



INDIA

BHARTI IN Outperform
Price 3 Oct 11 Rs380.55

12-month target Rs **483.00**
Upside/Downside % **26.9**
Valuation Rs **483.00**
- DCF (WACC 12.2%, beta 0.9, ERP 6.5%, RFR 8.0%, TGR 4.0%)

GICS sector

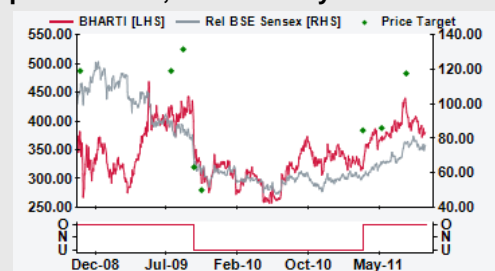
Telecommunication Services

Market cap Rsbn **1,445**
30-day avg turnover US\$m **1.8**
Market cap US\$m **29,400**
Number shares on issue m **3,798**

Investment fundamentals

Year end 31 Mar		2011A	2012E	2013E	2014E
Revenue	bn	594.7	722.8	843.4	939.1
EBITDA	bn	199.7	246.3	297.3	340.4
EBITDA growth	%	19.1	23.4	20.7	14.5
Reported profit	bn	60.5	66.1	107.8	138.3
Adjusted profit	bn	60.8	66.1	107.8	138.3
EPS adj	Rs	16.00	17.40	28.39	36.43
EPS adj growth	%	-32.5	8.8	63.2	28.3
PER adj	x	23.8	21.9	13.4	10.4
Total DPS	Rs	1.00	1.00	1.00	1.00
Total div yield	%	0.3	0.3	0.3	0.3
ROA	%	9.0	7.3	8.4	9.1
ROE	%	13.4	12.8	18.0	19.3
EV/EBITDA	x	10.3	8.4	6.9	6.0
Net debt/equity	%	117.6	96.8	64.5	38.7
P/BV	x	3.0	2.6	2.2	1.8

BHARTI IN rel BSE Sensex performance, & rec history



Note: Recommendation timeline - if not a continuous line, then there was no Macquarie coverage at the time or there was an embargo period.

Source: FactSet, Macquarie Research, October 2011
(all figures in INR unless noted)

Unmesh Sharma, CFA

+91 22 6720 4092 unmesh.sharma@macquarie.com

Kumar Saurabh

+91 22 6720 4091 kumar.saurabh@macquarie.com

5 October 2011

Macquarie Capital Securities India (Pvt) Ltd

Bharti Airtel

Time for Waka Waka!

Event

- We hosted our South Africa telecom analyst, Martin Dullaart, for a conference call with investors, to help gain his perspective on Bharti's African business. Martin shared his experience from having covered major African stocks (such as MTN Group (MTN SJ, R135.32, Outperform, TP: R170.00)) and key highlights from his recent management interactions and visits to individual micro-markets. Separately today, we are also adding Bharti Airtel to the Asia MarQueue Buy list, highlighted in a separately published note.

Impact

- **Strong growth potential in Africa.** Martin expects blended penetration in 2G voice in Africa to rise from around 60% currently to 85% by 2015. He seems excited about prospects for data/3G penetration. In Nigeria for instance, he expects contribution of data to revenues for MTN to rise from 4% to 8%.
- **Nigeria holds the key:** Within Bharti's African business, he believes that Nigeria is 'the' most lucrative and, hence, an important market for Bharti – with population of 150m, ~55% penetration and US\$8–9 ARPU. Bharti holds the #3 position (18% share) – behind MTN (46%) and Globacom (21%). Etisalat is the #4 (and fast-growing) player (9.5%). While there are eight operators, Martin does not see this as a concern. This is because four players hold CDMA (not GSM) licenses. Given the high cost of CDMA handsets, he thinks consolidation is likely to lead to the eventual emergence of only one player.
- **East Africa 'price war' unlikely to spill over to the west:** Martin highlighted the lack of excess network capacity in Nigeria – and west Africa in general. He believes this would drive rational pricing trends – unlike some east African countries like Kenya, Tanzania and Uganda. In Kenya specifically, he believes that Bharti's price cuts are unsustainable due to high interconnect rates.
- **Positive surprise on capex likely ... but won't be sustained:** Martin noted MTN's capex deployment in Africa has been slow in the last few months due to supply chain issues at a vendor (Ericsson). He believes this may also impact Bharti, leading to lower-than-expected capex this year. This would, however, revert to a (normalised) higher level next year. Martin also expects that Bharti will take the lead in tower sharing in Nigeria and that MTN's reluctance will eventually be overcome. This could help lower costs for all players.

Earnings and target price revision

- No change.

Price catalyst

- 12-month price target: Rs483.00 based on a Sum of Parts methodology.
- Catalyst: News on operating metrics (ARPM/ tariffs/ 3G), new telecom policy.

Action and recommendation

- **We maintain an Outperform rating on Bharti**, one of our top global sector picks and we think a good defensive play. Africa remains one of our key concerns. Individual line items may remain volatile, but the overall trend from the physical market and quarterly results remains one of 'steady progress.'

Key takeaways from call with Martin Dullart, Africa Telecom Analyst, Macquarie First South Securities

We hosted our South Africa telecom analyst, Martin Dullaart, for a conference call with investors. Martin has been covering EMEA TMT stocks for the past five years for Macquarie. Martin joined Macquarie in 2007 and assumed coverage of the TMT sectors in 2009. He has achieved top-five rankings in Telecoms, Media and Electronics in the FM survey of institutional investors and jointly achieved top-five ratings in Beverages from 2007–09. Before joining Macquarie, Martin worked at Deloitte, both in Johannesburg and New York. Martin has also lectured in Finance and Taxation at the University of Cape Town. He holds a Masters in Finance from INSEAD and is a CA (SA).

Following are the key takeaways from the call:

- Martin believes there are three ways to best look at the African telecom market:
 - ⇒ Sub-Saharan Africa – where Bharti has maximum exposure.
 - ⇒ Geographic division: Eastern/Western and Southern Africa.
 - ⇒ Economic division: We divide Africa into countries with resources vs countries with no resources (reference back to Eastern/Western/Southern split). All the resource-rich countries show similar trends compared with countries with no resources.
- Out of the 17 African countries in which Bharti has presence, it competes with MTN (which is one of the largest telecom operators in Africa) in Nigeria, Ghana, Uganda, Zambia and Congo B. It also overlaps with Vodacom/Vodafone in Kenya/Tanzania.
- In the last few years, African penetration has increased significantly (from 48% in 2009 to 62% currently), and Martin believes that mobile penetration in Africa still has room to grow. He expects penetration in Africa to reach ~85% by 2015.

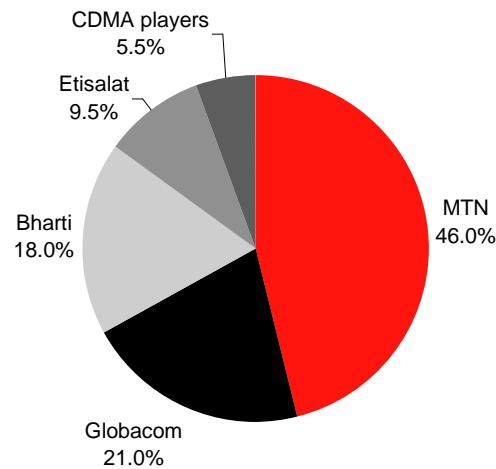
Nigeria is the key market

Martin believes that Bharti's success in Africa will hinge on its performance in the Nigerian market (Nigeria contributes ~30% of African business revenue). Although Nigeria is one of the most developed telecoms market, he thinks the market opportunity still remains attractive. Nigeria has a population of 150m, with mobile penetration of ~55%. ARPUs in the Nigerian market remain on the higher side – US\$8–9 ARPU (compared with India, for which ARPU stands at ~US\$4).

Significant degree of competition in Nigeria

Competition in the Nigerian market is significant, with eight GSM and CDMA players. Of the eight operators, four operators (6m subs, 6% of the market) use CDMA, which effectively prevents them from competing on an equal footing, and one of them – Multi-Links – is in terminal decline. Martin believes that the CDMA segment needs to consolidate.

Of the GSM players, MTN is the leader (46% share), followed by Globacom (21%), Bharti (18%) and Etisalat (9.5% but growing fast). Etisalat and Glo are the most aggressively competitive on pricing.

Fig 1 Nigerian market – competitive landscape

Source: Macquarie Research, October 2011

Nigerian Naira (NGN) is a quasi-peg

Bharti holds ~US\$800m of debt in NGN for local operations. One of the key themes we think has driven Bharti's stock in the last few weeks has been the appreciation of the US dollar against the Indian rupee. This has raised concerns regarding impact of the currency movement in Africa as well. Martin mentioned that the NGN is a quasi-peg against the US dollar with slight movement if required during the periodic auctions (typically twice a week). This tends to smooth out the exchange rate movement. Because the reporting currency for the African operations for Bharti (and most other operators such as MTN) is the US dollar, it is unlikely that we will see any shock in the form of a translation loss in this quarter.

MTN – network quality remains an advantage

Historically, Martin believes that Zain and the other GSM operators underinvested in their networks, leaving network quality as a key source of competitive advantage for MTN. However, for the first time in several years, MTN appears to have an issue with network capacity. Capex has slowed sharply: currently deploying 40 base stations pm, vs the historical run-rate of c.240pm. This is primarily because of failure of Ericsson's global supply chain – which should be affecting competitors to a similar extent. Notably, Bharti also has tied up with Ericsson for network expansion in Africa, so it can affect Bharti's expansion plan as well. However, we have not seen any signs of a slowdown happening until now.

Pricing strategy

MTN has allowed pricing in the market to undercut its packages significantly. Etisalat and Globacom look to be pushing for share by offering attractive offers and tariff plans. Etisalat's strategy appears focused on metro areas, in which it is growing its share of "dual sim traffic." On the other hand Globacom has led with equalised on- and off-net tariffs, undermining an important differentiator for MTN.

However, Martin expects rational pricing trends in West Africa (including Nigeria) due to lack of network capacity. He believes that it is difficult for MTN or Bharti to fully match competitor pricing without clogging the network. In fact recently Bharti offered price promotions but it had to pull them back shortly after launch because of high traffic. Martin believes that dynamic tariffing is the end-game for MTN. However, pricing strategy will be dependent upon pace of company's capacity expansion.

Bharti Airtel (BHARTI IN, Outperform, Target Price: Rs483.00)

Quarterly Results					Profit & Loss						
		1Q/12A	2Q/12E	3Q/12E	4Q/12E		2011A	2012E	2013E	2014E	
Revenue	bn	170	177	185	192	Revenue	bn	595	723	843	939
Gross Profit	bn	86	90	95	99	Gross Profit	bn	305	370	439	496
Cost of Goods Sold	bn	84	86	90	93	Cost of Goods Sold	bn	289	353	405	443
EBITDA	bn	57	60	63	66	EBITDA	bn	200	246	297	340
Depreciation	bn	23	24	24	24	Depreciation	bn	87	95	96	109
Amortisation of Goodwill	bn	0	0	0	0	Amortisation of Goodwill	bn	0	0	0	0
Other Amortisation	bn	8	8	8	8	Other Amortisation	bn	15	32	30	20
EBIT	bn	26	29	31	34	EBIT	bn	98	119	170	212
Net Interest Income	bn	-9	-8	-9	-8	Net Interest Income	bn	-22	-34	-33	-32
Associates	bn	0	0	0	0	Associates	bn	-0	0	0	0
Exceptionals	bn	0	0	0	0	Exceptionals	bn	-0	0	0	0
Forex Gains / Losses	bn	0	0	0	0	Forex Gains / Losses	bn	0	0	0	0
Other Pre-Tax Income	bn	0	1	1	1	Other Pre-Tax Income	bn	1	2	3	3
Pre-Tax Profit	bn	17	21	23	26	Pre-Tax Profit	bn	77	87	140	182
Tax Expense	bn	-5	-5	-6	-7	Tax Expense	bn	-18	-23	-35	-47
Net Profit	bn	12	16	17	20	Net Profit	bn	59	65	105	135
Minority Interests	bn	0	0	0	1	Minority Interests	bn	1	1	3	4
Reported Earnings	bn	12	16	18	20	Reported Earnings	bn	60	66	108	138
Adjusted Earnings	bn	12	16	18	20	Adjusted Earnings	bn	61	66	108	138
EPS (rep)		3.20	4.21	4.69	5.30	EPS (rep)		15.92	17.40	28.39	36.43
EPS (adj)		3.20	4.21	4.69	5.30	EPS (adj)		16.00	17.40	28.39	36.43
EPS Growth yoy (adj)	%	-28.7	-3.7	36.7	43.0	EPS Growth (adj)	%	-32.5	8.8	63.2	28.3
						PE (rep)	x	23.9	21.9	13.4	10.4
						PE (adj)	x	23.8	21.9	13.4	10.4
EBITDA Margin	%	33.6	34.1	34.2	34.4	Total DPS		1.00	1.00	1.00	1.00
EBIT Margin	%	15.1	16.2	16.9	17.6	Total Div Yield	%	0.3	0.3	0.3	0.3
Earnings Split	%	18.4	24.2	27.0	30.4	Weighted Average Shares	m	3,798	3,798	3,798	3,798
Revenue Growth	%	38.8	16.1	17.1	17.9	Period End Shares	m	3,798	3,798	3,798	3,798
EBIT Growth	%	4.0	12.7	37.6	36.2						
Profit and Loss Ratios		2011A	2012E	2013E	2014E	Cashflow Analysis		2011A	2012E	2013E	2014E
Revenue Growth	%	42.1	21.5	16.7	11.3	EBITDA	bn	200	246	297	340
EBITDA Growth	%	19.1	23.4	20.7	14.5	Tax Paid	bn	11	23	35	47
EBIT Growth	%	-6.9	22.3	42.8	24.2	Chgs in Working Cap	bn	-6	3	-6	5
Gross Profit Margin	%	51.3	51.2	52.0	52.8	Net Interest Paid	bn	-22	-34	-33	-32
EBITDA Margin	%	33.6	34.1	35.3	36.3	Other	bn	4	-2	-10	-63
EBIT Margin	%	16.4	16.5	20.2	22.5	Operating Cashflow	bn	187	235	283	297
Net Profit Margin	%	9.9	8.9	12.5	14.3	Acquisitions	bn	-373	0	0	0
Payout Ratio	%	6.3	5.7	3.5	2.7	Capex	bn	-109	-146	-138	-134
EV/EBITDA	x	10.3	8.4	6.9	6.0	Asset Sales	bn	0	0	0	0
EV/EBIT	x	21.1	17.3	12.1	9.7	Other	bn	-121	-15	16	0
Balance Sheet Ratios						Investing Cashflow	bn	-603	-161	-122	-134
ROE	%	13.4	12.8	18.0	19.3	Dividend (Ordinary)	bn	-4	-4	-4	-4
ROA	%	9.0	7.3	8.4	9.1	Equity Raised	bn	0	0	0	0
ROIC	%	14.3	7.9	11.3	14.0	Debt Movements	bn	430	261	296	8
Net Debt/Equity	%	117.6	96.8	64.5	38.7	Other	bn	-28	-38	-37	-35
Interest Cover	x	4.5	3.5	5.2	6.5	Financing Cashflow	bn	397	219	254	-31
Price/Book	x	3.0	2.6	2.2	1.8	Net Chg in Cash/Debt	bn	-19	293	415	132
Book Value per Share		128.4	144.3	171.5	206.8	Free Cashflow	bn	78	89	145	163
						Balance Sheet		2011A	2012E	2013E	2014E
						Cash	bn	10	320	736	868
						Receivables	bn	55	64	74	77
						Inventories	bn	2	2	3	3
						Investments	bn	7	13	13	13
						Fixed Assets	bn	651	685	727	752
						Intangibles	bn	637	614	567	547
						Other Assets	bn	103	120	126	127
						Total Assets	bn	1,465	1,818	2,246	2,387
						Payables	bn	250	273	296	295
						Short Term Debt	bn	84	418	751	835
						Long Term Debt	bn	532	460	423	348
						Provisions	bn	7	8	8	8
						Other Liabilities	bn	75	84	89	88
						Total Liabilities	bn	949	1,243	1,567	1,574
						Shareholders' Funds	bn	488	548	651	785
						Minority Interests	bn	29	28	28	28
						Other	bn	0	0	0	0
						Total S/H Equity	bn	516	576	679	813
						Total Liab & S/H Funds	bn	1,465	1,818	2,246	2,387

All figures in INR unless noted.

Source: Company data, Macquarie Research, October 2011

Important disclosures:

Recommendation definitions

Macquarie - Australia/New Zealand

Outperform – return >3% in excess of benchmark return
 Neutral – return within 3% of benchmark return
 Underperform – return >3% below benchmark return

Benchmark return is determined by long term nominal GDP growth plus 12 month forward market dividend yield

Macquarie – Asia/Europe

Outperform – expected return >+10%
 Neutral – expected return from -10% to +10%
 Underperform – expected return <-10%

Macquarie First South - South Africa

Outperform – expected return >+10%
 Neutral – expected return from -10% to +10%
 Underperform – expected return <-10%

Macquarie - Canada

Outperform – return >5% in excess of benchmark return
 Neutral – return within 5% of benchmark return
 Underperform – return >5% below benchmark return

Macquarie - USA

Outperform (Buy) – return >5% in excess of Russell 3000 index return
 Neutral (Hold) – return within 5% of Russell 3000 index return
 Underperform (Sell) – return >5% below Russell 3000 index return

Volatility index definition*

This is calculated from the volatility of historical price movements.

Very high-highest risk – Stock should be expected to move up or down 60–100% in a year – investors should be aware this stock is highly speculative.

High – stock should be expected to move up or down at least 40–60% in a year – investors should be aware this stock could be speculative.

Medium – stock should be expected to move up or down at least 30–40% in a year.

Low-medium – stock should be expected to move up or down at least 25–30% in a year.

Low – stock should be expected to move up or down at least 15–25% in a year.

* Applicable to Australian/NZ/Canada stocks only

Recommendations – 12 months

Note: Quant recommendations may differ from Fundamental Analyst recommendations

Financial definitions

All "Adjusted" data items have had the following adjustments made:

Added back: goodwill amortisation, provision for catastrophe reserves, IFRS derivatives & hedging, IFRS impairments & IFRS interest expense
 Excluded: non recurring items, asset revals, property revals, appraisal value uplift, preference dividends & minority interests

EPS = adjusted net profit / epowa*

ROA = adjusted ebit / average total assets

ROA Banks/Insurance = adjusted net profit / average total assets

ROE = adjusted net profit / average shareholders funds

Gross cashflow = adjusted net profit + depreciation

*equivalent fully paid ordinary weighted average number of shares

All Reported numbers for Australian/NZ listed stocks are modelled under IFRS (International Financial Reporting Standards).

Recommendation proportions – For quarter ending 30 September 2011

	AU/NZ	Asia	RSA	USA	CA	EUR	
Outperform	57.35%	65.88%	56.94%	46.54%	74.68%	47.85%	(for US coverage by MCUSA, 11.63% of stocks covered are investment banking clients)
Neutral	31.99%	20.68%	31.94%	50.00%	23.42%	34.66%	(for US coverage by MCUSA, 9.30% of stocks covered are investment banking clients)
Underperform	10.66%	13.45%	11.11%	3.46%	1.90%	17.49%	(for US coverage by MCUSA, 0.47% of stocks covered are investment banking clients)

Company Specific Disclosures:

The analyst and/or associated parties own or have other interests in securities issued by MTN.

Important disclosure information regarding the subject companies covered in this report is available at www.macquarie.com/disclosures.

Analyst Certification:

The views expressed in this research accurately reflect the personal views of the analyst(s) about the subject securities or issuers and no part of the compensation of the analyst(s) was, is, or will be directly or indirectly related to the inclusion of specific recommendations or views in this research. The analyst principally responsible for the preparation of this research receives compensation based on overall revenues of Macquarie Group Ltd ABN 94 122 169 279 (AFSL No. 318062) (MGL) and its related entities (the Macquarie Group) and has taken reasonable care to achieve and maintain independence and objectivity in making any recommendations.

General Disclaimers:

Macquarie Securities (Australia) Ltd; Macquarie Capital (Europe) Ltd; Macquarie Capital Markets Canada Ltd; Macquarie Capital Markets North America Ltd; Macquarie Capital (USA) Inc; Macquarie Capital Securities Ltd and its Taiwan branch; Macquarie Capital Securities (Singapore) Pte Ltd; Macquarie Securities (NZ) Ltd; Macquarie First South Securities (Pty) Limited; Macquarie Capital Securities (India) Pvt Ltd; Macquarie Capital Securities (Malaysia) Sdn Bhd; Macquarie Securities Korea Limited and Macquarie Securities (Thailand) Ltd are not authorized deposit-taking institutions for the purposes of the Banking Act 1959 (Commonwealth of Australia), and their obligations do not represent deposits or other liabilities of Macquarie Bank Limited ABN 46 008 583 542 (MBL) or MGL. MBL does not guarantee or otherwise provide assurance in respect of the obligations of any of the above mentioned entities. MGL provides a guarantee to the Monetary Authority of Singapore in respect of the obligations and liabilities of Macquarie Capital Securities (Singapore) Pte Ltd for up to SGD 35 million. This research has been prepared for the general use of the wholesale clients of the Macquarie Group and must not be copied, either in whole or in part, or distributed to any other person. If you are not the intended recipient you must not use or disclose the information in this research in any way. If you received it in error, please tell us immediately by return e-mail and delete the document. We do not guarantee the integrity of any e-mails or attached files and are not responsible for any changes made to them by any other person. MGL has established and implemented a conflicts policy at group level (which may be revised and updated from time to time) (the "Conflicts Policy") pursuant to regulatory requirements (including the FSA Rules) which sets out how we must seek to identify and manage all material conflicts of interest. Nothing in this research shall be construed as a solicitation to buy or sell any security or product, or to engage in or refrain from engaging in any transaction. In preparing this research, we did not take into account your investment objectives, financial situation or particular needs. Before making an investment decision on the basis of this research, you need to consider, with or without the assistance of an adviser, whether the advice is appropriate in light of your particular investment needs, objectives and financial circumstances. There are risks involved in securities trading. The price of securities can and does fluctuate, and an individual security may even become valueless. International investors are reminded of the additional risks inherent in international investments, such as currency fluctuations and international stock market or economic conditions, which may adversely affect the value of the investment. This research is based on information obtained from sources believed to be reliable but we do not make any representation or warranty that it is accurate, complete or up to date. We accept no obligation to correct or update the information or opinions in it. Opinions expressed are subject to change without notice. No member of the Macquarie Group accepts any liability whatsoever for any direct, indirect, consequential or other loss arising from any use of this research and/or further communication in relation to this research. Clients should contact analysts at, and execute transactions through, a Macquarie Group entity in their home jurisdiction unless governing law permits otherwise.

Country-Specific Disclaimers:

Australia: In Australia, research is issued and distributed by Macquarie Securities (Australia) Ltd (AFSL No. 238947), a participating organisation of the Australian Securities Exchange. **New Zealand:** In New Zealand, research is issued and distributed by Macquarie Securities (NZ) Ltd, a NZX Firm.

Canada: In Canada, research is prepared, approved and distributed by Macquarie Capital Markets Canada Ltd, a participating organisation of the Toronto Stock Exchange, TSX Venture Exchange & Montréal Exchange. Macquarie Capital Markets North America Ltd., which is a registered broker-dealer and member of FINRA, accepts responsibility for the contents of reports issued by Macquarie Capital Markets Canada Ltd in the United States and sent to US persons. Any person wishing to effect transactions in the securities described in the reports issued by Macquarie Capital Markets Canada Ltd should do so with Macquarie Capital Markets North America Ltd. The Research Distribution Policy of Macquarie Capital Markets Canada Ltd is to allow all clients that are entitled to have equal access to our research. **United Kingdom:** In the United Kingdom, research is issued and distributed by Macquarie Capital (Europe) Ltd, which is authorised and regulated by the Financial Services Authority (No. 193905). **Germany:** In Germany, research is issued and distributed by Macquarie Capital (Europe) Ltd, Niederlassung Deutschland, which is authorised and regulated in the United Kingdom by the Financial Services Authority (No. 193905). **France:** In France, research is issued and distributed by Macquarie Capital (Europe) Ltd, which is authorised and regulated in the United Kingdom by the Financial Services Authority (No. 193905). **Hong Kong & Mainland China:** In Hong Kong, research is issued and distributed by Macquarie Capital Securities Ltd, which is licensed and regulated by the Securities and Futures

Commission. In Mainland China, Macquarie Securities (Australia) Limited Shanghai Representative Office only engages in non-business operational activities excluding issuing and distributing research. Only non-A share research is distributed into Mainland China by Macquarie Capital Securities Ltd. **Japan:** In Japan, research is issued and distributed by Macquarie Capital Securities (Japan) Limited, a member of the Tokyo Stock Exchange, Inc. and Osaka Securities Exchange Co. Ltd (Financial Instruments Firm, Kanto Financial Bureau (kin-sho) No. 231, a member of Japan Securities Dealers Association and Financial Futures Association of Japan and Japan Securities Investment Advisers Association). **India:** In India, research is issued and distributed by Macquarie Capital Securities (India) Pvt Ltd., 92, Level 9, 2 North Avenue, Maker Maxity, Bandra Kurla Complex, Bandra (East), Mumbai – 400 051, India, which is a SEBI registered Stock Broker having membership with National Stock Exchange of India Limited (INB231246738) and Bombay Stock Exchange Limited (INB011246734). **Malaysia:** In Malaysia, research is issued and distributed by Macquarie Capital Securities (Malaysia) Sdn. Bhd. (Company registration number: 463469-W) which is a Participating Organisation of Bursa Malaysia Berhad and a holder of Capital Markets Services License issued by the Securities Commission. **Taiwan:** Information on securities/instruments that are traded in Taiwan is distributed by Macquarie Capital Securities Ltd, Taiwan Branch, which is licensed and regulated by the Financial Supervisory Commission. No portion of the report may be reproduced or quoted by the press or any other person without authorisation from Macquarie. Nothing in this research shall be construed as a solicitation to buy or sell any security or product. **Thailand:** In Thailand, research is issued and distributed by Macquarie Securities (Thailand) Ltd, a licensed securities company that is authorized by the Ministry of Finance, regulated by the Securities and Exchange Commission of Thailand and is an exchange member no. 28 of the Stock Exchange of Thailand. The Thai Institute of Directors Association has disclosed the Corporate Governance Report of Thai Listed Companies made pursuant to the policy of the Securities and Exchange Commission of Thailand. Macquarie Securities (Thailand) Ltd does not endorse the result of the Corporate Governance Report of Thai Listed Companies but this Report can be accessed at: <http://www.thai-iod.com/en/publications.asp?type=4>. **South Korea:** In South Korea, unless otherwise stated, research is prepared, issued and distributed by Macquarie Securities Korea Limited, which is regulated by the Financial Supervisory Services. Information on analysts in MSKL is disclosed at <http://dis.kofia.or.kr/fs/dis2/fundMgr/DISFundMgrAnalystPop.jsp?companyCd2=A03053&pageDiv=02>. **South Africa:** In South Africa, research is issued and distributed by Macquarie First South Securities (Pty) Limited, a member of the JSE Limited. **Singapore:** In Singapore, research is issued and distributed by Macquarie Capital Securities (Singapore) Pte Ltd (Company Registration Number: 198702912C), a Capital Markets Services license holder under the Securities and Futures Act to deal in securities and provide custodial services in Singapore. Pursuant to the Financial Advisers (Amendment) Regulations 2005, Macquarie Capital Securities (Singapore) Pte Ltd is exempt from complying with sections 25, 27 and 36 of the Financial Advisers Act. All Singapore-based recipients of research produced by Macquarie Capital (Europe) Limited, Macquarie Capital Markets Canada Ltd, Macquarie First South Securities (Pty) Limited and Macquarie Capital (USA) Inc. represent and warrant that they are institutional investors as defined in the Securities and Futures Act. **United States:** In the United States, research is issued and distributed by Macquarie Capital (USA) Inc., which is a registered broker-dealer and member of FINRA. Macquarie Capital (USA) Inc. accepts responsibility for the content of each research report prepared by one of its non-US affiliates when the research report is distributed in the United States by Macquarie Capital (USA) Inc. Macquarie Capital (USA) Inc.'s affiliate's analysts are not registered as research analysts with FINRA, may not be associated persons of Macquarie Capital (USA) Inc., and therefore may not be subject to FINRA rule restrictions on communications with a subject company, public appearances, and trading securities held by a research analyst account. Any persons receiving this report directly from Macquarie Capital (USA) Inc. and wishing to effect a transaction in any security described herein should do so with Macquarie Capital (USA) Inc. Important disclosure information regarding the subject companies covered in this report is available at www.macquarie.com/research/disclosures, or contact your registered representative at 1-888-MAC-STOCK, or write to the Supervisory Analysts, Research Department, Macquarie Securities, 125 W.55th Street, New York, NY 10019.

© Macquarie Group

Auckland Tel: (649) 377 6433	Bangkok Tel: (662) 694 7999	Calgary Tel: (1 403) 218 6650	Denver Tel: (303) 952 2800	Frankfurt Tel: (069) 509 578 000	Geneva Tel: (41) 22 818 7777	Hong Kong Tel: (852) 2823 3588
Jakarta Tel: (62 21) 515 1818	Johannesburg Tel: (2711) 583 2000	Kuala Lumpur Tel: (60 3) 2059 8833	London Tel: (44 20) 3037 2000	Manila Tel: (63 2) 857 0888	Melbourne Tel: (613) 9635 8139	Montreal Tel: (1 514) 925 2850
Mumbai Tel: (91 22) 6653 3000	Munich Tel: (089) 2444 31800	New York Tel: (1 212) 231 2500	Paris Tel: (33 1) 7842 3823	Perth Tel: (618) 9224 0888	Seoul Tel: (82 2) 3705 8500	Shanghai Tel: (86 21) 6841 3355
Singapore Tel: (65) 6601 1111	Sydney Tel: (612) 8232 9555	Taipei Tel: (886 2) 2734 7500	Tokyo Tel: (81 3) 3512 7900	Toronto Tel: (1 416) 848 3500		

Available to clients on the world wide web at www.macquarieresearch.com and through Thomson Financial, FactSet, Reuters, Bloomberg, CapitalIQ and TheMarkets.com.

Asia Research

Head of Equity Research

John O'Connell (Global Co – Head)	(612) 8232 7544
David Rickards (Global Co – Head)	(612) 8237 1159
Chris Hunt (Asia – Head)	(852) 3922 1119
Tim Smart (Asia – Deputy Head)	(852) 3922 3565

Automobiles/Auto Parts

Amit Mishra (India)	(9122) 6720 4084
Clive Wiggins (Japan)	(813) 3512 7856
Dan Lucas (Japan)	(813) 3512 6050
Michael Sohn (Korea)	(82 2) 3705 8644

Banks and Non-Bank Financials

Ismael Pili (Asia, Hong Kong)	(852) 3922 4774
Victor Wang (China)	(852) 3922 1479
Mudit Painuly (India)	(9122) 6720 4083
Suresh Ganapathy (India)	(9122) 6720 4078
Nicolaos Oentung (Indonesia)	(6221) 2598 8366
Alastair Macdonald (Japan)	(813) 3512 7476
Chan Hwang (Korea)	(822) 3705 8643
Matthew Smith (Malaysia, Singapore)	(65) 6601 0981
Alex Pomento (Philippines)	(632) 857 0899
Jemmy Huang (Taiwan)	(8862) 2734 7530
Passakorn Linmaneechote (Thailand)	(662) 694 7728

Conglomerates

Janet Lewis (Hong Kong)	(852) 3922 5417
Alex Pomento (Philippines)	(632) 857 0899

Consumer and Gaming

Gary Pinge (Asia)	(852) 3922 3557
Linda Huang (China, Hong Kong)	(852) 3922 4068
Amit Mishra (India)	(9122) 6720 4084
Lyall Taylor (Indonesia)	(6221) 2598 8489
Toby Williams (Japan)	(813) 3512 7392
HongSuk Na (Korea)	(822) 3705 8678
Alex Pomento (Philippines)	(632) 857 0899
Somesh Agarwal (Singapore)	(65) 6601 0840
Brandon Chen (Taiwan)	(8862) 2734 7518
Best Waiyanont (Thailand)	(662) 694 7993

Emerging Leaders

Jake Lynch (China, Asia)	(8621) 2412 9007
Jonathan Hsu (China, Hong Kong)	(852) 3922 4625
Saiyi He (Hong Kong)	(852) 3922 3585
Robert Burghart (Japan)	(813) 3512 7853
Makoto Egami (Japan)	(813) 3512 7879

Industrials

Janet Lewis (Asia)	(852) 3922 5417
Patrick Dai (China)	(8621) 2412 9082
Inderjeetsingh Bhatia (India)	(9122) 6720 4087
Juwon Lee (Korea)	(822) 3705 8661
Sunaina Dhanuka (Malaysia)	(603) 2059 8993
David Gambrell (Thailand)	(662) 694 7753

Insurance

Scott Russell (Asia, China)	(852) 3922 3567
Chung Jun Yun (Korea)	(822) 2095 7222

Media and Internet

Jiong Shao (China, Hong Kong)	(852) 3922 3566
Steve Zhang (China, Hong Kong)	(852) 3922 3578
Nitin Mohta (India)	(9122) 6720 4090
Prem Jearajasingam (Malaysia)	(603) 2059 8989
Alex Pomento (Philippines)	(632) 857 0899

Asia Sales

Regional Heads of Sales

Robin Black (Asia)	(852) 3922 2074
Chris Gray (ASEAN)	(65) 6601 0288
Peter Slater (Boston)	(1 617) 598 2502
Jeffrey Shiu (China & Hong Kong)	(852) 3922 2061
Thomas Renz (Geneva)	(41) 22 818 7712
Andrew Mouat (India)	(9122) 6720 4100
Kenneth Yap (Indonesia)	(6221) 515 1555
JJ Kim (Korea)	(822) 3705 8799
Jason Lee (Malaysia)	(603) 2059 8888
Chris Gould (Malaysia)	(603) 2059 8888
Gino C Rojas (Philippines)	(632) 857 0861
Greg Norton-Kidd (New York)	(1 212) 231 2527
Luke Sullivan (New York)	(1 212) 231 2507
Eric Roles (New York)	(1 212) 231 2559
Sheila Schroeder (San Francisco)	(1 415) 762 5001

Oil, Gas and Petrochemicals

James Hubbard (Asia)	(852) 3922 1226
Jal Irani (India)	(9122) 6720 4080
Polina Diyachkina (Japan)	(813) 3512 7886
Sunaina Dhanuka (Malaysia)	(603) 2059 8993
Trevor Buchinski (Thailand)	(662) 694 7829

Pharmaceuticals and Healthcare

Jonathan Hsu (Hong Kong)	(852) 3922 4625
Abhishek Singhal (India)	(9122) 6720 4086
Eunice Bu (Korea)	822) 2095 7223
Chinnarat Boonmahanark (Thailand)	(662) 694 7985

Property

Callum Bramah (Asia)	(852) 3922 4731
David Ng (China, Hong Kong)	(852) 3922 1291
Jeffrey Gao (China)	(8621) 2412 9026
Unmesh Sharma (India)	(9122) 6720 4092
Felicia Barus (Indonesia)	(6221) 2598 8480
Hiroshi Okubo (Japan)	(813) 3512 7433
Sunaina Dhanuka (Malaysia)	(603) 2059 8993
Alex Pomento (Philippines)	(632) 857 0899
Tuck Yin Soong (Singapore)	(65) 6601 0838
Elaine Cheong (Singapore)	(65) 6601 0839
Corinne Jian (Taiwan)	(8862) 2734 7522
Brandon Chen (Taiwan)	(8862) 2734 7518
Patti Tomaitrichitr (Thailand)	(662) 694 7727

Resources / Metals and Mining

Andrew Dale (Asia)	(852) 3922 3587
Graeme Train (China)	(8621) 2412 9035
Pelen Ji (China, Hong Kong)	(852) 3922 4741
Christina Lee (Hong Kong)	(852) 3922 3571
Rakesh Arora (India)	(9122) 6720 4093
Adam Worthington (Indonesia)	(852) 3922 4626
Polina Diyachkina (Japan)	(813) 3512 7886
Chak Reungsingpinya (Thailand)	(662) 694 7982

Technology

Jeffrey Su (Asia, Taiwan)	(8862) 2734 7512
Lisa Soh (China)	(852) 3922 1401
Nitin Mohta (India)	(9122) 6720 4090
Damian Thong (Japan)	(813) 3512 7877
David Gibson (Japan)	(813) 3512 7880
George Chang (Japan)	(813) 3512 7854
Jeff Loff (Japan)	(813) 3512 7851
Michiko Kakiya (Japan)	(813) 3512 7868
Yukihiko Goto (Japan)	(813) 3512 5984
Daniel Kim (Korea)	(822) 3705 8641
Andrew Chang (Taiwan)	(8862) 2734 7526
Daniel Chang (Taiwan)	(8862) 2734 7516
Kylie Huang (Taiwan)	(8862) 2734 7528

Telecoms

Nathan Ramler (Asia)	(813) 3512 7875
Lisa Soh (China, Hong Kong)	(852) 3922 1401
Riaz Hyder (Indonesia)	(6221) 2598 8486
Prem Jearajasingam (Malaysia, Singapore)	(603) 2059 8989
Alex Pomento (Philippines)	(632) 857 0899
Joseph Quinn (Taiwan)	(8862) 2734 7519
Best Waiyanont (Thailand)	(662) 694 7993

Regional Heads of Sales cont'd

Miki Edelman (Taiwan)	(8862) 2734 7580
Angus Kent (Thailand)	(662) 694 7601
Michael Newman (Tokyo)	(813) 3512 7920
Angus Innes (UK/Europe)	(44) 20 3037 4841
Rob Fabbro (UK/Europe)	(44) 20 3037 4865
Sean Alexander (Generalist)	(852) 3922 2101

Regional Head of Distribution

Justin Crawford (Asia)	(852) 3922 2065
------------------------	-----------------

Sales Trading

Adam Zaki (Asia)	(852) 3922 2002
Yat Quan Tan (Hong Kong)	(852) 3922 2028
Phil Sellaroli (Japan)	(813) 3512 7837
Grace Lee (Korea)	(822) 3705 8601
Matthew Ryan (Singapore)	(65) 6601 0288

Transport & Infrastructure

Janet Lewis (Asia, Japan)	(852) 3922 5417
Nicholas Cunningham (Japan)	(813) 3512 6044
Sunaina Dhanuka (Malaysia)	(603) 2059 8993

Utilities & Renewables

Adam Worthington (Asia)	(852) 3922 4626
Jeff Evans (India)	(9122) 6720 4081
Prem Jearajasingam (Malaysia)	(603) 2059 8989
Alex Pomento (Philippines)	(632) 857 0899

Commodities

Jim Lennon	(4420) 3037 4271
Duncan Hobbs	(4420) 3037 4497
Bonnie Liu	(65) 6601 0144
Graeme Train	(8621) 2412 9035
Rakesh Arora	(9122) 6720 4093

Data Services

Andrea Dailly (Asia)	(852) 3922 4076
Eric Yeung	(852) 3922 4077

Economics

Richard Gibbs (Australia)	(612) 8232 3935
Paul Cavey (China)	(852) 3922 3570
Renee Chen (Hong Kong, Taiwan)	(852) 3922 3597
Tanvee Gupta (India)	(9122) 6720 3455

Quantitative / CPG

Gurvinder Brar (Global)	(4420) 3037 4036
Viking Kwok (Asia)	(852) 3922 4735
Burke Lau (Asia)	(852) 3922 5494
Patrick Hansen (Japan)	(813) 3512 7876
Ayumu Kuroda (Japan)	(813) 3512 7569
Simon Rigney (Japan)	(813) 3512 7872

Strategy/Country

Michael Kurtz (Asia)	(852) 3922 1403
Peter Eadon-Clarke (Asia, Japan)	(813) 3512 7850
Jiong Shao (China, Hong Kong)	(852) 3922 3566
Rakesh Arora (India)	(9122) 6720 4093
Nicolaos Oentung (Indonesia)	(6121) 2598 8366
David Gibson (Japan)	(813) 3512 7880
Chan Hwang (Korea)	(822) 3705 8643
Kieran Calder (Malaysia)	(603) 2059 8992
Yeonzon Yeow (Malaysia)	(603) 2059 8982
Alex Pomento (Philippines)	(632) 857 0899
Conrad Werner (Singapore)	(65) 6601 0182
Daniel Chang (Taiwan)	(8862) 2734 7516
David Gambrell (Thailand)	(662) 694 7753

Find our research at

Macquarie:	www.macquarie.com.au/research
Thomson:	www.thomson.com/financial
Reuters:	www.knowledge.reuters.com
Bloomberg:	MAC GO
Factset:	http://www.factset.com/home.aspx
CapitalIQ	www.capitaliq.com
TheMarkets.com	www.themarkets.com
Email	macresearch@macquarie.com for access

Sales Trading cont'd

Mike Keen (Europe)	(44) 20 3037 4905
Chris Reale (New York)	(1 212) 231 2555
Marc Rosa (New York)	(1 212) 231 2555
Stanley Dunda (Indonesia)	(6221) 515 1555
Kenneth Cheung (Malaysia)	(603) 2059 8888
Michael Santos (Philippines)	(632) 857 0813
Isaac Huang (Taiwan)	(8862) 2734 7582
Dominic Shore (Thailand)	(662) 694 7707

Alternative Strategies

Convertibles - Roland Sharman	(852) 3922 2095
Depository Receipts - Seung-Jin Lee	(65) 6601 0203
Derivatives - Mark Holland	(852) 3922 2081
Structured Products - Andrew Terlich	(852) 3922 2013