UBS

UBS Investment Research

India Metals & Mining update

Incorporating lower metal prices

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Sunita Sachdev
Analyst
sunita.sachdev@ubs.com
+91-22-2286 2059

Nupur Agarwal
Associate Analyst
nupur.agarwal@ubs.com
+91-22-2286 2105

■ Downgrading commodity prices

Dan Brebner has made changes to his commodity price estimates given the speed and the severity of the global slowdown in growth and risk avoidance. On the back of these risks, he has reduced commodity estimates by 37%; these are for the most part lower than spot prices and are on an average 40% lower than consensus numbers.

■ Changes to estimates for Sterlite, Hindalco & NALCO

We have factored in new commodity price forecasts for our coverage companies and reduced earnings estimates by 20% for FY09 and 49% for FY10. Our EPS estimates for Sterlite reduce from Rs53.5/55.5 to Rs47.1/30.4 in FY09/10; for Hindalco from Rs13.0/10.3 to Rs10.3/7.5 in FY09/10; and for NALCO from Rs26.1/27.2 to Rs 16.6/10.0 for 09/10.

■ Valuation: Cautious view on non-ferrous space in India

We maintain our Neutral ratings for the entire non-ferrous space given near-term data points are expected to be negative for stock performances. However, Indian companies have low capex/tn and at the least occur in the bottom quartile on the cost curves, therefore as the macro environment improves these companies should outperform peers. We revise our sum-of-the-parts based price targets for Sterlite and Hindalco from Rs500/110 to Rs335/65, respectively. NALCO has a new price target of Rs 185, down from Rs 400, based on a target FY10E EBITDA multiple of 6.5x, a premium to the global average because of its low CoP and integrated upstream operations.

Table 1: Valuation comparison

	EV/EBITDA (x)			Pre-exp PE (x)			P/BVPS (x)		
	FY08	FY09E	FY10E	FY08	FY09E	FY10E	FY08	FY09E	FY10E
Sterlite	3.5	1.9	2.6	11.7	6.0	9.3	1.4	0.8	0.8
Hindalco	3.6	3.7	4.0	8.8	5.9	8.0	1.2	0.5	0.4
Nalco	7.6	4.0	7.7	13.0	9.6	16.0	2.4	1.1	1.0
Non ferrous Average - India	4.9	3.2	4.8	11.1	7.2	11.1	1.7	0.8	0.7

Source: Company data, Bloomberg, UBS estimates; Priced on close of 31st Oct 2008

Lower metal price forecasts

With the UBS economics team having cut global GDP growth from 2.2% to 1.3%, our commodities team has made changes to commodity price assumptions given meaningful surpluses over the medium term period.

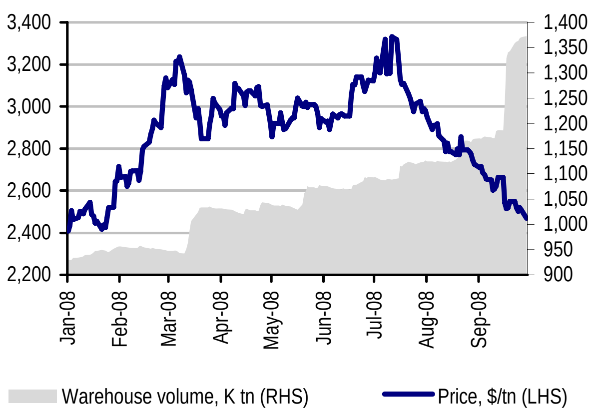
Dan Brebner has made big changes to his commodity price estimates given the rapidity and the severity of the global slowdown in growth and risk avoidance. On the back of these risks, he has reduced commodity price estimates by 37%; these are for the most part lower than spot prices and are on average 40% lower than consensus numbers. We have calenderized the price expectations in the table below for easier reference for the Indian stocks.

Table 2: Change in key metal price forecasts

		Old estimates			New estimates			Change %		
	Unit	FY09E	FY10E	FY11E	FY09E	FY10E	FY11E	FY09E	FY10E	FY11E
Aluminium	$/tn	2,649	2,618	2,949	2,346	1,626	2,149	-11%	-38%	-27%
Copper	$/tn	6,802	5,925	6,889	5,700	2,921	3,610	-16%	-51%	-48%
Zinc	$/tn	1,802	1,846	2,039	1,499	992	1,350	-17%	-46%	-34%
Lead	$/tn	1,857	1,764	2,094	1,554	854	1,075	-16%	-52%	-49%

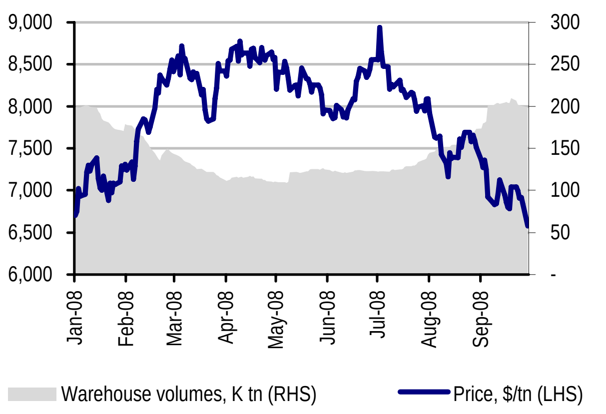
Source: UBS estimates

Chart 1: LME aluminium prices and warehouse volumes



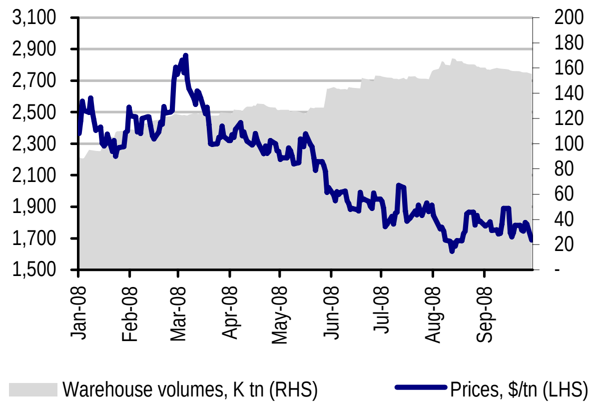
Source: LME

Chart 2: LME copper prices and warehouse volumes



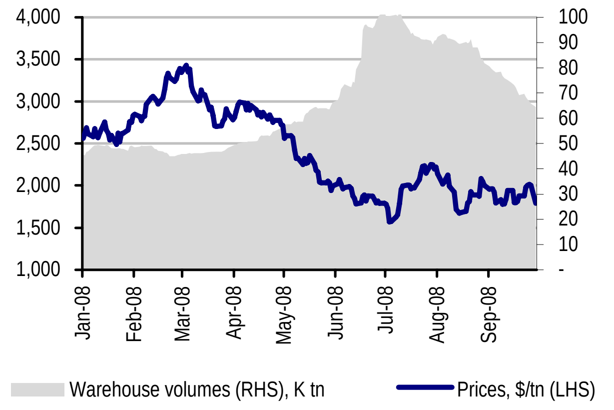
Source: LME

Chart 3: LME zinc prices and warehouse volumes



Source: LME

Chart 4: LME lead prices and warehouse volumes



Source: LME

Table 3: Summary of changes

	Rating		Price target (Rs)		
Company	New	Old	New	Old	% change
Sterlite	Neutral	Neutral	335	500	-33%
Hindalco	Neutral	Neutral	65	110	-41%
NALCO	Neutral	Neutral	185	400	-54%

Source: UBS estimates

Sterlite

Financials

Table 3: Sterlite – change in estimates

	New forecasts			Old forecasts			Change in forecasts		
	FY09E	FY10E	FY11E	FY09E	FY10E	FY11E	FY09E	FY10E	FY11E
Revenue	239,065	158,984	195,211	265,603	255,660	295,852	-10.0%	-37.8%	-34.0%
EBITDA	56,400	30,744	50,419	66,149	67,713	82,379	-14.7%	-54.6%	-38.8%
EBITDA margin	23.6%	19.3%	25.8%	24.9%	26.5%	27.8%			
Net profit	33,337	21,523	32,760	37,918	39,298	47,671	-12.1%	-45.2%	-31.3%
EPS	47.1	30.4	46.2	53.5	55.5	67.3	-12.1%	-45.2%	-31.3%

Source: UBS estimates

We have reduced our underlying commodity price forecasts for zinc and aluminium by 46% and 38% respectively for FY2010, therefore we estimate a 38% decline in revenues and 55% decline for operating profits for FY10.

We have applied Rs-$ forecasts of Rs 45 for FY09 and Rs 48 for FY10. We show sensitivities for our earnings estimates for Rs-$ forecasts below:

Table 4: Sterlite – UBSe versus consensus

	UBSe			Consensus			UBS vs. Consensus		
	FY09E	FY10E	FY11E	FY09E	FY10E	FY11E	FY09E	FY10E	FY11E
Revenue	239,065	158,984	195,211	245,092	259,216	289,327	-2%	-39%	-33%
EBITDA	56,400	30,744	50,419	65,785	72,266	82,379	-14%	-57%	-39%
EBITDA margin	23.6%	19.3%	25.8%	26.8%	27.9%	28.5%			
Net profit	33,337	21,523	32,760	38,470	40,511	45,583	-13%	-47%	-28%

Source: Reuters, UBS estimates

UBS estimates are now below consensus on Sterlite post these metal downgrades. The additional difference in PAT estimates is due to the conservative other income estimates and higher tax rate assumption.

Valuation

We lower our price target from Rs500 to Rs335 due to lower metal price forecasts and target EBITDA multiples in line with the decline in global averages.

We value Sterlite using sum of the parts valuation, as shown in the table below.

Table 5: Sum-of-the-parts valuation for Sterlite

Particulars	FY10 Target EBITDA multiple	Sterlite stake %	Value per share (Rs)	Holding company discount (%)	Value per share (Rs)
Sterlite Copper	3.4	100%	87		87
Sterlite Energy (DCF based)		100%	45		46
Hindustan Zinc	3.8	65%	143	5%	136
BALCO	5.7	51%	47	5%	45
Vedanta Alumina (DCF based)		30%	21	5%	20
Sun of parts price target					335

Source: UBS estimates

We have valued Sterlite's copper business at 3.4x FY10E EBITDA. We value Sterlite's stake in Hindustan Zinc at 3.8x FY10E EBITDA. We value Sterlite's stake in BALCO at 5.7x FY10E EBITDA.

Table 6: What has changed in our valuation assumptions for Sterlite?

	New estimates		Old estimates	
	EBITDA	Target EV/EBITDA	EBITDA	Target EV/EBITDA
	FY10E	FY10E	FY10E	FY10E
Sterlite Copper	2,559	3.4	6,644	3.3
Hindustan Zinc	17,804	3.8	43,231	2.5
BALCO	10,381	5.7	17,837	5.4

Source: UBS estimates

In our view, Sterlite offers the best volume growth profile and arguably the most efficient execution in the non-ferrous space - Sterlite's' new zinc lead capacities should be up and running in mid-2010.

The company has aborted its restructuring plan which would have been dilutive for the minority stakeholder, which in effect is positive given there is no restructuring that is planned hence. However investor sentiment still seems negative on the stock.

We believe fundamentally Sterlite will continue to remain range bound until sentiment on the super cycle in the commodities space improves. We therefore maintain a Neutral rating for Sterlite.

Hindalco

Financials

Table 7: Change in estimates for Hindalco

	New forecasts			Old forecasts			Change in forecasts		
	FY09E	FY10E	FY11E	FY09E	FY10E	FY11E	FY09E	FY10E	FY11E
Revenue	592,285	397,007	476,504	621,553	611,740	669,445	-5%	-35%	-29%
EBITDA	65,192	48,563	60,937	69,056	66,973	68,832	-6%	-27%	-11%
EBITDA margin	11%	12%	13%	11%	11%	10%			
Net profit	18,005	13,219	19,810	22,800	24,389	23,286	-21%	-46%	-15%
EPS	10.3	7.5	11.3	13.0	13.9	13.3	-21%	-46%	-15%

Source: UBS estimates

Reducing aluminium price forecasts: In line with our metal KGIs we have reduced our aluminium price forecasts by 11% and 38% to US$2,346 and US$1,626, respectively, for FY09 and FY10. In line with these reductions, we bring down our revenue and operating profit estimates by 5%/6% and 35%/27% for FY09/10 respectively. For FY10E, our operating profit decline is less than the projected revenue decline as Novelis' fixed price contracts estimated c.$1900-2000 should not make operating losses hence increasing operating profit contribution from Novelis.

We lower our EPS estimates from Rs13.0 / Rs13.9 / Rs13.3 to Rs10.3 / Rs7.5 / Rs11.3 for FY09 / FY10 / FY11, respectively.

Table 8: Hindalco – UBSe versus consensus

	UBSe			Consensus			UBS vs. Consensus		
	FY09E	FY10E	FY11E	FY09E	FY10E	FY11E	FY09E	FY10E	FY11E
Revenue	592,285	397,007	476,504	723,492	702,212	708,070	-18%	-43%	-33%
EBITDA	65,192	48,563	60,937	73,846	70,401	68,921	-12%	-31%	-12%
EBITDA margin	11%	12%	13%	10%	10%	10%			
Net profit	18,005	13,219	19,810	24,457	24,650	24,157	-26%	-46%	-18%

Source: Reuters, UBS estimates

Valuation

We downgrade our price target from Rs110 to Rs65 as we lower our metal price forecasts and target EBITDA multiples in line with the decline in global averages. We value Hindalco using sum of the parts valuation, as shown in the table below.

Table 9: What has changed for Hindalco?

SOTP value, Rs per share	New	Old	Comment
Core business	117	155	Switched from FY10E EBITDA multiple of 5.3x to 6.6x (at a 20% premium to the global average for aluminium and copper business); lower FY10E EBITDA due to lower expected realisation
Shareholding in ABML	4	3	Valued at current market price
Quoted treasury investments at market value	7	14	Valued at current market price
Treasury stock at market value	0.2	0.2	No change
Novelis (post acquisition debt)	-58	-50	Increased losses on aluminium business (apart from fixed price contracts) due to lower realisations for FY10E
NPV of loss making can contract	-5	-12	Lower losses on fixed price contracts due to lower aluminium realisations
Total	65	110	

Source: UBS estimates

We value the aluminium business and copper business at FY10E EV/EBITDA of 6.8x and 4.1x at a 20% premium to the global averages as these are either fully or partially integrated operations.

We value Novelis at 5.1x i.e. at a 10% discount to the global average for aluminium stocks.

Nalco

Financials

Table 10: Change in estimates for Nalco

	New forecasts			Old forecasts			Change in forecasts		
	FY09E	FY10E	FY11E	FY09E	FY10E	FY11E	FY09E	FY10E	FY11E
Revenue	51,281	48,687	59,932	60,746	71,022	77,772	-15.6%	-31.4%	-22.9%
EBITDA	18,718	13,757	22,905	27,882	31,395	34,671	-32.9%	-56.2%	-33.9%
EBITDA margin	36.5%	28.3%	38.2%	45.9%	44.2%	44.6%			
Net profit	10,667	6,442	10,167	16,807	17,493	17,644	-36.5%	-63.2%	-42.4%
EPS	16.6	10.0	15.8	26.1	27.2	27.4	-36.5%	-63.2%	-42.4%

Source: UBS estimates

Reducing aluminium price forecasts: In line with our metal KGIs we have reduced our aluminium price forecasts by 11% and 38% to US$2,346 and US$1,626, respectively, for FY09 and FY10. In line with these reductions, we bring down our revenue and operating profit estimates by 16%/32% and 33%/56% for FY09/10 respectively.

Table 11: UBS versus consensus

	UBSe			Consensus			UBS vs. Consensus		
	FY09E	FY10E	FY11E	FY09E	FY10E	FY11E	FY09E	FY10E	FY11E
Revenue	51,281	48,687	59,932	50,418	58,611	68,100	2%	-17%	-12%
EBITDA	18,718	13,757	22,905	23,934	26,969	31,288	-22%	-49%	-27%
EBITDA margin	37%	28%	38%	47%	46%	46%			
Net profit	10,667	6,442	10,167	16,874	18,540	21,360	-37%	-65%	-52%

Source: Reuters, UBS estimates

Valuation

We reiterate our Neutral rating and lower our price target from Rs400 to Rs185 as we lower our forecasts for FY10 driven by lower aluminium price realisations and also lower the target EBITDA multiple in line with the global average for the aluminium and alumina companies.

We value NALCO on a FY10E EBITDA multiple of 6.5x, a premium to global aluminium average due to its fully integrated upstream operations.

Table 13: Price target derivation for Nalco

FY10E EBITDA (Rs mn)	Target EV / EBITDA (x)	Target EV (Rs mn)	Less: FY09E Net debt (Rs mn)	Equity Value (Rs mn)	Price per share (Rs)
13,757	6.5	89,146	(28,002)	117,149	185

Source: UBS estimates

Appendix

This is an extract from the UBS Global I/O™ published on 30th Oct 2008 by Dan Brebner entitled "Another cut to global growth: A hecatomb for commodity price forecasts".

Another cut to global growth: A hecatomb for commodity price forecasts

Daniel Brebner, CFA
Analyst
daniel.brebner@ubs.com
+44-20-7568 3451
John Reade
Strategist
john.reade@ubs.com
+44-20-7567 6755
James Luke
Associate Analyst
james.luke@ubs.com
+44-20-7568 8422
Edmo Chagas
Analyst
edmo.chagas@ubs.com
+5521 3262 9226
Paul Galloway
Analyst
paul.galloway@ubs.com
+44-20-7568 4117
Glyn Lawcock
Analyst
glyn.lawcock@ubs.com
+61-2-9324 3675

- **Global GDP growth cut to 1.3%**

The UBS economics team has again, cut global growth; from 2.2% to 1.3%. This has a meaningful impact on commodity markets, pushing surpluses up further and, over the medium term, negating the positive effects of continue poor supply growth. Demand is likely to remain a key investor consideration and the speed and magnitude of the deterioration leads one to suspect that downside risks remain.

- **Commodity forecasts cut on average 37% for 2009E**

We have cut commodity forecasts deeply for both 2009 and 2010; expecting that the contraction in credit/finance is unlikely to reverse in the near-term and that the impact on the real economy will continue to reverberate over the next two years. Key benchmark commodities oil and copper are forecast to average US$60/bbl. and US$1.30/lb. respectively in 2009E and iron ore faces a 40% price decline for next year's contract.

- **Possible catalysts for support**

The value of the US dollar and fiscal policy in emerging regions such as China could be important catalysts for commodity support.

- **Commodity and equity preferences**

We believe that energy, bulk commodities and precious metals are most attractive in the current environment. Preferred resource equities include diversified mining companies such as Vale and Anglo American and gold producers such as Barrick.

Summary

In light of the heightened severity of the global financial crisis in recent weeks we are now forecasting global growth of just 1.3% in 2009E. This has been downwardly revised from our previous forecast of 2.2% and would mark the slowest rate of global economic expansion since 1982. Our previous global forecast already implied the onset of global recession next year. Our new forecasts imply a much deeper recession and only a sluggish recovery.

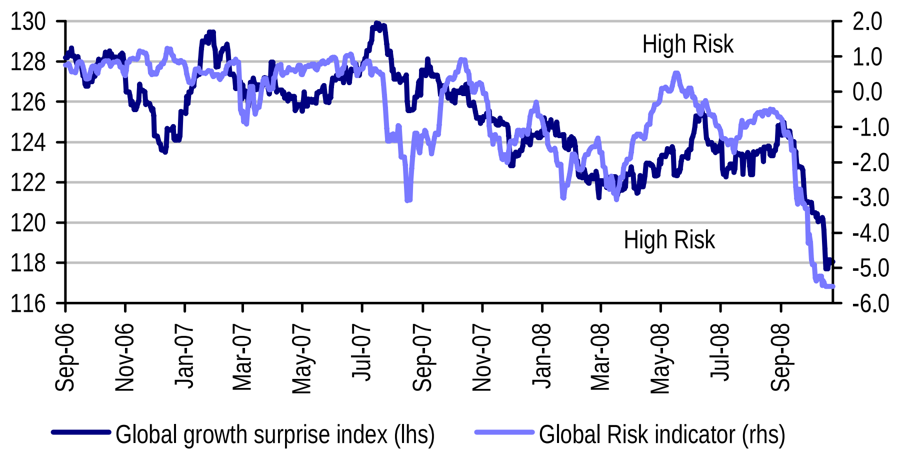
Table 12: Forecasts for GDP growth

	2008E	Old 2009E	New 2009E	2010E
US	1.4	0.3	-0.6	2.2
Japan	0.8	0.7	0.1	1.2
Eurozone	1.1	0.3	-0.9	0.6
China	9.6	8.0	7.5	8.0
India	6.8	7.3	6.0	7.4
Russia	7.0	6.0	3.5	4.5
Advanced economies	1.4	0.7	-0.5	1.6
Developing economies	5.2	4.1	3.6	4.6
WORLD	3.0	2.2	1.3	2.9
World IP	2.3	1.5	-0.4	2.8

Source: UBS

Having already cut our outlook at the start of October why have we become even gloomier so soon and even before the month of October has ended? The answers are straightforward. Firstly the global financial crisis has become even more pernicious. Secondly the world economy has been slowing even more rapidly and broadly than we thought it would. Our global growth surprise index, for example, has slumped over the last few weeks as the flow of global growth data has consistently disappointed. This development has coincided with the huge increase in risk aversion in financial markets.

Chart 5: Global growth surprise index and global risk index



Source: Haver, UBS

The huge downdraft in global equity markets and the widening of corporate credit spreads that has unfolded are now likely to take an even bigger toll on economic activity than we thought possible a few weeks ago. Of more significance, though as far as our outlook for next year is concerned is the contagion from the crisis in developed economies into the emerging economy bloc. Risk premiums on emerging market debt have leapt to levels that are, in many cases, close to those that were last seen during the Asian financial crisis in the late 1990s. The downside risks to economic growth in these regions have accordingly risen to levels that we cannot ignore.

Impact on commodities considerable

A hecatomb is defined as a large scale slaughter (originally meaning a sacrifice to Greek or Roman gods). Given the rout in commodity markets, a function of the rapidity and severity of the global slowdown in growth and risk avoidance, we believe that this word is, unfortunately, appropriate in characterising the current and likely near-term environment for commodities markets.

On the back of the further downgrade in global growth estimates and our expectation that the risks for further downgrades over the course of the next several quarters are quite high; we have cut commodities estimates by on average 37% (excluding precious metals). Our new forecasts for 2009E are, for the most part, at or below spot prices; in addition they are roughly 40% lower than consensus on average.

Table 13: UBS commodity forecast revisions

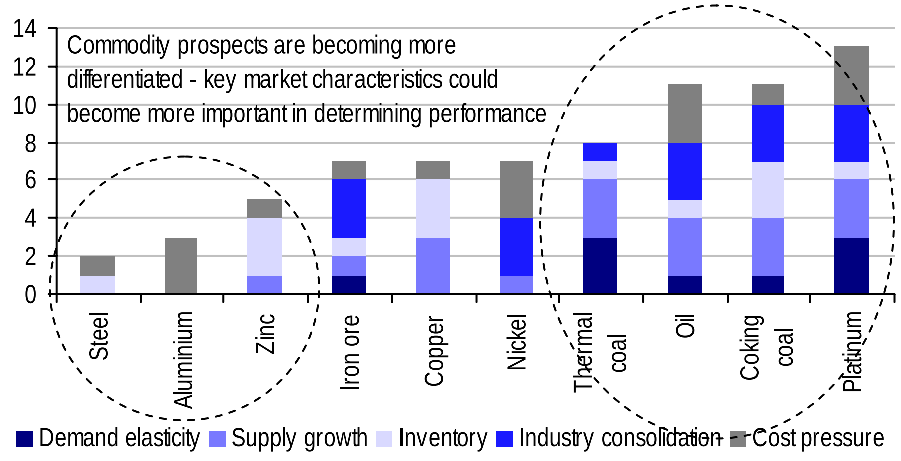
		Spot	2009 old	2009 new	change	2009 est'd consensus	2010 old	2010 new	change
WTI Oil	US$/bbl	63	105	60	-43%	92	117	75	-36%
Thermal coal	US$/t	96*	125	100	-20%	130	130	90	-31%
Uranium	US$/lb.	45.0	72.5	37.5	-48%	72.0	90	50	-44%
Aluminium	USc/lb.	93	115	75	-35%	116	125	90	-28%
Copper	USc/lb.	188	250	130	-48%	275	300	155	-48%
Nickel	USc/lb.	534	750	400	-47%	864	850	500	-41%
Zinc	USc/lb.	51	80	45	-44%	79	90	55	-39%
Iron ore	% chng	-33%**	-15%	-40%	-29%	-15%	-15%	-5%	-21%
Coking coal	US$/t	NA	250	180	-28%	300	230	130	-43%
Molybdenum	US$/lb.	26.0	22.5	16.3	-28%	25.0	25	20	-20%
Gold	US$/oz	747	825	700	-15%	875	730	700	-4%
Platinum	US$/oz	800	1100	900	-18%	1,250	1300	1100	-15%

Source: UBS * Newcastle fob price (weekly) ** Est'd fob price change -Indian iron ore to China vs. 2008 contract

- **Preferred commodities:** In the current challenging environment we continue to prefer bulk materials (particularly coal) and precious metals.
- **Preferred equities:** We recommend investors hold high quality diversified mining equities such as Vale, and gold equities such as Barrick Gold.

We believe that commodity performance could be quite differentiated over the next several quarters. We have attempted to quantify some of the more important market characteristics for selected commodities, important in the sense that they ultimately determine/support pricing levels. These include: 1) demand elasticity, 2) supply growth, 3) inventories, 4) industry consolidation and 5) cost pressure. We have attempted to subjectively quantify these characteristics; assigning a value of 0 (zero) where the characteristic has a negative perceived influence on price, a value of 1 where the characteristic has a neutral influence and a value of 3 where the characteristic has a positive influence.

Chart 6: Spectrum of commodity fundamentals – structural characteristics point score



Source: UBS estimates

Commodities – summary views

- **Thermal coal** – Given lower pricing forecasts for competing energy such as oil and natural gas, we expect that thermal coal could be under modest pressure over the next two years. Furthermore we are concerned that the contraction in thermal exports from China could reverse modestly over this time frame, creating additional slack in the market. Demand remains reasonably inelastic, a key positive characteristic of this market in our view.

- **Coking coal** – Steel markets are expected to continue to correct and this should put pressure on pricing despite strong supply fundamentals. We are also concerned about exports from China if the steel industry there slows more than expected. Our price forecast for the 2009 benchmark settlement remains nearly twice that experienced in 2007; thus margins should remain strong for producers.

- **Iron ore** – Again, steel market convulsions are likely to put significant pressure on iron ore suppliers, particularly into China where imports from India are dropping quickly, reflected in spot pricing. While the large suppliers are likely to cut back on production in order to mitigate some of the loss in demand, we expect that they will need to cut pricing, effectively giving up the price increase achieved in 2008.

- **Base metals** – We expect that base metals prices are likely to dip meaningfully below marginal costs in 2009, given the extent to which demand is likely to contract in this year. De-stocking by producers/consumers is likely to continue in our view and result in a build in exchange inventories over the next couple of quarters. 2009 is expected to be a year of capacity shutdowns and project deferments which should ultimately support prices. A modest recovery is expected into 2010 and then possibly something more meaningful in 2011/2012.

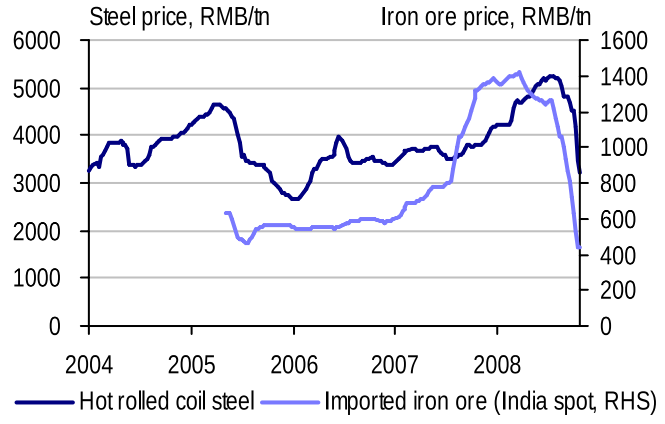
- **Precious metals** – Gold will remain under pressure in 2009 from a combination of slowing demand for jewellery from important emerging markets and disinvestment as inflation slows and the dollar continues to strengthen. We see gold averaging $650/oz in Q4-09 before recovering some ground in 2009. We have lowered our silver forecasts sharply, to take account of the dramatic underperformance by silver of gold in recent months. We have cut our long term silver price forecast to $9.25 from $11.00/oz. implicitly reducing the ratio that silver trades at compared to gold due to the greater primary supply response seen from silver miners compared to gold.

- **Platinum group metals -** A deeper global slowdown and a slow recovery will put pressure on platinum group metals over the next few years. With demand dominated by usage from the auto sector, all three metals are vulnerable to weak auto sales that UBS forecasts in 2009 and 2010. But as economies recover, platinum jewellery demand – under pressure over the past few years on soaring prices – will bounce back quickly due to the metal's low cost and current low premium to gold. Palladium and rhodium will recover too, although these metals will be more dependent on a recovery in the auto sector.

Analysis: quantifying a miserable demand environment

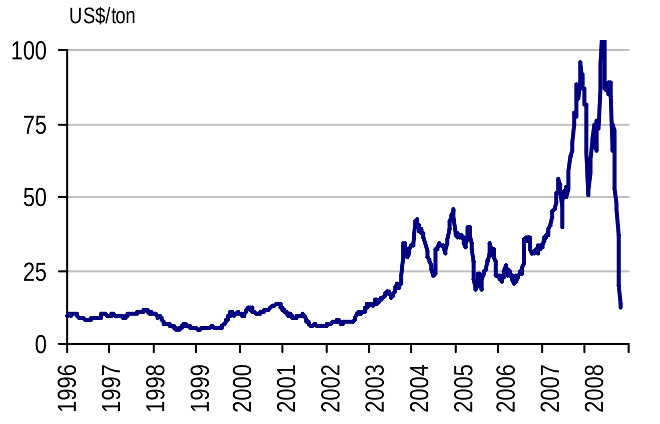
The charts below are pertinent illustrations as to how quickly the demand environment has deteriorated. Steel markets which are historically very sensitive to changes in global GDP are correcting meaningfully, particularly in China which is slowing rapidly. Other markets feeding into steel, such as iron ore and shipping are beginning to reflect this lack of activity with spot iron ore prices correcting by about 70% from peak levels and shipping rates correcting by closer to 90%. International trade appears to be freezing up.

Chart 7: Chinese steel and Indian iron ore prices



Source: CISA, CEIC, UBS

Chart 8: Capesize iron ore voyage rates (Tubaroa/Beilum, Bao)



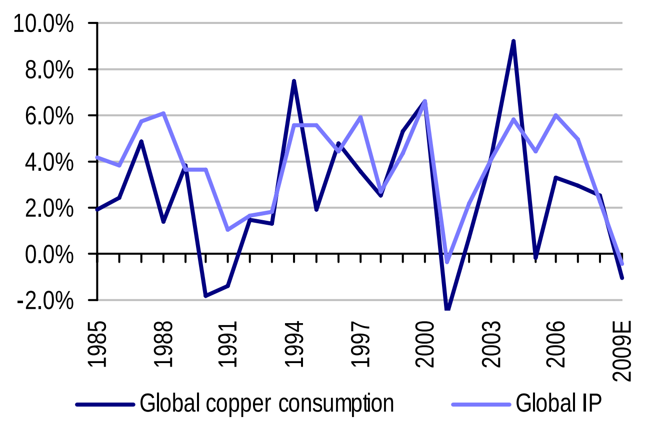
Source: Clarkson, UBS

Clearly credit/financing issues are now, finally and meaningfully impacting the real global economy. The question is, can this be reversed in the short term or will this be a slow, drawn out process of unwinding the credit excesses which have been effectively building for over 20 years. We assume the latter.

Copper example

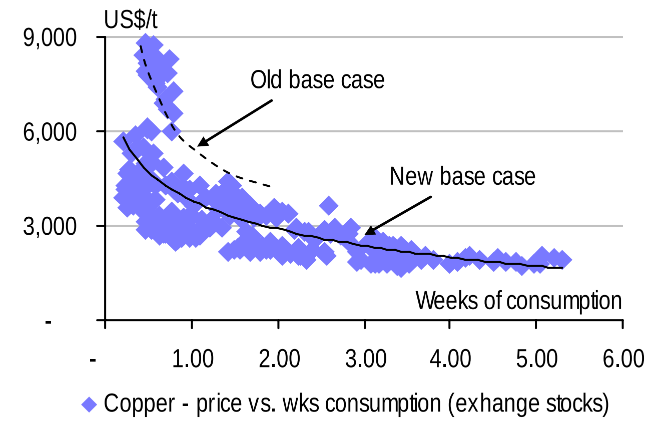
In determining price forecasts, we have used historic correlations between global Industrial Production (IP) and copper consumption growth. Given -0.4% global IP growth in 2009E, we expect a 900-1,000kt copper metal surplus as a result; this corresponds to a price of about US$1.30/lb. (US$2,900/t).

Chart 9: Copper demand growth and global IP



Source: Brook Hunt, UBS estimates

Chart 10: Copper price and inventories (weeks of cons'n)



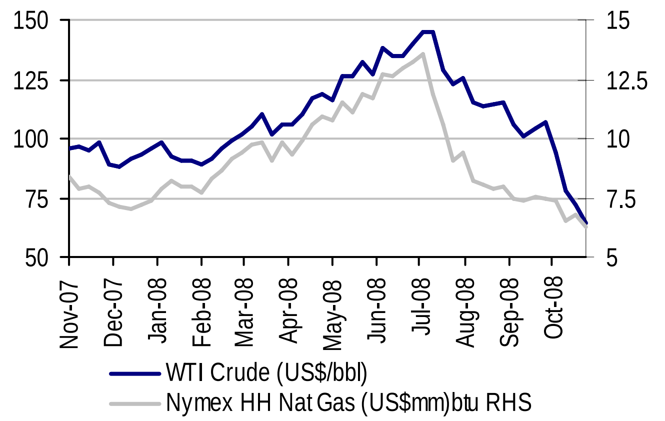
Source: WBMS, LME, Comex, UBS estimates

Marginal costs - unwind

The cost inflation which supported the appreciation of commodities over the past several years has, to a degree, unwound. Important cost considerations such an energy and producer currencies have corrected by as much as 40-50% over the past six months or so. Furthermore, royalties and taxes and some important consumables such as sulphuric acid have declined meaningfully.

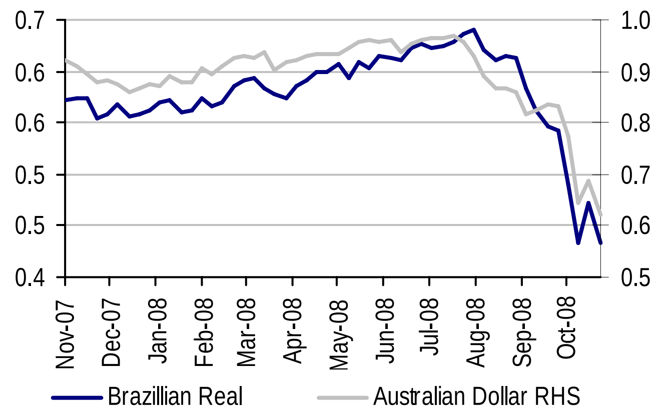
This negative feedback loop means that costs become less of a support and allow prices to fall further than they would otherwise. The charts below outline key energy prices and currencies over the past 12 months.

Chart 11: Energy costs – past 12 months



Source: Bloomberg

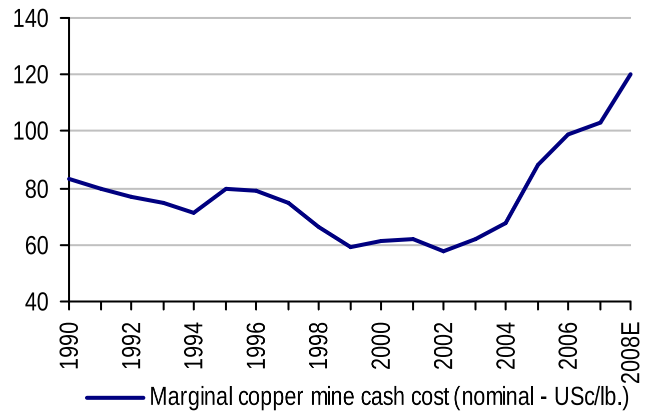
Chart 12: Producer currencies – past 12 months



Source: Bloomberg

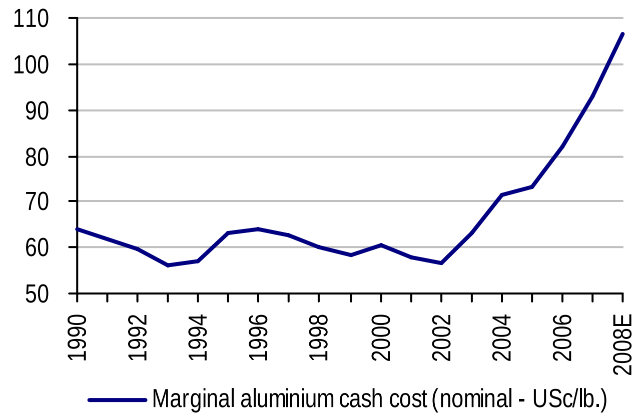
The charts below illustrate an 18-year trend of marginal costs for both copper and aluminium. There is no coincidence that the recent appreciation in marginal cost for both metals has occurred during a period of considerable energy inflation and dollar depreciation. In fact a simple statistical analysis shows a strong relationship between these inputs and the dependent variable (marginal cost); notwithstanding the fact that the number of data points is low and thus not a robust exercise.

Chart 13: Historic marginal costs - copper



Source: Brook Hunt, UBS

Chart 14: Historic marginal costs - aluminium



Source: Brook Hunt, UBS

We expect that the overall decline in costs from 2008 to 2009E could be as much as 30% for some resources companies.

We have elected to lower some of our long-term price assumptions based on lower costs, these are outlined in the table below.

Table 14: Adjustments to long-term price forecasts

		Old long-term	New long-term	change
Aluminium	USc/lb.	125	110	-12%
Copper	USc/lb.	175	150	-14%
Nickel	USc/lb.	850	700	-18%
Zinc	USc/lb.	80	65	-19%

Source: UBS estimates

For our long-term assumptions, as discussed in previous publications, we rely heavily on marginal cash production costs, defined as production which resides above the 82nd percentile on the industry cost curve (one standard deviation). Experience has taught us that it is at this point where we observe a sufficient number of producers responding to pricing pressure, resulting in supply contraction which usually counters demand-side pressure.

Nevertheless, it is important for investors to appreciate that marginal cost does not necessarily represent an absolute floor for a particular commodity price. The price may fall below marginal costs for a considerable period of time, forcing an industry to experience considerable financial pain before prices recover. This depends to a large degree on the extent to which demand contracts. As we have alluded, the current environment looks particularly poor, a real hecatomb.

Upside risk

If there is a constant in commodities markets, it seems to be volatility. While we expect that commodities markets will likely remain under pressure over the next 12-18 months, we expect that there may be periods of sharp appreciation in an overall declining price environment. Short covering, sharp changes in risk appetite, fiscal and monetary policy shifts could all result in considerable price movement.

Overall we expect that two, perhaps interlinked, factors could lend support to commodities markets over the next year or so.

- **1) Dollar weakness:** There is a scenario that once risk avoidance (and the flight to US treasuries) peaks, further appetite for the dollar, given the sizeable current debt load and future debt requirements of the US economy (both on the government and consumer levels), may wane. This could result in inflationary pressures once again re-emerging, benefiting commodities.

2) Chinese fiscal policy: There is evidence to suggest that China may increasingly utilise its sizeable reserves to finance internal development of infrastructure, industry, etc. in order to keep economic activity supported during a period of weak global trade. Renewed confidence in consumption from this key commodity consuming region could be very important for sentiment in these markets. Interestingly, the greater use of capital by cash rich countries could mean that less capital is used to support US debt, again, potentially impacting the value of the US dollar.

■ Statement of Risk

We point out to investors the potential risks inherent in commodities markets, including but not limited to, their volatile nature, which may differ materially from expectations. Furthermore, this asset class is exposed to political, financial, operational and liquidity risks, each of which have the potential to significantly impact returns.

■ Analyst Certification

Each research analyst primarily responsible for the content of this research report, in whole or in part, certifies that with respect to each security or issuer that the analyst covered in this report: (1) all of the views expressed accurately reflect his or her personal views about those securities or issuers; and (2) no part of his or her compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in the research report.

Required Disclosures

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UBS Investment Research: Global Equity Rating Allocations

UBS 12-Month Rating	Rating Category	Coverage[1]	IB Services[2]
Buy	**Buy**	56%	36%
Neutral	**Hold/Neutral**	35%	33%
Sell	**Sell**	8%	27%
UBS Short-Term Rating	**Rating Category**	**Coverage[3]**	**IB Services[4]**
Buy	**Buy**	less than 1%	32%
Sell	**Sell**	less than 1%	14%

1:Percentage of companies under coverage globally within the 12-month rating category.
2:Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.
3:Percentage of companies under coverage globally within the Short-Term rating category.
4:Percentage of companies within the Short-Term rating category for which investment banking (IB) services were provided within the past 12 months.

Source: UBS. Rating allocations are as of 30 September 2008.

UBS Investment Research: Global Equity Rating Definitions

UBS 12-Month Rating	Definition
Buy	FSR is > 6% above the MRA.
Neutral	FSR is between -6% and 6% of the MRA.
Sell	FSR is > 6% below the MRA.
UBS Short-Term Rating	**Definition**
Buy	Buy: Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.
Sell	Sell: Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.

KEY DEFINITIONS

Forecast Stock Return (FSR) is defined as expected percentage price appreciation plus gross dividend yield over the next 12 months.
Market Return Assumption (MRA) is defined as the one-year local market interest rate plus 5% (a proxy for, and not a forecast of, the equity risk premium).
Under Review (UR) Stocks may be flagged as UR by the analyst, indicating that the stock's price target and/or rating are subject to possible change in the near term, usually in response to an event that may affect the investment case or valuation.
Short-Term Ratings reflect the expected near-term (up to three months) performance of the stock and do not reflect any change in the fundamental view or investment case.

EXCEPTIONS AND SPECIAL CASES

UK and European Investment Fund ratings and definitions are :
Buy: Positive on factors such as structure, management, performance record, discount; Neutral: Neutral on factors such as structure, management, performance record, discount; Sell: Negative on factors such as structure, management, performance record, discount.
Core Banding Exceptions (CBE) : Exceptions to the standard +/-6% bands may be granted by the Investment Review Committee (IRC). Factors considered by the IRC include the stock's volatility and the credit spread of the respective company's debt. As a result, stocks deemed to be very high or low risk may be subject to higher or lower bands as they relate to the rating. When such exceptions apply, they will be identified in the Company Disclosures table in the relevant research piece.

Company Disclosures

Company Name	Reuters	12-mo rating	Short-term rating	Price	Price date
Barrick Gold Corporation[2a, 4a, 4b, 5, 6a, 15, 16]	ABX.N	Buy	N/A	US$22.72	31 Oct 2008
Cia. Vale do Rio Doce (PN)[2b, 4a, 6a, 6b, 7, 16, 20]	VALE5.SA	Buy (CBE)	N/A	R$25.40	31 Oct 2008
Hindalco Industries[4a, 6a, 20]	HALC.BO	Neutral (CBE)	N/A	Rs60.20	31 Oct 2008
National Aluminium Co. Ltd.[20]	NALU.BO	Neutral (CBE)	N/A	Rs159.70	31 Oct 2008
Sterlite Industries[16, 20]	STRL.BO	Neutral (CBE)	N/A	Rs282.20	31 Oct 2008

Source: UBS. All prices as of local market close.
Ratings in this table are the most current published ratings prior to this report. They may be more recent than the stock pricing date

2a. UBS AG, its affiliates or subsidiaries has acted as manager/co-manager in the underwriting or placement of securities of this company/entity or one of its affiliates within the past 12 months.

2b. UBS AG, its affiliates or subsidiaries has acted as manager/co-manager in the underwriting or placement of securities of this company/entity or one of its affiliates within the past three years.

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5. UBS AG, its affiliates or subsidiaries expect to receive or intend to seek compensation for investment banking services from this company/entity within the next three months.

6a. This company/entity is, or within the past 12 months has been, a client of UBS Securities LLC, and investment banking services are being, or have been, provided.

6b. This company/entity is, or within the past 12 months has been, a client of UBS Securities LLC, and non-investment banking securities-related services are being, or have been, provided.

7. Within the past 12 months, UBS Securities LLC has received compensation for products and services other than investment banking services from this company/entity.

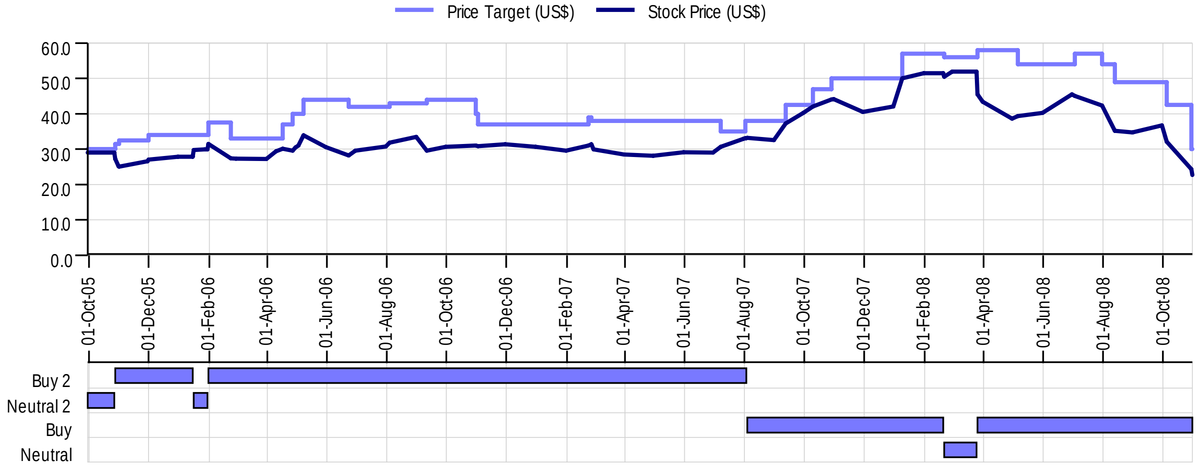
15. UBS AG, its affiliates or subsidiaries has issued a warrant the value of which is based on one or more of the financial instruments of this company.

16. UBS Securities LLC makes a market in the securities and/or ADRs of this company.

20. Because UBS believes this security presents significantly higher-than-normal risk, its rating is deemed Buy if the FSR exceeds the MRA by 10% (compared with 6% under the normal rating system).

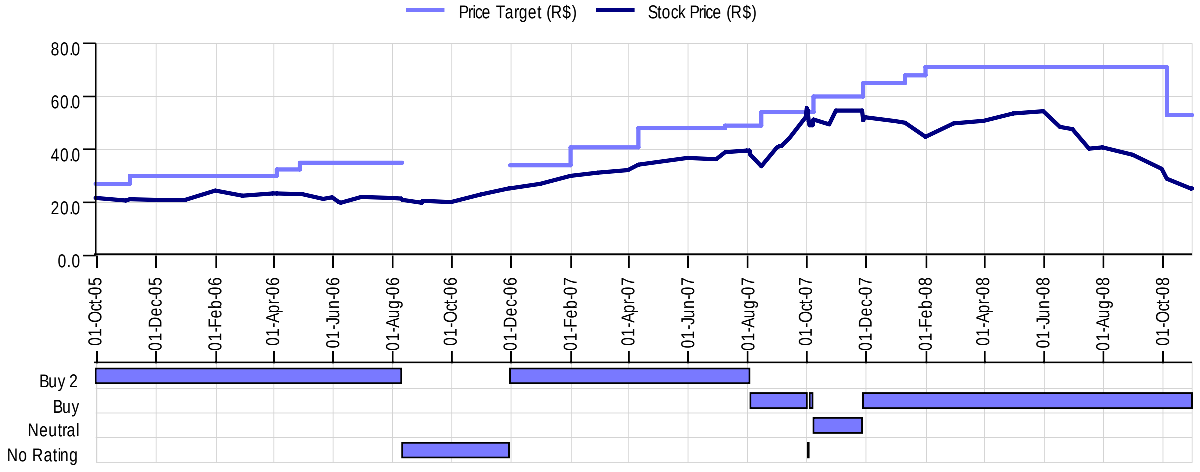
Unless otherwise indicated, please refer to the Valuation and Risk sections within the body of this report.

Barrick Gold Corporation (US$)



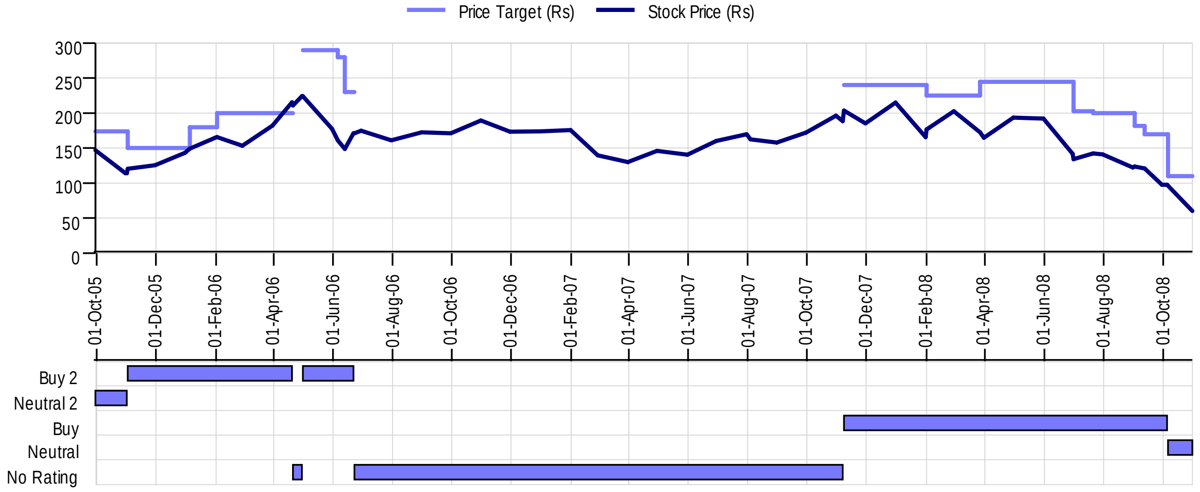
Source: UBS; as of 31 Oct 2008

Cia. Vale do Rio Doce (PN) (R$)



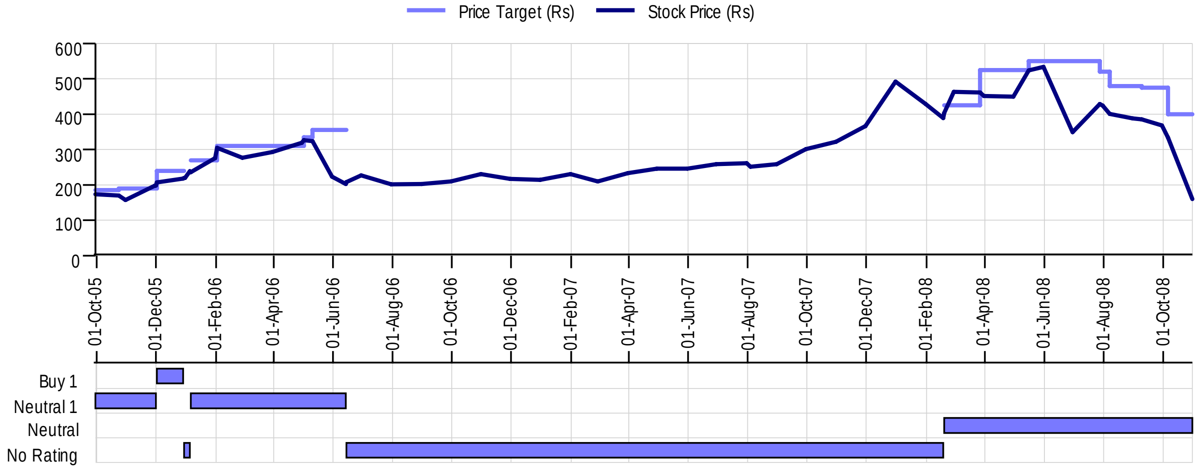
Source: UBS; as of 31 Oct 2008

Hindalco Industries (Rs)



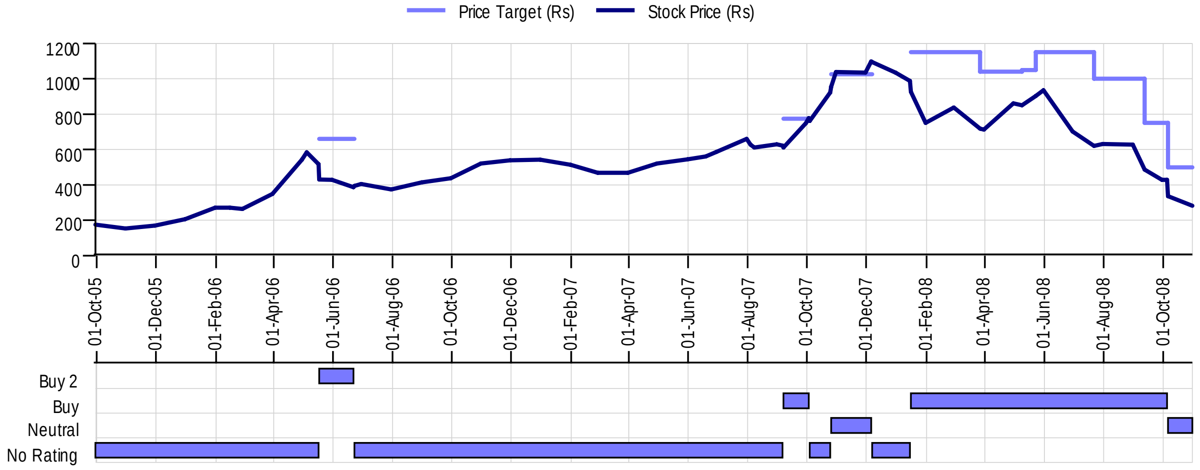
Source: UBS; as of 31 Oct 2008

National Aluminium Co. Ltd. (Rs)



Source: UBS; as of 31 Oct 2008

Sterlite Industries (Rs)



Source: UBS; as of 31 Oct 2008

Note: On August 4, 2007 UBS revised its rating system. (See 'UBS Investment Research: Global Equity Rating Definitions' table for details). From September 9, 2006 through August 3, 2007 the UBS ratings and their definitions were: Buy 1 = FSR is > 6% above the MRA, higher degree of predictability; Buy 2 = FSR is > 6% above the MRA, lower degree of predictability; Neutral 1 = FSR is between -6% and 6% of the MRA, higher degree of predictability; Neutral 2 = FSR is between -6% and 6% of the MRA, lower degree of predictability; Reduce 1 = FSR is > 6% below the MRA, higher degree of predictability; Reduce 2 = FSR is > 6% below the MRA, lower degree of predictability. The predictability level indicates an analyst's conviction in the FSR. A predictability level of '1' means that the analyst's estimate of FSR is in the middle of a narrower, or smaller, range of possibilities. A predictability level of '2' means that the analyst's estimate of FSR is in the middle of a broader, or larger, range of possibilities. From October 13, 2003 through September 8, 2006 the percentage band criteria used in the rating system was 10%.

Global Disclaimer

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