



INDIA

TATA IN Underperform

Price (at 09:59, 13 Aug 2012 GMT) Rs395.65

12-month target Rs 306.00

Upside/Downside % -22.7

Valuation Rs 306.00

- PER

GICS sector Materials

Market cap Rsm 384,261

30-day avg turnover US\$m 4.8

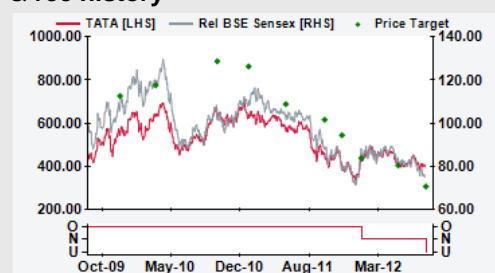
Market cap US\$m 6,946

Number shares on issue m 971.2

Investment fundamentals

Year end 31 Mar		2012A	2013E	2014E	2015E
Revenue	bn	1,322.6	1,397.1	1,470.3	1,498.4
EBITDA	bn	117.7	149.3	169.6	176.7
EBITDA growth	%	-29.6	26.8	13.6	4.2
Reported profit	bn	53.9	42.5	60.0	70.3
EPS rep	Rs	56.22	44.37	62.61	73.30
EPS rep growth	%	-43.8	-21.1	41.1	17.1
PER rep	x	7.0	8.9	6.3	5.4
Total DPS	Rs	13.00	14.00	15.00	16.00
Total div yield	%	3.3	3.5	3.8	4.0
ROA	%	5.1	6.4	7.2	7.5
ROE	%	5.2	9.6	12.7	13.5
EV/EBITDA	x	7.2	5.7	5.0	4.8
Net debt/equity	%	93.8	100.0	103.6	100.3
P/BV	x	0.9	0.8	0.8	0.7

TATA 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, August 2012

(all figures in INR unless noted)

Analyst(s)

Rakesh Arora, CFA

+91 22 6720 4093 rakesh.arora@macquarie.com

Sumangal Nevatia

+91 22 6720 4356 sumangal.nevatia@macquarie.com

14 August 2012

Macquarie Capital Securities India (Pvt)

Ltd

Tata Steel

Leverage cuts both ways

Event

- **Lower sales volume hits earnings:** As was well expected given the slowdown in sales volume, Tata Steel Q1 earnings missed expectations. We have cut our earnings estimates for FY13 and FY14 by 23% and 13%, respectively, to build in lower sales volume for both Europe and India. We cut our target price to **Rs306** based on 7x PER (earlier Rs404) and **downgrade to Underperform** from Neutral.

Impact

- **Weak results – hit by lower volume and price:** Consolidated turnover at US\$6.2bn was down 20% YoY as volumes shrunk by 15% and realisation dropped by 6%. EBITDA at US\$644mn was down 39% as costs eased marginally. Net Profit at US\$111mn was down 58% adjusted for exceptional.
- **Indian operations – slow start:** This business reported annualised sales volume of 6.36mnt and EBITDA/t of US\$313. We are now building in the full year volume of 7.8mnt and EBITDA/t of US\$290. We expect some reduction in steel prices in India, also we expect lower profitability of its new capacity due to lower raw material integration and lower value addition.
- **European operations – demand visibility low:** As expected this division reported EBITDA/t of US\$35 and annualised volume of 12.8mnt. We are now building in 13.7mnt and EBITDA/t of US\$31. Here we expect lower steel prices to be compensated by lower raw material costs. However, demand visibility remains poor and one-off restructuring costs can't be ruled out.
- **Cutting estimates:** We have reduced EPS estimates by 23% and 13%, respectively, for FY13 and FY14. The main factor leading to our cuts is the reduction in sales volume assumptions for both India and Corus. Also, we are now building in higher depreciation and interest costs given the depreciation of the rupee.

Earnings and target price revision

- We have cut our earnings estimates for FY13 and FY14 by 23% and 13%, respectively, and cut our TP from Rs404 to **Rs306**. Downgrade to Underperform.

Price catalyst

- 12-month price target: Rs306.00 based on a PER methodology.
- Catalyst: Stability in European Union, visibility of production from its new capacities.

Action and recommendation

- **Downgrade to Underperform:** Tata Steel on a P/B adjusted for goodwill is trading at 1.4x which looks high with ROEs at 14-15%. Secondly, the sharp drop in raw material prices has posed significant risk for Tata Steel's Indian operations profits. On our target price, Tata Steel would be trading closer to adjusted book value and at around 5x EV/EBITDA.

Fig 1 1Q13 Standalone: +29% increase in cost and 60% lower other income

Profitability (Rsm)	1QFY13	1QFY12	YoY%	4QFY12	QoQ%
Saleable steel volume (m tonnes)	1.59	1.59	0.0%	1.77	-10%
Realisation (Rs / t)	51,530	45,918	12%	49,048	5%
Net Sales	88,202	77,922	13%	93,759	-6%
EBITDA	26,920	30,351	-11%	28,881	-7%
EBITDA Margin %	30.5%	39.0%		30.8%	
EBITDA per tonne (Rs/t)	16,931	19,089	-11%	16,317	4%
EBITDA per tonne (US\$/t)	340	478	-29%	334	2%
Depreciation	3,544	2,853	24%	2,900	22%
Interest	4,544	2,273	100%	5,140	-12%
PBT (Operations)	18,832	25,225	-25%	20,842	-10%
Other income	2,397	6,207	-61%	2,865	-16%
PBT (recurring)	21,229	31,432	-32%	23,706	-10%
Exceptional (income)/loss	-	-		-	
PBT (reported)	21,229	31,432	-32%	23,706	-10%
Tax	7,663	9,238	-17%	8,101	-5%
PAT (recurring)	13,566	22,194	-39%	15,605	-13%
Net profit - reported	13,566	22,194	-39%	15,605	-13%
EPS recurring (Rs)	13.8	22.5	-39%	15.8	-13%

Source: Company data, Macquarie Research, August 2012

Fig 2 1Q13 Standalone: Cost/t higher by 30% YoY

Cost per unit production	1QFY13	1QFY12	YoY%	4QFY12	QoQ%
Raw material cost/ tonne	13,923	10,230	36%	11,930	17%
Staff Cost/ tonne	4,938	3,926	26%	5,202	-5%
Power cost/ tonne	3,148	2,625	20%	2,557	23%
Freight cost/ tonne	2,769	2,322	19%	2,576	8%
Other Expenditure/ tonne	12,852	9,323	38%	12,382	4%
Total Expenditure/ tonne	35,220	27,183	30%	36,043	-2%

Source: Company data, Macquarie Research, August 2012

Fig 3 1Q13 Consolidated: Volumes shrunk by 15% and realisation dropped by 6%

		1QFY2013	1QFY2012	%chg YoY	4QFY2012	% chg QoQ
Net Sales	Rsm	335,477	328,399	2%	338,601	-1%
Total expenses	Rsm	304,179	285,773	6%	308,197	-1%
EBITDA	Rsm	31,298	42,626	-27%	30,403	3%
Depreciation	Rsm	13,080	11,508	14%	10,931	20%
Interest	Rsm	9,690	7,377	31%	11,280	-14%
Other income	Rsm	5,629	1,603	251%	3,605	56%
PBT (recurring)	Rsm	14,157	25,344	-44%	11,798	20%
Exceptional items	Rsm	-	38,823	-100%	-	
PBT (reported)	Rsm	14,157	64,167	-78%	11,798	20%
Tax	Rsm	8,986	11,230	-20%	9,766	-8%
PAT (recurring)	Rsm	5,170	14,114	-63%	2,032	154%
Net profit	Rsm	5,979	53,466	-89%	4,335	38%
EPS (recurring)	Rs	5.2	14.3	-63%	2.1	154%

Source: Company data, Macquarie Research, August 2012

Fig 4 We cut earnings by 13-23% due to lower volumes

Tata Steel (consolidated)												
	Sales (Rsm)			EBITDA (Rsm)			PAT (Rsm) -recurring			EPS (Rs) - recurring		
	Old	New	% chg	Old	New	% chg	Old	New	% chg	Old	New	% chg
FY13E	1,342,342	1,397,145	4%	169,983	149,253	-12%	58,189	42,539	-27%	57.4	44.3	-23%
FY14E	1,389,510	1,470,287	6%	187,689	169,555	-10%	73,163	60,030	-18%	72.2	62.6	-13%
FY15E	-	1,498,426		-	176,716		-	70,272		-	73.3	

Source: Company data, Macquarie Research, August 2012

Fig 5 We cut Tata Steel's domestic earnings by 8-9% due to lower volumes and EBITDA margins

Tata Steel (India)										
	Sales (Rsm)			EBITDA (Rsm)			PAT (Rsm)			
	Old	New	% chg	Old	New	% chg	Old	New	% chg	
FY13E	385,228	392,087	2%	133,929	123,360	-8%	76,086	70,344	-8%	
FY14E	427,230	441,514	3%	141,815	129,885	-8%	81,612	73,948	-9%	
FY15E	-	475,932		-	117,118		-	63,087		

Source: Company data, Macquarie Research, August 2012

Fig 6 Corus: 11-28% cut in EBITDA due to lower volumes and cut in margins

Corus										
	Sales (Rsm)			EBITDA (Rsm)			PAT (Rsm)			
	Old	New	% chg	Old	New	% chg	Old	New	% chg	
FY13E	829,938	828,290	0%	32,168	23,040	-28%	-	20,908	-	37,930
FY14E	825,819	841,714	2%	40,821	36,370	-11%	-	11,998	-	25,937
FY15E	-	833,170		-	54,546		-	-	-	5,661

Source: Company data, Macquarie Research, August 2012

Fig 7 We cut Tata Steel's domestic volumes by 1.3% and EBITDA by 10-12%

Tata Steel (India)										
	Volume (mtonnes)			Realization (US\$/t)			EBITDA/t (US\$/t)			
	Old	New	% chg	Old	New	% chg	Old	New	% chg	
FY13E	7.9	7.8	-1%	929	922	-1%	323	290	-10%	
FY14E	8.7	8.6	-1%	984	974	-1%	327	287	-12%	
FY15E	-	9.4		-	990		-	244		

Source: Company data, Macquarie Research, August 2012

Fig 8 Corus: We cut volumes by 3% and EBITDA/t by 13-29%

Corus										
	Steel delivery (mtonnes)			Realization (US\$/t)			EBITDA/t (US\$/t)			
	Old	New	% chg	Old	New	% chg	Old	New	% chg	
FY13E	14.1	13.7	-3%	1,116	1,103	-1%	43	31	-29%	
FY14E	14.6	14.2	-3%	1,132	1,122	-1%	56	48	-13%	
FY15E	-	14.6		-	1,118		-	73		

Source: Company data, Macquarie Research, August 2012

Tata Steel (TATA IN, Underperform, Target Price: Rs306.00)

Quarterly Results					Profit & Loss						
		1Q/13A	2Q/13E	3Q/13E	4Q/13E		2012A	2013E	2014E	2015E	
Revenue	m	321,343	279,429	363,258	433,115	Revenue	m	1,322,574	1,397,145	1,470,287	1,498,426
Gross Profit	m	34,328	29,851	38,806	46,269	Gross Profit	m	117,745	149,253	169,555	176,716
Cost of Goods Sold	m	287,015	249,578	324,452	386,846	Cost of Goods Sold	m	1,204,829	1,247,891	1,300,732	1,321,710
EBITDA	m	34,328	29,851	38,806	46,269	EBITDA	m	117,745	149,253	169,555	176,716
Depreciation	m	12,167	10,580	13,754	16,399	Depreciation	m	45,167	52,901	56,833	56,373
Amortisation of Goodwill	m	0	0	0	0	Amortisation of Goodwill	m	0	0	0	0
Other Amortisation	m	0	0	0	0	Other Amortisation	m	0	0	0	0
EBIT	m	22,161	19,270	25,052	29,869	EBIT	m	72,578	96,352	112,722	120,343
Net Interest Income	m	-9,484	-8,247	-10,721	-12,783	Net Interest Income	m	-42,501	-41,235	-38,526	-39,530
Associates	m	0	0	0	0	Associates	m	0	0	0	0
Exceptionals	m	0	0	0	0	Exceptionals	m	33,619	0	0	0
Forex Gains / Losses	m	0	0	0	0	Forex Gains / Losses	m	0	0	0	0
Other Pre-Tax Income	m	3,831	3,331	4,330	5,163	Other Pre-Tax Income	m	22,154	16,655	16,655	16,655
Pre-Tax Profit	m	16,507	14,354	18,661	22,249	Pre-Tax Profit	m	85,850	71,772	90,850	97,468
Tax Expense	m	-7,352	-6,393	-8,310	-9,909	Tax Expense	m	-36,365	-31,963	-33,455	-29,647
Net Profit	m	9,156	7,962	10,350	12,341	Net Profit	m	49,485	39,809	57,395	67,820
Minority Interests	m	628	546	710	847	Minority Interests	m	4,413	2,731	2,635	2,451
Reported Earnings	m	9,784	8,508	11,060	13,187	Reported Earnings	m	53,898	42,539	60,030	70,272
Adjusted Earnings	m	9,784	8,508	11,060	13,187	Adjusted Earnings	m	20,279	42,539	60,030	70,272
EPS (rep)		10.21	8.87	11.54	13.75	EPS (rep)		56.22	44.37	62.61	73.30
EPS (adj)		10.21	8.87	11.54	13.75	EPS (adj)		21.15	44.37	62.61	73.30
EPS Growth yoy (adj)	%	109.8	109.8	109.8	109.8	EPS Growth (adj)	%	-72.1	109.8	41.1	17.1
						PE (rep)	x	7.0	8.9	6.3	5.4
						PE (adj)	x	18.7	8.9	6.3	5.4
EBITDA Margin	%	10.7	10.7	10.7	10.7	Total DPS		13.00	14.00	15.00	16.00
EBIT Margin	%	6.9	6.9	6.9	6.9	Total Div Yield	%	3.3	3.5	3.8	4.0
Earnings Split	%	23.0	20.0	26.0	31.0	Weighted Average Shares	m	959	959	959	959
Revenue Growth	%	5.6	5.6	5.6	5.6	Period End Shares	m	959	959	959	959
EBIT Growth	%	32.8	32.8	32.8	32.8						
Profit and Loss Ratios		2012A	2013E	2014E	2015E	Cashflow Analysis		2012A	2013E	2014E	2015E
Revenue Growth	%	11.4	5.6	5.2	1.9	EBITDA	m	72,578	96,352	112,722	120,343
EBITDA Growth	%	-29.6	26.8	13.6	4.2	Tax Paid	m	-36,524	-31,963	-33,455	-29,647
EBIT Growth	%	-41.0	32.8	17.0	6.8	Chgs in Working Cap	m	11,590	-23,204	-26,168	-424
Gross Profit Margin	%	8.9	10.7	11.5	11.8	Net Interest Paid	m	-35,421	-41,235	-38,526	-39,530
EBITDA Margin	%	8.9	10.7	11.5	11.8	Other	m	65,193	19,336	19,336	19,336
EBIT Margin	%	5.5	6.9	7.7	8.0	Operating Cashflow	m	77,417	19,286	33,908	70,077
Net Profit Margin	%	3.7	2.8	3.9	4.5	Acquisitions	m	82,923	0	0	0
Payout Ratio	%	61.5	31.5	24.0	21.8	Capex	m	-119,586	-52,535	-72,800	-82,050
EV/EBITDA	x	7.2	5.7	5.0	4.8	Asset Sales	m	0	0	0	0
EV/EBIT	x	11.6	8.8	7.5	7.0	Other	m	0	0	0	0
Balance Sheet Ratios						Investing Cashflow	m	-36,663	-52,535	-72,800	-82,050
ROE	%	5.2	9.6	12.7	13.5	Dividend (Ordinary)	m	-11,639	-18,390	-19,703	-21,017
ROA	%	5.1	6.4	7.2	7.5	Equity Raised	m	6,213	0	0	0
ROIC	%	5.2	6.2	7.6	8.1	Debt Movements	m	-39,473	49,517	-9,029	12,276
Net Debt/Equity	%	93.8	100.0	103.6	100.3	Other	m	-38,143	-41,235	-38,526	-39,530
Interest Cover	x	1.7	2.3	2.9	3.0	Financing Cashflow	m	-83,043	-10,108	-67,259	-48,271
Price/Book	x	0.9	0.8	0.8	0.7	Net Chg in Cash/Debt	m	-42,290	-43,357	-106,150	-60,244
Book Value per Share		448.7	473.9	516.0	567.4	Free Cashflow	m	-42,170	-33,249	-38,892	-11,973
						Balance Sheet		2012A	2013E	2014E	2015E
						Cash	m	108,016	105,894	38,269	17,555
						Receivables	m	148,785	157,174	165,402	168,568
						Inventories	m	255,980	270,413	284,569	290,016
						Investments	m	40,213	40,213	40,213	40,213
						Fixed Assets	m	621,401	673,936	746,736	828,786
						Intangibles	m	0	0	0	0
						Other Assets	m	298,007	299,380	301,056	301,737
						Total Assets	m	1,472,401	1,547,009	1,576,245	1,646,874
						Payables	m	428,489	429,480	427,372	436,241
						Short Term Debt	m	0	0	0	0
						Long Term Debt	m	522,123	571,640	562,610	574,886
						Provisions	m	0	0	0	0
						Other Liabilities	m	80,268	80,268	80,268	80,268
						Total Liabilities	m	1,030,879	1,081,387	1,070,250	1,091,395
						Shareholders' Funds	m	430,211	454,361	494,688	543,943
						Minority Interests	m	11,310	11,261	11,307	11,536
						Other	m	0	0	0	0
						Total S/H Equity	m	441,522	465,622	505,995	555,479
						Total Liab & S/H Funds	m	1,472,401	1,547,009	1,576,245	1,646,874

All figures in INR unless noted.

Source: Company data, Macquarie Research, August 2012

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 31 March 2012

	AU/NZ	Asia	RSA	USA	CA	EUR	
Outperform	53.90%	60.60%	57.50%	43.59%	66.67%	46.89%	(for US coverage by MCUSA, 10.86% of stocks covered are investment banking clients)
Neutral	31.56%	23.00%	32.50%	51.09%	30.00%	32.60%	(for US coverage by MCUSA, 9.50% of stocks covered are investment banking clients)
Underperform	14.54%	16.40%	10.00%	5.32%	3.33%	20.51%	(for US coverage by MCUSA, 1.36% of stocks covered are investment banking clients)

Company Specific Disclosures:

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. Macquarie salespeople, traders and other professionals may provide oral or written market commentary or trading strategies to our clients that reflect opinions which are contrary to the opinions expressed in this research. Macquarie Research produces a variety of research products including, but not limited to, fundamental analysis, macro-economic analysis, quantitative analysis, and trade ideas. Recommendations contained in one type of research product may differ from recommendations contained in other types of research, whether as a result of differing time horizons, methodologies, or otherwise. 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. The date and timestamp for above share price and market cap is the closed price of the price date. #CLOSE is the final price at which the security is traded in the relevant exchange on the date indicated.

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, this research is issued and/or distributed by Macquarie Capital (Europe) Limited, Niederlassung Deutschland, which is authorised and regulated by the UK Financial Services Authority (No. 193905). and in Germany by BaFin. **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 The 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. Research Associate(s) in this report who are registered as Clerks only assist in the preparation of research and are not engaged in writing the research. **Thailand:** In Thailand, research is produced with the contribution of Kasikorn Securities Public Company Limited, issued and distributed by Macquarie Securities (Thailand) Ltd. Macquarie Securities (Thailand) Ltd. is 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 of the Stock Exchange of Thailand. Macquarie Securities (Thailand) Limited and Kasikorn Securities Public Company Limited have entered into an exclusive strategic alliance agreement to broaden and deepen the scope of services provided to each parties respective clients. The strategic alliance does not constitute a joint venture. 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/fundMqr/DISFundMqrAnalystPop.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

Automobiles/Auto Parts

Janet Lewis (China)	(852) 3922 5417
Amit Mishra (India)	(9122) 6720 4084
Clive Wiggins (Japan)	(813) 3512 7856
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
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

Alex Pomento (Philippines)	(632) 857 0899
Somesh Agarwal (Singapore)	(65) 6601 0840

Consumer and Gaming

Gary Ping (Asia)	(852) 3922 3557
Linda Huang (China, Hong Kong)	(852) 3922 4068
Amit Mishra (India)	(9122) 6720 4084
Lyll 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
Best Waiyanont (Thailand)	(662) 694 7993

Emerging Leaders

Jake Lynch (China, Asia)	(8621) 2412 9007
Makoto Egami (Japan)	(813) 3512 7879

Industrials

Janet Lewis (Asia)	(852) 3922 5417
Patrick Dai (China)	(8621) 2412 9082
Saiyi He (China)	(852) 3922 3585
Inderjeetsingh Bhatia (India)	(9122) 6720 4087
Juwon Lee (Korea)	(822) 3705 8661
Sunaina Dhanuka (Malaysia)	(603) 2059 8993
David Gambrill (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
JJ Kim (Korea)	(822) 3705 8799
Chris Gould (Malaysia)	(603) 2059 8888
Gino C Rojas (Philippines)	(632) 857 0861
Eric Roles (New York)	(1 212) 231 2559
Luke Sullivan (New York)	(1 212) 231 2507
Paul Colaco (New York)	(1 212) 231 2496
Sheila Schroeder (San Francisco)	(1 415) 762 5001
Miki Edelman (Taiwan)	(8862) 2734 7580

Oil, Gas and Petrochemicals

James Hubbard (Asia)	(852) 3922 1226
Jal Irani (India)	(9122) 6720 4080
Polina Diyachkina (Japan)	(813) 3512 7886
Brandon Lee (Korea)	(822) 3705 8669
Sunaina Dhanuka (Malaysia)	(603) 2059 8993
Trevor Buchinski (Thailand)	(662) 694 7829

Pharmaceuticals and Healthcare

Abhishek Singhal (India)	(9122) 6720 4086
Eunice Bu (Korea)	(822) 2095 7223

Property

Callum Bramah (Asia)	(852) 3922 4731
David Ng (China, Hong Kong)	(852) 3922 1291
Jeffrey Gao (China)	(8621) 2412 9026
Abhishek Bhandari (India)	(9122) 6720 4088
Felicia Barus (Indonesia)	(6221) 2598 8480
Sunaina Dhanuka (Malaysia)	(603) 2059 8993
Alex Pomento (Philippines)	(632) 857 0899
Tuck Yin Soong (Singapore)	(65) 6601 0838
Corinne Jian (Taiwan)	(8862) 2734 7522
Patti Tomaitrichitr (Thailand)	(662) 694 7727

Resources / Metals and Mining

Andrew Dale (Asia)	(852) 3922 3587
Graeme Train (China)	(8621) 2412 9035
Matty Zhao (Hong Kong)	(852) 3922 1293
Christina Lee (Hong Kong)	(852) 3922 3571
Rakesh Arora (India)	(9122) 6720 4093
Adam Worthington (Indonesia)	(852) 3922 4626
Riaz Hyder (Indonesia)	(6221) 2598 8486
Polina Diyachkina (Japan)	(813) 3512 7886
Chak Reungsinyinya (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
Daniel Kim (Korea)	(822) 3705 8641
Soyun Shin (Korea)	(822) 3705 8659
Andrew Chang (Taiwan)	(8862) 2734 7526
Daniel Chang (Taiwan)	(8862) 2734 7516
Tammy Lai (Taiwan)	(8862) 2734 7525

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

Regional Heads of Sales cont'd

Angus Kent (Thailand)	(662) 694 7601
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
Phil Sellaroli (Japan)	(813) 3512 7837
Grace Lee (Korea)	(822) 3705 8601
Jonathan Seymour (Singapore)	(65) 6601 0202
Matthew Ryan (Singapore)	(65) 6601 0216

Transport & Infrastructure

Janet Lewis (Asia, Japan)	(852) 3922 5417
Bonnie Chan (Hong Kong)	(852) 3922 3898
Nicholas Cunningham (Japan)	(813) 3512 6044
Sunaina Dhanuka (Malaysia)	(603) 2059 8993
Corinne Jian (Taiwan)	(8862) 2734 7522

Utilities & Renewables

Adam Worthington (Asia)	(852) 3922 4626
Inderjeetsingh Bhatia (India)	(9122) 6720 4087
Prem Jearajasingam (Malaysia)	(603) 2059 8989
Alex Pomento (Philippines)	(632) 857 0899

Commodities

Colin Hamilton (Global)	(4420) 3037 4061
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

Josh Holcroft	(852) 3922 1279
---------------	-----------------

Economics

Peter Eadon-Clarke (Asia, Japan)	(813) 3512 7850
Richard Gibbs (Australia)	(612) 8232 3935
Tanvee Gupta (India)	(9122) 6720 3455

Quantitative / CPG

Gurvinder Brar (Global)	(4420) 3037 4036
Burke Lau (Asia)	(852) 3922 5494
Simon Rigney (Asia)	(852) 3922 4719
Eric Yeung (Asia)	(852) 3922 4077
Patrick Hansen (Japan)	(813) 3512 7876
Ayumu Kuroda (Japan)	(813) 3512 7569

Strategy/Country

Emil Wolter (Asia)	(65) 6601 0538
Peter Eadon-Clarke (Japan)	(813) 3512 7850
Chris Hunt (China, Hong Kong)	(852) 3922 1119
Jiong Shao (China)	(852) 3922 3566
Rakesh Arora (India)	(9122) 6720 4093
Nicolaos Oentung (Indonesia)	(6121) 2598 8366
Michael Newman (Japan)	(813) 3512 7920
Chan Hwang (Korea)	(822) 3705 8643
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 Gambrill (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
John Fajardo (Philippines)	(632) 857 0840
Michael Santos (Philippines)	(632) 857 0813
Isaac Huang (Taiwan)	(8862) 2734 7582
Dominic Shore (Thailand)	(662) 694 7707