's expectation of total return (forecast price appreciation and dividend yield within the next 12 months) and risk rating.

Analysts may place covered stocks "Under Review" in response to exceptional circumstances (e.g. lack of information critical to the analyst's thesis) affecting the company and/or trading in the company's securities (e.g. trading suspension). Stocks placed "Under Review" will be monitored daily by management. As soon as practically possible, the analyst will publish a note re-establishing a rating and investment thesis.

To satisfy regulatory requirements, we correspond Under Review to Hold in our ratings distribution table for our 12-month fundamental rating system. However, we reiterate that we do not consider Under Review to be a recommendation.

Relative three-month ratings: CIRA may also assign a three-month relative call (or rating) to a stock to highlight expected out-performance (most preferred) or under-performance (least preferred) versus the geographic and industry sector over a 3 month period. The relative call may highlight a specific near-term catalyst or event impacting the company or the market that is anticipated to have a short-term price impact on the equity securities of the company. Absent any specific catalyst the analyst(s) will indicate the most and least preferred stocks in the universe of stocks under consideration, explaining the basis for this short-term view. This three-month view may be different from and does not affect a stock's fundamental equity rating, which reflects a longer-term total absolute return expectation. For purposes of NASD/NYSE ratings-distribution-disclosure rules, most preferred calls correspond to a buy recommendation and least preferred calls correspond to a sell recommendation. Any stock not assigned to a most preferred or least preferred call is considered non-relative-rated (NRR). For purposes of NASD/NYSE ratings-distribution-disclosure rules we correspond NRR to Hold in our ratings distribution table for our 3-month relative rating system. However, we reiterate that we do not consider NRR to be a recommendation.

For securities in developed markets (US, UK, Europe, Japan, and Australia/New Zealand), investment ratings are: Buy (1) (expected total return of 10% or more for Low-Risk stocks, 15% or more for Medium-Risk stocks, 20% or more for High-Risk stocks, and 35% or more for Speculative stocks); Hold (2) (0%-10% for Low-Risk stocks, 0%-15% for Medium-Risk stocks, 0%-20% for High-Risk stocks, and 0%-35% for Speculative stocks); and Sell (3) (negative total return).

For securities in emerging markets (Asia Pacific, Emerging Europe/Middle East/Africa, and Latin America), investment ratings are: Buy (1) (expected total return of 15% or more for Low-Risk stocks, 20% or more for Medium-Risk stocks, 30% or more for High-Risk stocks, and 40% or more for Speculative stocks); Hold (2) (5%-15% for Low-Risk stocks, 10%-20% for Medium-Risk stocks, 15%-30% for High-Risk stocks, and 20%-40% for Speculative stocks); and Sell (3) (5% or less for Low-Risk stocks, 10% or less for Medium-Risk stocks, 15% or less for High-Risk stocks, and 20% or less for Speculative stocks).

Investment ratings are determined by the ranges described above at the time of initiation of coverage, a change in investment and/or risk rating, or a change in target price (subject to limited management discretion). At other times, the expected total returns may fall outside of these ranges because of market price movements and/or other short-term volatility or trading patterns. Such interim deviations from specified ranges will be permitted but will become subject to review by Research Management. Your decision to buy or sell a security should be based upon your personal investment objectives and should be made only after evaluating the stock's expected performance and risk.

NON-US RESEARCH ANALYST DISCLOSURES

Non-US research analysts who have prepared this report (i.e., all research analysts listed below other than those identified as employed by Citigroup Global Markets Inc.) are not registered/qualified as research analysts with FINRA. Such research analysts may not be associated persons of the member organization and therefore may not be subject to the NYSE Rule 472 and NASD Rule 2711 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account. The legal entities employing the authors of this report are listed below:

Citigroup Global Markets Japan Inc.	Hideki Takoh; Hideyuki Nakanishi
Citigroup Global Markets Asia	Ravi Sarathy; Bin Liu
Citigroup Global Markets Inc	Michael Rollins, CFA
Citigroup Global Markets Singapore PTE LIMITED	Arthur Pineda
Citigroup Global Markets Ltd	Simon Weeden; Georgios Ierodiconou; Dimitri Y Kallianiotis, CFA; Laurie Fitzjohn-Sykes, CFA
Citigroup Global Markets Korea Securities Ltd	Sean Lee, CFA
Citicorp Pty Ltd	Justin Diddams
Citigroup Global Markets India Private Limited	Gaurav Malhotra, CFA

OTHER DISCLOSURES

The subject company's share price set out on the front page of this Product is quoted as at 02 September 2011 03:00 PM on the issuer's primary market.

Citigroup Global Markets Inc. and/or its affiliates has a significant financial interest in relation to SK Telecom, KT Corp., China Unicom, Nippon Telegraph and Telephone, KDDI, SoftBank, BT Group PLC, Deutsche Telekom AG, France Telecom, Sprint Nextel, AT&T Inc, Telefonica SA, Telenor ASA, Telecom Italia SpA, Telstra Corp Ltd, TeliaSonera AB, Vodafone Group PLC, Verizon Communications Inc. (For an explanation of the determination of significant financial interest, please refer to the policy for managing conflicts of interest which can be found at www.citigroupgeo.com.)

Citigroup Global Markets Inc. or its affiliates beneficially owns 2% or more of any class of common equity securities of Telstra Corp Ltd.

For securities recommended in the Product in which the Firm is not a market maker, the Firm is a liquidity provider in the issuers' financial instruments and may act as principal in connection with such transactions. The Firm is a regular issuer of traded financial instruments linked to securities that may have been recommended in the Product. The Firm regularly trades in the securities of the issuer(s) discussed in the Product. The Firm may engage in securities transactions in a manner inconsistent with the Product and, with respect to securities covered by the Product, will buy or sell from customers on a principal basis.

Citigroup Global Markets Inc. or its affiliates acts as a corporate broker to Deutsche Telekom AG, Vodafone Group PLC.

Securities recommended, offered, or sold by the Firm: (i) are not insured by the Federal Deposit Insurance Corporation; (ii) are not deposits or other obligations of any insured depository institution (including Citibank); and (iii) are subject to investment risks, including the possible loss of the principal amount invested. Although information has been obtained from and is based upon sources that the Firm believes to be reliable, we do not guarantee its accuracy and it may be incomplete and condensed. Note, however, that the Firm has taken all reasonable steps to determine the accuracy and completeness of the disclosures made in the Important Disclosures section of the Product. The Firm's research department has received assistance from the subject company(ies) referred to in this Product including, but not limited to, discussions with management of the subject company(ies). Firm policy prohibits research analysts from sending draft research to subject companies. However, it should be presumed that the author of the Product has had discussions with the subject company to ensure factual accuracy prior to publication. All opinions, projections and estimates constitute the judgment of the author as of the date of the Product and these, plus any other information contained in the Product, are subject to change without notice. Prices and availability of financial instruments also are subject to change without notice. Notwithstanding other departments within the Firm advising the companies discussed in this Product, information obtained in such role is not used in the preparation of the Product. Although Citi Investment Research & Analysis (CIRA) does not set a predetermined frequency for publication, if the Product is a fundamental research report, it is the intention of CIRA to provide research coverage of the/those issuer(s) mentioned therein, including in response to news affecting this issuer, subject to applicable quiet periods and capacity constraints. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security. Any decision to purchase securities mentioned in the Product must take into account existing public information on such security or any registered prospectus.

Investing in non-U.S. securities, including ADRs, may entail certain risks. The securities of non-U.S. issuers may not be registered with, nor be subject to the reporting requirements of the U.S. Securities and Exchange Commission. There may be limited information available on foreign securities. Foreign companies are generally not subject to uniform audit and reporting standards, practices and requirements comparable to those in the U.S. Securities of some foreign companies may be less liquid and their prices more volatile than securities of comparable U.S. companies. In addition, exchange rate movements may have an adverse effect on the value of an investment in a foreign stock and its corresponding dividend payment for U.S. investors. Net dividends to ADR investors are estimated, using withholding tax rates conventions, deemed accurate, but investors are urged to consult their tax advisor for exact dividend computations. Investors who have received the Product from the Firm may be prohibited in certain states or other jurisdictions from purchasing securities mentioned in the Product from the Firm. Please ask your Financial Consultant for additional details. Citigroup Global Markets Inc. takes responsibility for the Product in the United States. Any orders by US investors resulting from the information contained in the Product may be placed only through Citigroup Global Markets Inc.

Important Disclosures for Morgan Stanley Smith Barney LLC Customers: Morgan Stanley & Co. Incorporated (Morgan Stanley) research reports may be available about the companies that are the subject of this Citi Investment Research & Analysis (CIRA) research report. Ask your Financial Advisor or use smithbarney.com to view any available Morgan Stanley research reports in addition to CIRA research reports.

Important disclosure regarding the relationship between the companies that are the subject of this CIRA research report and Morgan Stanley Smith Barney LLC and its affiliates are available at the Morgan Stanley Smith Barney disclosure website at www.morganstanleysmithbarney.com/researchdisclosures. The required disclosures provided by Morgan Stanley and Citigroup Global Markets, Inc. on Morgan Stanley and CIRA research relate in part to the separate businesses of Citigroup Global Markets, Inc. and Morgan Stanley that now form Morgan Stanley Smith Barney LLC, rather than to Morgan Stanley Smith Barney LLC in its entirety. For Morgan Stanley and Citigroup Global Markets, Inc. specific disclosures, you may refer to www.morganstanley.com/researchdisclosures and https://www.citigroupgeo.com/geopublic/Disclosures/index_a.html.

This CIRA research report has been reviewed and approved on behalf of Morgan Stanley Smith Barney LLC. This review and approval was conducted by the same person who reviewed this research report on behalf of CIRA. This could create a conflict of interest.

The Citigroup legal entity that takes responsibility for the production of the Product is the legal entity which the first named author is employed by. The Product is made available in **Australia** through Citigroup Global Markets Australia Pty Ltd. (ABN 64 003 114 832 and AFSL No. 240992), participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in Australia to Private Banking wholesale clients through Citigroup Pty Limited (ABN 88 004 325 080 and AFSL 238098). Citigroup Pty Limited provides all financial product advice to Australian Private Banking wholesale clients through bankers and relationship managers. If there is any doubt about the suitability of investments held in Citigroup Private Bank accounts, investors should contact the Citigroup Private Bank in Australia. Citigroup companies may compensate affiliates and their representatives for providing products and services to clients. The Product is made available in **Brazil** by Citigroup Global Markets Brasil - CCTVM SA, which is regulated by CVM - Comissão de Valores Mobiliários, BACEN - Brazilian Central Bank, APIMEC - Associação dos Analistas e Profissionais de Investimento do Mercado de Capitais and ANBID - Associação Nacional dos Bancos de Investimento. Av. Paulista, 1111 - 11º andar - CEP. 01311920 - São Paulo - SP. If the Product is being made available in certain provinces of **Canada** by Citigroup Global Markets (Canada) Inc. ("CGM Canada"), CGM Canada has approved the Product. Citigroup Place, 123 Front Street West, Suite 1100, Toronto, Ontario M5J 2M3. This product is available in **Chile** through Banchile Corredores de Bolsa S.A., an indirect subsidiary of Citigroup Inc., which is regulated by the Superintendencia de Valores y Seguros. Agustinas 975, piso 2, Santiago, Chile. The Product is made available in **France** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 1-5 Rue Paul Cézanne, 8ème, Paris, France. The Product is distributed in **Germany** by Citigroup Global Markets Deutschland AG ("CGMD"), which is regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin). CGMD, Reuterweg 16, 60323 Frankfurt am Main. Research which relates to "securities" (as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong)) is issued in **Hong Kong** by, or on behalf of, Citigroup Global Markets Asia Limited which takes full responsibility for its content. Citigroup Global Markets Asia Ltd. is regulated by Hong Kong Securities and Futures Commission. If the Research is made available through Citibank, N.A., Hong Kong Branch, for its clients in Citi Private Bank, it is made available by Citibank N.A., Citibank Tower, Citibank Plaza, 3 Garden Road, Hong Kong. Citibank

N.A. is regulated by the Hong Kong Monetary Authority. Please contact your Private Banker in Citibank N.A., Hong Kong, Branch if you have any queries on or any matters arising from or in connection with this document. The Product is made available in **India** by Citigroup Global Markets India Private Limited, which is regulated by Securities and Exchange Board of India. Bakhtawar, Nariman Point, Mumbai 400-021. The Product is made available in **Indonesia** through PT Citigroup Securities Indonesia. 5/F, Citibank Tower, Babindo Plaza, Jl. Jend. Sudirman Kav. 54-55, Jakarta 12190. Neither this Product nor any copy hereof may be distributed in Indonesia or to any Indonesian citizens wherever they are domiciled or to Indonesian residents except in compliance with applicable capital market laws and regulations. This Product is not an offer of securities in Indonesia. The securities referred to in this Product have not been registered with the Capital Market and Financial Institutions Supervisory Agency (BAPEPAM-LK) pursuant to relevant capital market laws and regulations, and may not be offered or sold within the territory of the Republic of Indonesia or to Indonesian citizens through a public offering or in circumstances which constitute an offer within the meaning of the Indonesian capital market laws and regulations. The Product is made available in **Israel** through Citibank NA, regulated by the Bank of Israel and the Israeli Securities Authority. Citibank, N.A. Platinum Building, 21 Ha'arba'ah St, Tel Aviv, Israel. The Product is made available in **Italy** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. Foro Buonaparte 16, Milan, 20121, Italy. The Product is made available in **Japan** by Citigroup Global Markets Japan Inc. ("CGMJ"), which is regulated by Financial Services Agency, Securities and Exchange Surveillance Commission, Japan Securities Dealers Association, Tokyo Stock Exchange and Osaka Securities Exchange. Shin-Marunouchi Building, 1-5-1 Marunouchi, Chiyoda-ku, Tokyo 100-6520 Japan. If the Product was distributed by SMBC Nikko Securities Inc. it is being so distributed under license. In the event that an error is found in an CGMJ research report, a revised version will be posted on the Firm's Global Equities Online (GEO) website. If you have questions regarding GEO, please call (81 3) 6270-3019 for help. The Product is made available in **Korea** by Citigroup Global Markets Korea Securities Ltd., which is regulated by the Financial Services Commission, the Financial Supervisory Service and the Korea Financial Investment Association (KOFIA). Citibank Building, 39 Da-dong, Jung-gu, Seoul 110-180, Korea. KOFIA makes available registration information of research analysts on its website. Please visit the following website if you wish to find KOFIA registration information on research analysts of Citigroup Global Markets Korea Securities Ltd. <http://dis.kofia.or.kr/fs/dis2/fundMgr/DISFundMgrAnalystPop.jsp?companyCd2=A03030&pageDiv=02>. The Product is made available in **Malaysia** by Citigroup Global Markets Malaysia Sdn Bhd, which is regulated by Malaysia Securities Commission. Menara Citibank, 165 Jalan Ampang, Kuala Lumpur, 50450. The Product is made available in **Mexico** by Acciones y Valores Banamex, S.A. De C. V., Casa de Bolsa, Integrante del Grupo Financiero Banamex ("Accival") which is a wholly owned subsidiary of Citigroup Inc. and is regulated by Comision Nacional Bancaria y de Valores. Reforma 398, Col. Juarez, 06600 Mexico, D.F. In **New Zealand** the Product is made available through Citigroup Global Markets New Zealand Ltd. (Company Number 604457), a Participant of the New Zealand Exchange Limited and regulated by the New Zealand Securities Commission. Level 19, Mobile on the Park, 157 Lambton Quay, Wellington. The Product is made available in **Pakistan** by Citibank N.A. Pakistan branch, which is regulated by the State Bank of Pakistan and Securities Exchange Commission, Pakistan. AWT Plaza, 1.1. Chundrigar Road, P.O. Box 4889, Karachi-74200. The Product is made available in the **Philippines** through Citicorp Financial Services and Insurance Brokerage Philippines, Inc., which is regulated by the Philippines Securities and Exchange Commission. 20th Floor Citibank Square Bldg. The Product is made available in **Poland** by Dom Maklerski Banku Handlowego SA an indirect subsidiary of Citigroup Inc., which is regulated by Komisja Nadzoru Finansowego. Dom Maklerski Banku Handlowego S.A. ul.Senatorska 16, 00-923 Warszawa. The Product is made available in the **Russian Federation** through ZAO Citibank, which is licensed to carry out banking activities in the Russian Federation in accordance with the general banking license issued by the Central Bank of the Russian Federation and brokerage activities in accordance with the license issued by the Federal Service for Financial Markets. Neither the Product nor any information contained in the Product shall be considered as advertising the securities mentioned in this report within the territory of the Russian Federation or outside the Russian Federation. The Product does not constitute an appraisal within the meaning of the Federal Law of the Russian Federation of 29 July 1998 No. 135-FZ (as amended) On Appraisal Activities in the Russian Federation. 8-10 Gashchka Street, 125047 Moscow. The Product is made available in **Singapore** through Citigroup Global Markets Singapore Pte. Ltd. ("CGMSPL"), a capital markets services license holder, and regulated by Monetary Authority of Singapore. Please contact CGMSPL at 1 Temasek Avenue, #39-02 Millenia Tower, Singapore 039192, in respect of any matters arising from, or in connection with, the analysis of this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). The Product is made available by The Citigroup Private Bank in Singapore through Citibank, N.A., Singapore Branch, a licensed bank in Singapore that is regulated by Monetary Authority of Singapore. Please contact your Private Banker in Citibank N.A., Singapore Branch if you have any queries on or any matters arising from or in connection with this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). This report is distributed in Singapore by Citibank Singapore Ltd ("CSL") to selected Citigold/Citigold Private Clients. CSL provides no independent research or analysis of the substance or in preparation of this report. Please contact your Citigold/Citigold Private Client Relationship Manager in CSL if you have any queries on or any matters arising from or in connection with this report. This report is intended for recipients who are accredited investors as defined under the Securities and Futures Act (Cap. 289). Citigroup Global Markets (Pty) Ltd. is incorporated in the **Republic of South Africa** (company registration number 2000/025866/07) and its registered office is at 145 West Street, Sandton, 2196, Saxonwold. Citigroup Global Markets (Pty) Ltd. is regulated by JSE Securities Exchange South Africa, South African Reserve Bank and the Financial Services Board. The investments and services contained herein are not available to private customers in South Africa. The Product is made available in **Spain** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 29 Jose Ortega Y Gassef, 4th Floor, Madrid, 28006, Spain. The Product is made available in the **Republic of China** through Citigroup Global Markets Taiwan Securities Company Ltd. ("CGMTS"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan, subject to the respective license scope of each entity and the applicable laws and regulations in the Republic of China. CGMTS and CSTL are both regulated by the Securities and Futures Bureau of the Financial Supervisory Commission of Taiwan, the Republic of China. No portion of the Product may be reproduced or quoted in the Republic of China by the press or any third parties [without the written authorization of CGMTS and CSTL]. If the Product covers securities which are not allowed to be offered or traded in the Republic of China, neither the Product nor any information contained in the Product shall be considered as advertising the securities or making recommendation of the securities in the Republic of China. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security or financial products. Any decision to purchase securities or financial products mentioned in the Product must take into account existing public information on such security or the financial products or any registered prospectus. The Product is made available in **Thailand** through Citicorp Securities (Thailand) Ltd., which is regulated by the Securities and Exchange Commission of Thailand. 18/F, 22/F and 29/F, 82 North Sathorn Road, Silom, Bangrak, Bangkok 10500, Thailand. The Product is made available in **Turkey** through Citibank AS which is regulated by Capital Markets Board. Tekfen Tower, Eski Buyukdere Caddesi # 209 Kat 2B, 23294 Levent, Istanbul, Turkey. In the **U.A.E.**, these materials (the "Materials") are communicated by Citigroup Global Markets Limited, DIFC branch ("CGML"), an entity registered in the Dubai International Financial Center ("DIFC") and licensed and regulated by the Dubai Financial Services Authority ("DFSA") to

Professional Clients and Market Counterparties only and should not be relied upon or distributed to Retail Clients. A distribution of the different CIRA ratings distribution, in percentage terms for Investments in each sector covered is made available on request. Financial products and/or services to which the Materials relate will only be made available to Professional Clients and Market Counterparties. The Product is made available in **United Kingdom** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. This material may relate to investments or services of a person outside of the UK or to other matters which are not regulated by the FSA and further details as to where this may be the case are available upon request in respect of this material. Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB. The Product is made available in **United States** by Citigroup Global Markets Inc, which is a member of FINRA and registered with the US Securities and Exchange Commission. 388 Greenwich Street, New York, NY 10013. Unless specified to the contrary, within EU Member States, the Product is made available by Citigroup Global Markets Limited, which is regulated by Financial Services Authority.

Pursuant to Comissão de Valores Mobiliários Rule 483, Citi is required to disclose whether a Citi related company or business has a commercial relationship with the subject company. Considering that Citi operates multiple businesses in more than 100 countries around the world, it is likely that Citi has a commercial relationship with the subject company.

Many European regulators require that a firm must establish, implement and make available a policy for managing conflicts of interest arising as a result of publication or distribution of investment research. The policy applicable to CIRA's Products can be found at www.citigroupgeo.com.

Compensation of equity research analysts is determined by equity research management and Citigroup's senior management and is not linked to specific transactions or recommendations.

The Product may have been distributed simultaneously, in multiple formats, to the Firm's worldwide institutional and retail customers. The Product is not to be construed as providing investment services in any jurisdiction where the provision of such services would not be permitted.

Subject to the nature and contents of the Product, the investments described therein are subject to fluctuations in price and/or value and investors may get back less than originally invested. Certain high-volatility investments can be subject to sudden and large falls in value that could equal or exceed the amount invested. Certain investments contained in the Product may have tax implications for private customers whereby levels and basis of taxation may be subject to change. If in doubt, investors should seek advice from a tax adviser. The Product does not purport to identify the nature of the specific market or other risks associated with a particular transaction. Advice in the Product is general and should not be construed as personal advice given it has been prepared without taking account of the objectives, financial situation or needs of any particular investor. Accordingly, investors should, before acting on the advice, consider the appropriateness of the advice, having regard to their objectives, financial situation and needs. Prior to acquiring any financial product, it is the client's responsibility to obtain the relevant offer document for the product and consider it before making a decision as to whether to purchase the product. CIRA concurrently disseminates its research via proprietary and non-proprietary electronic distribution platforms. Periodically, individual analysts may also opt to circulate research to one or more clients by email. Such email distribution is discretionary and is done only after the research has been disseminated via the aforementioned distribution channels.

The level and types of services provided by CIRA analysts to clients may vary depending on various factors such as the client's individual preferences as to the frequency and manner of receiving communications from analysts, the client's risk profile and investment focus and perspective (e.g. market-wide, sector specific, long term, short-term etc.), the size and scope of the overall client relationship with Citi and legal and regulatory constraints.

© 2011 Citigroup Global Markets Inc. Citi Investment Research & Analysis is a division of Citigroup Global Markets Inc. Citi and Citi with Arc Design are trademarks and service marks of Citigroup Inc. and its affiliates and are used and registered throughout the world. All rights reserved. Any unauthorized use, duplication, redistribution or disclosure of this report (the "Product"), including, but not limited to, redistribution of the Product by electronic mail, posting of the Product on a website or page, and/or providing to a third party a link to the Product, is prohibited by law and will result in prosecution. The information contained in the Product is intended solely for the recipient and may not be further distributed by the recipient to any third party. Where included in this report, MSCI sourced information is the exclusive property of Morgan Stanley Capital International Inc. (MSCI). Without prior written permission of MSCI, this information and any other MSCI intellectual property may not be reproduced, redisseminated or used to create any financial products, including any indices. This information is provided on an "as is" basis. The user assumes the entire risk of any use made of this information. MSCI, its affiliates and any third party involved in, or related to, computing or compiling the information hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of this information. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any third party involved in, or related to, computing or compiling the information have any liability for any damages of any kind. MSCI, Morgan Stanley Capital International and the MSCI indexes are services marks of MSCI and its affiliates. The Firm accepts no liability whatsoever for the actions of third parties. The Product may provide the addresses of, or contain hyperlinks to, websites. Except to the extent to which the Product refers to website material of the Firm, the Firm has not reviewed the linked site. Equally, except to the extent to which the Product refers to website material of the Firm, the Firm takes no responsibility for, and makes no representations or warranties whatsoever as to, the data and information contained therein. Such address or hyperlink (including addresses or hyperlinks to website material of the Firm) is provided solely for your convenience and information and the content of the linked site does not in anyway form part of this document. Accessing such website or following such link through the Product or the website of the Firm shall be at your own risk and the Firm shall have no liability arising out of, or in connection with, any such referenced website.

ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST
