Metals & Mining
Asia Aluminium

HSBC Global Research

Asian Aluminium producers

The pots get bigger

- **Consolidation fever hits the aluminium sector – Alcoa's hostile bid for Alcan will take the top 5 players to 54% control of global supply**
- **While longer-term fundamentals should improve from increased concentration, China remains the wild card**
- **We view Asian producers as unlikely targets in the consolidation game. Given their recent rally, we move to a more cautious stance on the sector**

The good news is largely priced in

Perhaps it was the threat of a new king of the aluminium mountain (United Company Rusal) or just simply China continuing to win market share… whatever the case, Alcoa's hostile bid for Alcan has lifted the pace of consolidation in the sector, in our opinion. That said, we don't see Asian aluminium producers as likely acquisition targets.

In the meantime, aluminium prices have held up well, locked in a high band of USD1.20-1.30/lb for much of this year, with a year to date average of USD1.27/lb. Never mind that it remains the laggard of the LME base metals complex, to some extent this has assisted demand for the metal. The supply response has been swift but we believe the industry may now be running at close to full speed for 2007. Capacity additions remain a concern but we now forecast a smaller surplus and upgrade aluminium prices by 9-10% in 2007e and 2008e.

Notwithstanding our earnings upgrades, we believe the good news may already be priced in. A considerable sector re-rating has already occurred, with current sector PEs of 12x being +25% above levels only 6 months ago. As a result, we have adopted a more cautious investment strategy. Our preferred sector exposure remains Chalco, but given its recent performance (+49% ytd) we move to a Neutral (V) rating from Overweight (V). We upgrade our rating on Alumina Ltd to Neutral (from Underweight) as we believe it may be a key, albeit indirect, beneficiary of M&A activity. On Indian exposures, we maintain a Neutral (V) rating on Nalco but retain an Underweight (V) rating on Hindalco.

21 May 2007

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Issuer of report: The Hongkong and Shanghai Banking Corporation Limited

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Investment thesis

- Alcoa's hostile bid for Alcan lifts pace of sector consolidation
- Aluminium and alumina price forecasts upgraded by 9-13% over 2007 and 2008 on stronger than expected start to 2007
- Adopting a more cautious strategy. Sector preference remains Chalco but we downgrade to Neutral (V) rating given recent rally

Adopting a more cautious stance

The combination of M&A activity, strong underlying demand, together with supply disruptions has provided a strong backdrop for Asian Aluminium producers. With the exception of Hindalco (-14%), all other stocks are up since strongly the start of the year (Chalco +45%, Alumina +19%, Nalco +16%). While we remain positive on the sector's dynamics and have upgraded earnings forecasts, we can't help but feel that most of the good news is already priced in. As such, we move to a more cautious stance on the sector. We move to Neutral on Chalco (V) from Overweight and are also Neutral on Nalco (V) and Alumina Ltd (from Underweight). We retain an Underweight rating on Hindalco (V).

A stronger than expected 1H has led us to upgrade aluminium and alumina price assumptions (by c10% in 2007e and 2008e). Despite the resultant upgrades to our earnings forecasts, the sector is now trading at an expanded PE of 11.9x, nearly +25% above levels only 6 months ago. While our preferred sector exposure remains Chalco (V), given its recent performance (+45% in the year to date) we move to a Neutral rating. We would prefer to buy Chalco below HKD10/share. On Alumina Ltd, we upgrade to Neutral (from Underweight) as we believe it may be a key beneficiary of M&A activity particularly concerning its JV partner, Alcoa. On Indian exposures, we maintain a Neutral (V) rating on Nalco but retain an Underweight (V) rating on Hindalco.

HSBC stock ratings

	Currency	Price	Target	Previous target	Div Yield	PTR	Rating	Previous rating
Alumina Ltd (AWC.AX)	AUD	7.53	7.80	5.80	2.9%	7%	Neutral	Underweight
Chalco (2600.HK)	HKD	10.46	11.50	9.00	3.3%	13%	Neutral	Overweight
Hindalco (HALC.NS)	INR	146.8	145.0	140.0	2.8%	5%	Underweight	Underweight
Nalco (NALU.BO)	INR	249.3	260.0	230.0	2.0%	10%	Neutral	Neutral

Source: HSBC estimates. Note: Prices as at close of 18 May 2007. PTR = Potential total return. Chalco, Hindalco and Nalco all carry a volatile (V) flag with the HSBC rating.

HSBC Aluminium – Earnings forecast revisions

	Chalco (HKD)			Alumina (AUD)			Hindalco (INR)			Nalco (INR)		
	Old	New	% change	Old	New	% change	Old	New	% change	Old	New	% change
2007e	0.91	0.97	7%	0.46	0.51	10%	19.97	23.76	19%	28.80	34.96	21%
2008e	0.84	0.93	10%	0.43	0.52	22%	15.94	17.74	11%	21.90	27.73	26%

Source: HSBC estimates

Consolidation positive for industry but Asian producers are unlikely targets

Earlier this month, the world's number one aluminium producer, Alcoa, made a hostile bid for Alcan, the world's number two. Should it proceed, the top 3 producers will move to control 44% of the market (from 35%) with the top 5 producers controlling 54% (from 50%). In our opinion, a more concentrated market can only be positive for the longer term dynamics of the aluminium industry as it should lead to a more rational industry. That said, we don't see Asian producers as likely targets. Foreign investors will be restricted from acquiring Chalco, Nalco has a significant 88% shareholder in the form of the Government of India, and Hindalco is undergoing a massive transformation with the digestion of Novelis. The biggest beneficiary would likely be Alumina Ltd, which may be able to participate through its AWAC JV.

Underlying markets remained tight in 1H but alumina prices starting to ease

Having moved into surplus from Q4 2006, global aluminium markets swung back into deficit in April 2007. Strong Chinese demand and reduced primary exports have served to keep prices locked in a high band. Given this stronger than expected start to the year, we have upgraded forecasts for cash aluminium prices to average USD1.22/lb, USD1.13/lb and USD1.03/lb in 2007, 2008e and 2009e, respectively.

In alumina, impressive prices spiked to levels above USD400/t in March (from lows of USD200/t in Dec06) and have eased back to settle around USD355/t. While supply constraints are expected to ease, we expect a strong metal outlook to maintain firm alumina demand. We raise our assumptions of alumina contract prices by 13% to USD341/t in 2007. Similarly, we lift 2008 contract prices by 13% to USD301/t.

Valuation and ratings – sector has already significantly re-rated

Notwithstanding our significant earnings upgrades, in our opinion, much is already factored into current valuations. The sector now trades at nearly 12x PE, an expansion of over 25% since Dec06. As such, we have adopted a more cautious stance, reflected in our ratings below.

- **Chalco** – While we can see further upside to our new target price of HKD11.50/share, we have downgraded to Neutral (V) from Overweight (V). The company remains in strong growth mode with asset injections from its parent likely to be the next catalyst.

- **Alumina Ltd** – The key driver of Alumina Ltd shares, in our view, is now squarely focused on developments with Alcoa's hostile bid for Alcan. Given it will likely benefit from a successful transaction, we upgrade our rating to Neutral (from Underweight) and set a new target of AUD7.80/share.

- **Hindalco** – With the focus on digesting Novelis, we retain an Underweight (V) rating. However, with Novelis still to emerge out of losses, the purchase carries significant risks. The most obvious is the significant dilution that will result from a largely debt-funded acquisition. In the near term, we believe an equity raising is likely.

- **Nalco** – We raise our target price to INR260/share from INR230. Our new target is derived by applying Nalco's 3-year historical PE of 8.9x to our 2008 EPS forecast. This implies potential total return (PTR) of 10% and thus we retain a Neutral (V) rating. With alumina prices easing back from the recent peak, Nalco's high exposure to the spot alumina market leaves it vulnerable in the near term. However, its low valuation provides downside protection.

Risks

The key risk for the sector lies in the movement of aluminium and alumina prices. Key downside risk lies in a more severe slowdown in the US or China, which in turn would negatively impact aluminium consumption growth. Equally, should suppliers show discipline through production cuts to maintain market balance, this provides upside risks to our aluminium price forecasts. On the costs side of the equation, movements in bauxite prices represent the key concern, as recently highlighted by the general strike in Guinea. In addition, higher energy and freight costs add to cost pressures. On stock specific risks, we would highlight:

- **Chalco** - Potential delays in timing plus the risk of overpaying for the eagerly awaited asset injection from its parent, Chinalco. Given the long string of smelter acquisitions in recent years, management's ability to extract cost synergies will be a potential opportunity for the company.

- **Alumina Ltd** – USD weakness is an issue for the company as each 1c depreciation against the AUD results in a AUD7m NPAT loss for the company. The Brazilian currency appreciation has also led to recent cost overruns of its Alumar and Jaruti projects. On the positive side, an opportunity exists for management to extract full benefits from Pinjarra (+657kt) operating at full capacity from Feb07 and Jamalco (+146ktpa) due to commission in 2Q.

- **Hindalco** – Further equity funding plans for its acquisition of Novelis remains the near term risk. In the medium term, management's ability to turnaround the currently loss-making Novelis business represents a further risk.

- **Nalco** – In the near term, alumina prices appear to be easing from the most recent peak. Over the medium term, the government's intention on its 87% holding in Nalco presents a potential risk of share overhang. Equally, we would view an increase in liquidity for the stock as a positive event.

HSBC Aluminium valuation table

Code	Stock	Currency	Price	Market Cap (USDm)	PE 2007e	PE 2008e	EV/EBITDA 2007e	EV/EBITDA 2008e	PB 2006	Yield 2007e	Yield 2008e
AWC	Alumina Ltd	AUD	7.53	7,230	14.8	14.4	9.1	8.9	3.9	2.9	5.6
2600	Chalco	HKD	10.46	15,890	10.8	11.3	6.0	6.1	2.2	3.3	3.1
HNDL	Hindalco	INR	146.8	4,162	6.3	7.6	4.6	5.7	1.1	2.8	2.1
NACL	Nalco	INR	249.3	3,930	7.0	8.4	3.8	4.7	1.6	2.0	2.0
AA*	Alcoa	USD	39.15	33,947	12.0	12.5	7.0	7.1	1.9	1.7	1.7
AL*	Alcan	USD	81.34	30,617	13.2	14.2	7.8	8.1	2.1	1.0	0.9
Alumina sector				**95,775**	**11.9**	**12.6**	**7.0**	**7.2**	**2.1**	**1.9**	**2.0**

Source: HSBC estimates. Note: Prices as at close of 18 May 2007
"* = First Call Datastream estimates

Consolidation fever

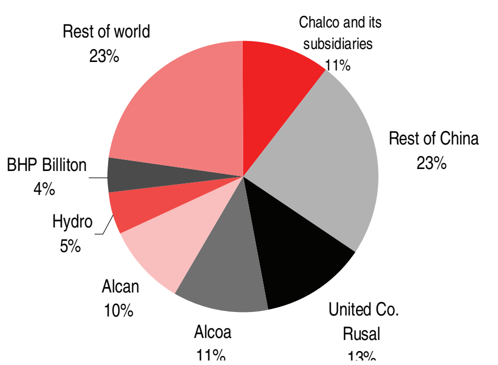
- Alcoa's hostile bid for Alcan lifts pace of sector consolidation
- Top 3 will account for 44% of global supply (currently 35%)
- Asian producers Chalco, Hindalco and Nalco are unlikely takeover targets but Alumina Ltd is potentially a key beneficiary

The giant awakens

Alcoa makes bid for Alcan

On 10th May 2007, the world's number one aluminium producer, Alcoa, made a hostile bid for Alcan, the world's number two. While regulatory approvals and shareholder acceptance may still stand in the way, should it proceed, the aluminium sector will be further consolidated. We estimate that the top 3 producers will move to control 44% of the market (from 35%) with the top 5 producers controlling 54% (from 50%).

World – Primary Aluminium by Producers, 2006 (Percent)



Source: Reuters, CRU, HSBC
* Rusal, SUAL and Glencore merged as United Company Rusal

While we are sceptical on the prospect of BHP taking over RIO (see report dated 11 May 2007 *Rio Tinto: Rio takeover maths does not add up*, by Paul McTaggart and Alex James), in our view, consolidation of the sector may have just begun. With Norsk Hydro soon to spin out its aluminium assets, we believe this could be keenly sought after in a rapidly consolidating industry. Certainly the soon to be listed and recently merged United Company Rusal will bring increased attention to the sector.

Perhaps of greater significance is the increasing consolidation further upstream in alumina, the key feedstock of aluminium production. The merger of Alcoa and Alcan will result in the top 6 producers of alumina controlling nearly 80% (77%) of total alumina supply. With 95% of alumina production in the hands of vertically integrated aluminium producers, and notwithstanding the long-term outlook for alumina, the Chinese capacity remains a significant threat.

Winners and losers

While Asian aluminium producers, in our opinion, are not likely to see themselves as acquisition targets, the sector should gain from longer-term benefits of increased sector consolidation.

Asian producers unlikely targets…

For Chalco, its parent's 36% holding and China's foreign ownership restrictions, in our opinion, will prevent it from being a target. Similarly, Nalco's

88% holding by the Government of India is a major deterrent. While Hindalco has a major shareholder in the Aditya Birla Group (30% of issued capital), its acquisition of Novelis provides a further obstacle for any would-be acquirers.

… but Alumina Ltd should benefit

In our opinion, Alumina Ltd stands to gain the most from the current focus on Alcoa. Under the terms of the AWAC joint venture agreement (which governs the operation of AWAC) it is stipulated that the AWAC enterprise will be the 'exclusive' vehicle for bauxite, alumina and industrial chemicals businesses. This means that if the transaction is successful, Alumina Ltd will have the option to acquire a 40% share of Alcan's bauxite and alumina assets from Alcoa (60% shareholder in AWAC). We would expect that Alumina will seek to participate in the acquisition of these bauxite and alumina assets, which will require a capital raising.

- While we have held the view that the JV agreement represents a poison pill to any acquirer of Alumina Ltd (refer our December 2006 report *Asian Aluminium producers*), an acquisition of Alcan by Alcoa should result in Alcan contributing its bauxite, alumina and alumina chemicals assets into the JV.
- In our view, Alumina Ltd will benefit from the likely purchase of 40% of Alcan's bauxite, alumina and alumina chemicals assets.

Valuation of Alcan's alumina assets

Alcoa's offer for Alcan at USD73.25/share equates to a total value of nearly USD27bn.

- **Asset value of USD5.7bn.** A glance at Alcan's 1Q result shows that total assets is near this value at USD29bn. The segmental breakdown shows that Alcan's bauxite and alumina assets represent about 21% of total assets. So one measure may be to apply a similar proportion to the bid value. This means that Alcan's bauxite and alumina assets may be worth USD5.7bn (i.e. 21% of USD27bn). At this level, Alumina would be required to pay 40% of this amount i.e. USD2.3bn (AUD2.8bn).
- **Earnings-based valuation of USD3.8bn.** Another method is earnings-based valuation. Alcoa's offer values Alcan at 6.2x 2006 group profits. Alcan's bauxite and alumina operations though contributed only 14-15% of group earnings. Applying the 6.2x multiple to the segment's profits of USD609m in 2006, we arrive at a value for Alcan's bauxite and alumina of USD3.8bn. Alumina's 40% share equates to USD1.5bn (AUD1.9bn).

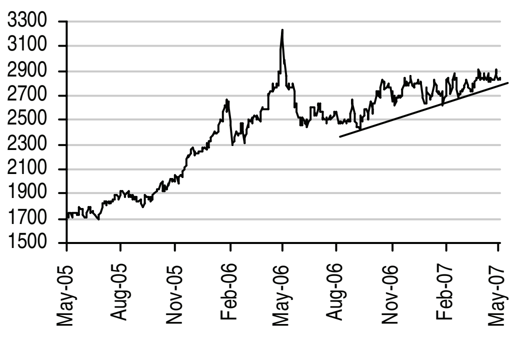
Aluminium – The laggard shows its mettle

- Stronger than expected 1H demand and substitution benefits ensuring prices maintain a slow but steady ascent
- Global aluminium market tips into deficit in April despite China's supply surge and increased capacity utilisation rates
- We upgrade our aluminium forecasts by 9-10% in 2007 and 2008

Fundamentals supportive

Having moved into surplus from Q4 2006, global aluminium markets swung back into deficit in April 2007. Strong Chinese demand and reduced Chinese primary exports have served to keep prices on a slow but steady uptrend. Given this stronger than expected start to the year, we have upgraded forecasts for cash aluminium prices to average USD1.22/lb, USD1.13/lb and USD1.03/lb in 2007, 2008e and 2009e, respectively.

LME aluminium three-month price (USD/t)



Source: DataStream, HSBC estimates

We expect that the aluminium price will be less volatile than its base metal peers. Inventory levels and production growth will limit price rises, while high costs of production and the likelihood of production closures in the event of lower prices tend to provide a price floor:

- **Firm underlying demand with substitution benefits.** The fact that the aluminium price has been less volatile than copper, nickel and zinc has meant that demand has been relatively stable. To some extent, we believe aluminium may be increasingly benefiting from substitution. We have raised our forecast of global consumption growth to 7-8% over 2007 and 2008 (previously 5-6%).

- **Supply response was swift but capacity utilisation now full.** While spot alumina prices have recovered since the nadir in Dec06, the profit spread between aluminium and alumina prices has improved significantly. In turn, the response from aluminium producers was swift. In the first four months of 2007, total global supply expanded by +12.0% yoy, driven mainly by China's surge in production (+40.5%). At current rates of production though, we believe utilisation rates are near capacity.

- **Costs have risen and will continue to rise.** Average industry cash costs of production have increased by around USD0.20/lb in the past three years to today's USD0.73-75 level. Power costs typically represent c30% of costs, and in much of North America and Europe costs continue to rise as older electricity supply agreements end and are replaced by higher-priced agreements. Recent aluminium supply agreements have been struck at levels around USD0.07/kwhr – over double some historical supply rates.

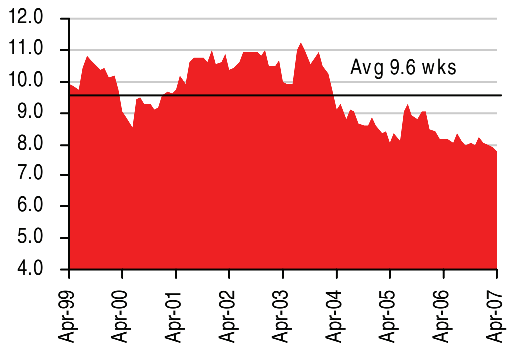
Inventories not at critical levels

In contrast to the very low inventory levels seen in the other base metals, aluminium inventories have moved to a lower range, but remain well short of critical levels. Total aluminium inventories represent 7.8 weeks of consumption while LME inventories represent 1.4 weeks of consumption.

LME stocks have risen from 698.4kt since the beginning of this year to current levels of 837kt on May 8. Fortunately, SHFE warehouse inventories been more supportive with current levels below 40kt showing a significant fall from the peak this year of 99kt in Mar07.

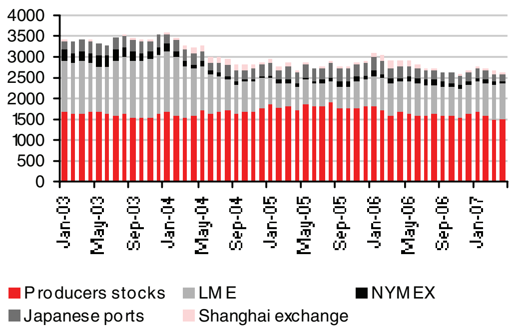
One potential driver of growing LME stocks may relate to China's soaring exports of Chinese semis (billets and slab). With Chinese exports of semis up +89% yoy in 1Q07, it is likely that Western world semis have suffered from displacement, leading to reduced primary aluminium consumption and growing LME inventories. That said, this is difficult to tell, as there has been additional material as a result of smelter restarts.

Aluminium stocks held by producers and LME warehouses



Source: CRU, HSBC estimates

Aluminium inventories



Source: CRU, HSBC estimates

Are producers de-stocking?

In total, if we take producer stocks into account, global inventories are falling. Since the beginning of 2007, stocks of unwrought aluminium have fallen by 99kt (now 1522kt) to Apr07 in addition to the 18% fall in Japan's port stocks to 202kt (from an average of 246kt in 2006). According to CRU, total stocks are currently less than 8 weeks of consumption, which compares to an average of nearly 10 weeks since 2000.

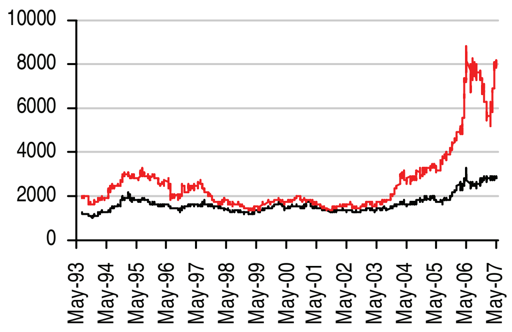
One theory proposed by Metal Bulletin is that producers have been destocking in an attempt to keep a lid on the market to prevent high prices from damaging their customer base. This in turn has improved aluminium's market share.

Aluminium to benefit from substitution

Copper substitution intensifying

Due to its relative price underperformance over recent years, aluminium's competitive position against copper has improved significantly. Aluminium prices are now less than 40% of the copper price, against a historical average of 60-70%.

Aluminium versus Copper price (Cash - LME)



Source: DataStream, HSBC estimates

In late 2001, copper and aluminium prices were trading at similar levels, with copper at around USD1400/t against aluminium at about USD1300/t. Since this time, copper prices have risen sharply to current levels of USD8000/t but aluminium has been far more subdued with prices currently at USD2800/t. Since 1993, copper has traded at ~1.5x the aluminium price (conversely, aluminium has traded at about 70% of the copper price). Copper now trades at 2.8x the aluminium price (or the aluminium price is now 36% of the copper price).

Aluminium's threat to copper is in applications across the construction, automotive and power industries. CRU estimates that about 350ktpa of substitution is possible. This equates roughly to the market surplus in global aluminium supply we forecast in 2007.

- In power industries, copper is generally considered a more effective conductor of electricity but some utilities in the US and China have made some switches from copper to aluminium as a result of price even though more aluminium metal is required to carry the same amount of electric voltage.

- One way to retain copper's electrical properties as well as the weight and price advantages of aluminium, is in the growing end user preference for copper clad aluminium and hybrid cables. Copper clad aluminium is a composite wire made of an aluminium core and outer copper cladding of varying thickness, commonly made up of about 90% aluminium.

  - Xingle Group, a Chinese energy cable manufacturer has recently supplied copper clad aluminium cables to a power transmission project in Shandong Province. Since signing the original contract, a number of other contracts have been signed to other clients.

- In construction, aluminium is making gains on copper in roofing and plumbing applications. That said, other rival materials (eg. plastics for plumbing applications) pose a more serious threat to both metals in the long term.

While the outlook for aluminium substitution is positive, the cost of changing materials remains a barrier and may slow the increase in aluminium intensity. These include the costs of new equipment and tools in addition to the need to re-train staff. Due to the need for more metal, space restrictions also present a barrier for end-user segments such as residential and automotive.

China – a friend or foe?

Demand surges in first 4 months

In the four months to Apr07, China's aluminium consumption (real) grew by 36.5% yoy. In spite of China's strong aluminium production increase +41% yoy to 3.9mt, exports of primary metal have reduced (actually a net importer in March), all of which has led to a rebound in SHFE aluminium prices since Ap07.

While strong end-user demand (aerospace, power) has been a factor, much of China's primary demand is due to its surging semis (ingot, billet and slab form) production where production has risen to 2.12mt during Q1 2007, up 44% yoy. However, China's surge in semis production has led to a sharp increase in exports (+96.1% yoy to 605.5kt for the year to Apr07).

The main concern with China's surge in exports of semis, in our view, is that Chinese primary demand will likely substitute demand in other regions. Perhaps this is already taking place, given the rise in LME inventories witnessed this year.

We think the government's current policy on aluminium taxes, where exports of semis are entitled to an 11% VAT rebate versus a 15% tax on primary aluminium exports, has encouraged many producers to invest in semis capacity to add value to primary production. However, there has been strong speculation that the Chinese government will remove the VAT rebate for aluminium semis sometime in May or June. In the near term, the impact may be to stimulate fabrication plants to further increase exports of semis.

Supply running at full speed but capacity is expanding faster

With monthly output averaging nearly 1mt/month since the start of 2007, implying an annualised rate of nearly 12mtpa, we believe China is producing at close to its current capacity for 2007.

However, driven by attractive profit margins and strong aluminium demand, it appears investment in the industry has rebounded. In the first two months of 2007, fixed asset investments in primary aluminium projects soared by 124% yoy. This prompted the National Development and Reform Commission (NDRC), China's industrial policy maker and watchdog, on April 10 to issue an urgent circular appealing to relevant authorities at all levels to firmly curb the investment rebound in primary aluminium projects. According to the circular, the key NDRC initiatives include:

- Alumina and aluminium projects will be ordered to stop if they are found in violation of the industry development policy or regulations on investment, environmental protection, land use or capital requirements.
- Local governments are asked not to provide preferential policies, such as tax shelters and low power tariffs.
- For ineligible projects, land authorities should not allocate lands, environment bureaus should not pass environment evaluations, banks should not provide loans, designing institutes should not provide project designs, and engineering teams should not accept construction jobs.

This is a familiar scenario, strikingly similar to 2003 when the government applied macro control targets in an attempt to rein in spiralling aluminium investments. While projects were rejected by the NDRC, endorsement by local governments enabled projects to get off the ground. We believe that at least two-thirds of the aluminium / alumina projects built in recent years did not receive NDRC approval. Once projects are launched (without approval), the central government has found it difficult to deny the eventual start up of operations.

Notwithstanding the Chinese government's efforts, just as market forces (ie. high alumina prices and low profit) discouraged investment in primary aluminium projects during 2005-2006, we believe it will be difficult for new capacity to be restrained given the current strength in profit margins for aluminium smelters.

HSBC aluminium supply / demand model

Market moving to small surplus

Our supply/demand models are summarised in the tables at the end of this section. In summary, the key points to note are:

- **Market moves to small surplus in 2007 from deficit in 2006e**. The forecast 2007e surplus of 81kt reflects production growth of 9.0% and consumption growth of 7.6% (previously 6.8%). Demand for aluminium has remained robust – in part reflecting the fact that prices have remained at low levels.
- **Small surplus to remain in 2008 and 2009**. Encouraged by higher aluminium prices, we have raised our expectations of global capacity growth to 4-5% (from 3%) in the forecast period. As utilisation rates increase on lower forecast alumina prices, we expect a higher rate of production growth at 7.0% and 6.4% in 2008 and 2009.
- **China capacity utilisation rises to 90% in 2007 from 80% in 2006e**. We estimate that by end-2007 China will have smelting capacity of c12.4mt versus production of 11.2mt. With aluminium prices forecast to remain high in 2008, the improved profit spread (between aluminium and alumina prices) will encourage both capacity additions to remain strong at 7-8%, whilst improved utilisation should see double digit production growth rates in 2008e and 2009e.

Upgrade of aluminium price forecasts

As described in our 17 April 2007 report by Paul McTaggart, *European Miners: Back in favour, taking a more positive stance*, we have raised our commodity price assumptions. Given the stronger than expected start to the year, and our revised supply demand analysis, we upgraded forecasts for cash aluminium prices to average USD1.22/lb, USD1.13/lb and USD1.03/lb in 2007, 2008e and 2009e, respectively. These represent a lift to our assumptions by 9-10% over 2007 and 2008 and 5% in 2009.

HSBC Aluminium price revisions

Period	Old USD/lb	New USD/lb	Chg %
2006	1.16	1.16	0.0%
2007e	1.11	1.22	9.0%
2008e	1.03	1.13	10.0%
2009e	0.98	1.03	5.0%
2010e	0.90	0.90	0.0%

Source: HSBC

HSBC

HSBC Aluminium Demand / Supply model

	2000	2001	2002	2003	2004	2005	2006	2007E	2008E	2009E	2010E
World:											
World capacity	26,096	27,542	28,503	31,261	34,530	36,683	38,467	40,089	41,906	43,933	45,559
YoY		5.5%	3.5%	9.7%	10.5%	6.2%	4.9%	4.2%	4.5%	4.8%	3.7%
World production	24,493	24,524	26,081	27,842	29,895	31,970	33,815	36,848	39,410	41,920	43,930
YoY		0.1%	6.4%	6.8%	7.4%	6.9%	5.8%	9.0%	7.0%	6.4%	4.8%
World consumption	24,994	23,860	25,537	27,654	30,323	31,890	34,172	36,767	39,370	41,801	44,090
YoY		-4.5%	7.0%	8.3%	9.7%	5.2%	7.2%	7.6%	7.1%	6.2%	5.5%
Capacity utilisation	94%	89%	92%	89%	87%	87%	88%	92%	94%	95%	96%
World balance	(501)	664	544	188	(428)	80	(357)	81	40	119	(160)
Reported stocks (WW)	2,660	3,190	3,551	3,681	2,977	3,262	2,905	2,986	3,026	3,145	2,985
Stock/consumption (weeks)	5.5	7.0	7.2	6.9	5.1	5.3	4.4	4.2	4.0	3.9	3.5
Capacity utilisation	93.9%	89.0%	91.5%	89.1%	86.6%	87.2%	87.9%	91.9%	94.0%	95.4%	96.4%
China:											
Capacity			4,487	6,441	8,960	10,400	11,538	12,386	13,280	14,422	15,298
YoY				43.5%	39.1%	16.1%	10.9%	7.4%	7.2%	8.6%	6.1%
Production	2,800	3,431	4,390	5,500	6,686	7,812	9,256	11,125	12,600	13,900	15,000
YoY		22.5%	28.0%	25.3%	21.6%	16.8%	18.5%	20.2%	13.3%	10.3%	7.9%
Consumption	3,238	3,539	4,318	5,151	6,065	7,162	8,634	10,680	12,560	14,256	15,795
YoY		9.3%	22.0%	19.3%	17.7%	18.1%	20.6%	23.7%	17.6%	13.5%	10.8%
Capacity utilisation			98%	85%	75%	75%	80%	90%	95%	96%	98%
China net (imports)/exports	(438)	(108)	72	349	621	650	622	445	40	(356)	(795)
World ex China:											
Capacity			24,016	24,820	25,570	26,283	26,929	27,702	28,626	29,511	30,261
YoY			-	3.3%	3.0%	2.8%	2.5%	2.9%	3.3%	3.1%	2.5%
Production			21,691	22,342	23,209	24,158	24,559	25,723	26,810	28,020	28,930
YoY			-	3.0%	3.9%	4.1%	1.7%	4.7%	4.2%	4.5%	3.2%
Consumption			21,219	22,503	24,258	24,728	25,538	26,087	26,810	27,545	28,295
YoY			-	6.1%	7.8%	1.9%	3.3%	2.2%	2.8%	2.7%	2.7%
Aluminium price, USD/t	1,564	1,452	1,365	1,425	1,716	1,899	2,563	2,684	2,480	2,260	2,148
Aluminium price, USD/lb	0.71	0.66	0.62	0.65	0.78	0.86	1.16	1.22	1.13	1.03	0.97

Source: CRU, HSBC estimates

Alumina – Surplus limited by bauxite constraints

- Demand for alumina stimulated by rising aluminium output
- China output surges but reliance on imported bauxite caps upside
- Raising alumina contract forecasts by 13% in 2007 and 2008

A new lease of life…

Alumina prices easing at higher levels

Prompted by production cutbacks initially and then triggered by the general strike in Guinea earlier this year, alumina prices staged a massive rebound from the bottom late last year. Prices spiked to levels above USD400/t in March (from lows of USD200/t in Dec06) but have since settled around USD355/t. While we expect supply constraints to ease, a strong metal outlook should maintain firm alumina demand.

With a reduced surplus of 1.8mt (was 2.8mt) forecast for 2007, or 2.5% of consumption, we raise our assumptions for alumina contract prices by 13% to USD341/t in 2007. Similarly, we lift 2008 contract prices by 13% to USD301/t.

HSBC Global Alumina Supply/Demand model (kt)

Alumina Balance	2005a	2006e	2007e	2008e	2009e	2010e
Production	61,024	68,112	73,885	78,700	82,250	85,820
Consumption	62,458	66,119	72,049	76,947	81,510	85,079
Alumina Balance	-1,434	1,994	1,836	1,753	740	742
Spot price, USD/t	448	415	300	275	270	270
Contract, USD/t	229	313	341	301	278	258
Contract linkage rate to LME	12.5%	13.0%	12.5%	12.0%	12.0%	12.0%
Ratio spot/contract	195%	133%	88%	91%	97%	105%

Source: HSBC

…but surpluses to remain

Notwithstanding the recent easing in alumina spot prices, the market remains relatively tight. Demand remains healthy with metal production continuing to grow but supply, particularly from China, is responding fast. Over the medium term, we expect alumina markets to remain in surplus.

- **China surging alumina output.** The recent rebound in alumina prices has prompted a surge in Chinese alumina production. In 1Q07, Chinese production grew exponentially by 63% to 4.2mt. This is resulting in lower demand for imported alumina (-14% to 1.47mt in MarQ07) with China now able to meet 75% of its metal-grade alumina demand compared to only 50% in early 2005.

- **Reliance on imported bauxite grows.** While its reliance on alumina has reduced, China has effectively shifted its reliance further upstream, to bauxite. China imported a record 1.7mt of bauxite in March, taking total bauxite imports to 4.4mt for the first quarter, three times the level in the previous year.

- **Growing capacity faces some delays.** Outside of China, there are some significant projects moving forward. In Brazil, the start of production at CVRD's 5.4mtpa Paragominas bauxite mine has been slightly delayed by local protests. Assuming no further delays and assuming the 244km slurry pipeline works, then the 2.1mtpa expansion of the Alunorte plant remains on schedule for startup in 2008. In Australia, Alcan's Gove alumina expansion, which was due to commence in MarQ07, has been delayed (by at least three months) by labour shortages.

China's surging alumina output and maturing industry

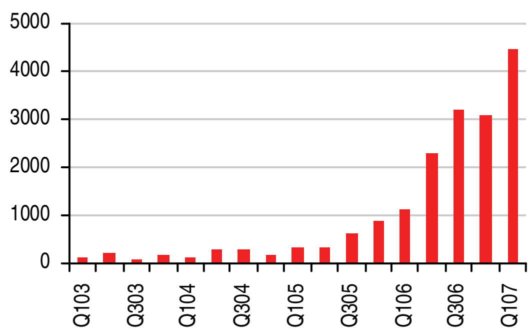
The recent bounce back of spot alumina price from USD200/t at end 2006 to USD390/t may have sent a wrong signal to China's alumina investors. We understand that there are 24 alumina projects now in construction or plan, with total capacity of 20 mtpa, of which 5.6 mtpa will be added in 2007. In 2008, another 1.9 mt is expected to be added. At this rate, China's alumina capacity will top 26 mtpa by the end of 2008, from 18.7 mtpa at the end of 2006.

While discipline appears lacking on the investment front, some co-ordination and maturity is becoming more evident amongst the refineries. In mid April 2007, 13 non-Chalco producers held a conference on pricing strategy. At the meeting, the 13 non-Chalco alumina producers reached an agreement that their ex-factory price of alumina (packaged in bag) is settled at RMB3,900/t (tax included). Currently, the imported alumina spot price is at RMB4,100/t (tax included) while Chalco's is at RMB3,900/t (tax included).

The 13 non-Chalco alumina producers agreed on a unified alumina pricing system on a timely basis, according to the market situation. If the alumina price is settled, all members are expected to strictly keep to the promise and are prohibited from lowering the price.

Bauxite – the new iron ore?

China bauxite imports



Source: China Aluminium Monthly, Antaike, China Metals, HSBC.

China imported a record 1.7mt of bauxite in March, taking total bauxite imports to 4.4mt (refer above table) for the first quarter, three times the level in the previous year. With China's growing aluminium industry short in this key resource, the situation is strikingly similar to the steel industry's reliance on iron ore. Indeed, iron ore and bauxite are similar in that they are cheap to mine, have low value to weight ratio and there are few large deposits which dominate ocean trade.

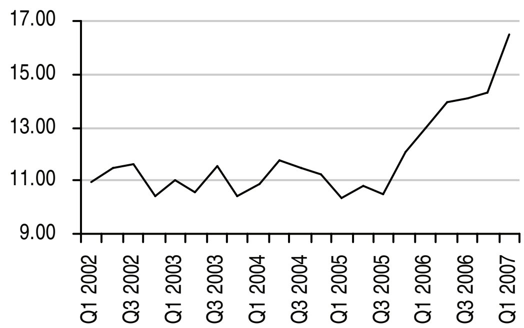
Global bauxite mining capacity is currently 172mtpa and five countries hold a 72 percent share of this. Australia with 35 percent, Guinea 11 percent, Brazil 18 percent, Jamaica 11 percent and China 7 percent.

Over 40 million tonnes of non-calcined grade bauxite were traded internationally in 2006 with much of this between independent parties outside the vertically integrated aluminium production chains. Over 90% of China's bauxite imports are from Indonesia which among other factors, suffers from quality control issues. As China now imports an annual rate of around 11mt from Indonesia, which is realistically its capacity, it will need to find suitable alternatives.

Although it would be potentially attractive to import from Australian mines (higher quality), it is contrary to Australia's policy of increased value-adding of resources. Even if it were available from more distant countries, such as West Africa, Brazil or Venezuela, high freight rates make this more difficult.

As an indication of the sharp increase in bauxite prices, the chart below highlights a near 70% rise in bauxite prices received from Indonesia's Aneka Tambang.

Indonesian bauxite prices (USD/wmt)



Source: Antam, HSBC estimates

HSBC alumina supply / demand model

Market surplus to remain

Our supply/demand models are summarised in the tables at the end of this section. In summary, the key points to note are:

- **Market remains in surplus in 2007**. Our forecast of a smaller surplus of 1.8mt in 2007e (versus 1.99mt in 2006) reflects production growth of 8.5% and consumption growth of 9.0%. Robust aluminium output will drive alumina demand whilst bauxite constraints at the start of 2007 have disrupted output.

- **Surplus to remain through to 2010.** As utilisation rates increase on lower forecast alumina prices, we expect a higher rate of production growth at 7.0% and 6.4% in 2008 and 2009.

- **China capacity utilisation rises to 75% in 2007 from 85% in 2008e**. We estimate that by end-2007, China will have alumina capacity of c24.3mt versus production of 18.2mt. The implied utilisation rate of 75% is an increase from 70% in 2006. With the further ramp up of new capacity into 2008, we expect production will grow to 22mt or utilisation level of 85%.

Upgrade of alumina price forecasts

Given the stronger than expected start to the year, and under our revised supply/demand analysis, we upgrade forecasts for contract alumina prices by about 13% to average USD341/t, USD301/t and USD378/t in 2007, 2008e and 2009e, respectively.

HSBC Alumina price revisions

Period	Old	New	Chg
	USD/t	USD/t	%
2006	313	313	0.0%
2007e	301	341	13.0%
2008e	266	301	13.0%
2009e	250	278	11.0%
2010e	258	258	0.0%

Source: HSBC

HSBC Alumina model - Consumption (kt)

	2005	2006	2007e	2008e	2009e	2010e
North America	10,420	10,420	11,115	11,291	11,349	11,096
Western Europe	9,123	8,875	9,185	9,292	9,165	8,327
Eastern Europe	938	920	932	936	936	1,209
CIS	8,202	8,354	8,970	9,789	10,218	10,530
China	15,469	18,182	21,694	24,570	27,105	29,250
Other Asia	5,846	6,443	6,854	7,439	8,951	10,062
Africa	3,471	3,629	3,715	3,754	3,861	3,998
Australaisa	4,360	4,430	4,514	4,514	4,524	4,534
Latin America	4,629	4,865	5,070	5,363	5,402	6,074
Total demand - met grade alumina	62,458	66,119	72,049	76,947	81,510	85,079
China growth		17.5%	19.3%	13.3%	10.3%	7.9%
World ex-China growth		0.9%	4.6%	3.7%	3.5%	2.4%

Source: CRU, HSBC estimates

HSBC Alumina model - Production (kt)

	2005	2006	2007e	2008e	2009e	2010e
North America	5,945	5,929	5,300	4,900	4,900	4,900
Western Europe	5,591	5,738	6,000	6,000	6,250	6,500
Eastern Europe	662	581	500	550	600	670
CIS	6,395	6,427	6,200	6,500	6,500	7,000
China	7,831	12,934	18,200	22,000	24,000	26,000
Other Asia	3,214	2,965	3,000	3,000	3,000	3,000
Africa	736	530	735	750	1,250	1,500
Australasia	17,684	18,341	18,600	19,000	19,250	19,250
Latin America	12,965	14,667	15,350	16,000	16,500	17,000
Total alumina	61,024	68,112	73,885	78,700	82,250	85,820
China growth	21.9%	65.2%	40.7%	20.9%	9.1%	8.3%
World ex-China growth	3.1%	3.7%	0.9%	1.8%	2.7%	2.7%

Source: CRU, HSBC estimates

HSBC Alumina surplus / (deficit) kt

Areas	2005	2006	2007	2008	2009	2010
North America	-4475	-4491	-5815	-6391	-6449	-6196
Western Europe	-3532	-3137	-3185	-3292	-2915	-1827
Eastern Europe	-276	-339	-432	-386	-336	-539
CIS	-1807	-1927	-2770	-3289	-3718	-3530
China	-7638	-5248	-3494	-2570	-3105	-3250
Other Asia	-2632	-3478	-3854	-4439	-5951	-7062
Africa	-2735	-3099	-2980	-3004	-2611	-2498
Australasia	13324	13911	14086	14486	14726	14716
Latin America	8336	9802	10280	10638	11099	10926
Surplus/(deficit)	-1434	1994	1836	1753	740	742

Source: CRU, HSBC estimates

Chalco – Asset injection the likely next catalyst

- Chalco remains in strong growth mode with asset injections from its parent likely to be the next catalyst
- Re-rating has been significant and warranted given management's execution of value-added growth strategy
- Upgrade Chalco target to HKD11.50; 13% potential total return is a Neutral (V) rating

Our preferred exposure

Now firmly tied to the aluminium price

Chalco's value-added growth over the past two years has seen it mature as a global player in the aluminium sector. No longer can it be viewed as merely a seller of alumina on the volatile spot market. With smelter capacity approaching 3.0mt, doubled over two years, Chalco's significant organic growth is quite unique in the sector.

This vertical integration strategy has been rewarded with far more resilient earnings. Investors have also rewarded Chalco for this by a re-rating toward its global peers. While we have lifted our price target to HKD11.50, the upside potential of 13% causes us to reduce our rating to Neutral (V) from Overweight (V).

Asset injection the next key catalyst

With the successful A share listing and acquisition of Shandong and Lanzhou Aluminium now behind it, Chalco is now looking forward to its next deal. The company stated in its A share prospectus that it expects to acquire smelter assets from its parent, Chinalco, within the next 12 months. The key targets include Baotou Aluminium, Lanzhou Liancheng Aluminium and Tongchuan Xinguang Aluminium from its parent. Capacity of these three smelters is believed to be 670ktpa. Chalco has also been reported (source Bloomberg) to be considering the purchase of the remaining shares of its 29% owned investment in Jiaozuo Wanfang (capacity 272ktpa). In total, 863ktpa of capacity or over 30% of existing capacity (2.7mtpa) could be added.

Target lifted to HKD11.50

We increase our target price to HKD11.50 (was HKD9.00). We arrive at this target by applying a PE of 11.9x (equivalent to Chalco's global peers) to an EPS of HKD0.97, being our forecast EPS for 2007. Our previous valuation was based on a blend of assessed NPV of RMB8.00/share and P/E of 9.5x 2007e EPS. We think a higher PE rating is warranted given the sector re-rating and Chalco's significant growth with asset injections from its parent likely to be the next catalyst.

Financials & valuation: Aluminum Corp of China

Neutral (V)

Financial statements

Year to Dec	2006a	2007e	2008e	2009e	2010 e
Profit & loss summary (CNYm)					
Revenue	61,896	67,066	65,744	60,310	57,904
EBITDA	20,393	21,072	20,524	18,116	17,635
Depreciation & amortisation	-3,497	-3,723	-3,959	-3,959	-3,959
Operating profit/EBIT	16,896	17,349	16,565	14,157	13,676
Net interest	-532	-399	-250	-52	155
HSBC PBT	16,780	17,108	16,466	14,188	13,890
Taxation	-4,394	-4,448	-4,281	-3,689	-3,612
Net profit	11,745	12,198	11,938	10,286	10,071
HSBC net profit	11,745	12,198	11,938	10,286	10,071
Cash flow summary (CNYm)					
Cash flow from operations	13,459	15,805	15,851	14,309	14,123
Capex	-9,208	-7,000	-7,000	-5,000	-5,000
Cash flow from investment	-9,423	-6,844	-6,844	-5,000	-5,000
Dividends	-4,555	-4,871	-3,973	-3,879	-3,428
Change in net debt	-2,021	-3,934	-4,878	-5,431	-5,695
FCF equity	4,928	8,962	9,008	9,465	9,279
Balance sheet summary (CNYm)					
Intangible fixed assets	716	716	716	716	716
Tangible fixed assets	49,286	52,563	55,604	56,646	57,687
Current assets	25,728	28,475	28,506	27,451	26,723
Cash & others	12,803	12,803	12,803	12,803	12,803
Total assets	78,004	85,291	88,416	88,468	88,816
Operating liabilities	11,463	13,945	13,990	13,027	12,400
Gross debt	18,579	14,644	9,766	4,336	-1,359
Net debt	5,776	1,842	-3,037	-8,467	-14,162
Shareholders funds	44,225	52,564	60,528	66,936	73,579
Invested capital	51,465	55,006	58,033	58,983	59,923

Ratio, growth and per share analysis

Year to Dec	2006a	2007e	2008e	2009e	2010e
Y-o-y % change					
Revenue	63.6	8.4	-2.0	-8.3	-4.0
EBITDA	62.7	3.3	-2.6	-11.7	-2.7
Operating profit	68.9	2.7	-4.5	-14.5	-3.4
PBT	72.3	2.0	-3.8	-13.8	-2.1
HSBC EPS	62.1	-5.9	-4.5	-13.8	-2.1
Ratios (%)					
ROIC	27.1	24.1	21.7	17.9	17.0
Keu	0.0	0.0	0.0	0.0	0.0
EV/IC (x)	2.5	2.2	2.0	1.9	1.8
ROIC/Keu (x)	0.0	0.0	0.0	0.0	0.0
REP (x)					
ROE	30.6	25.2	21.1	16.1	14.3
EBITDA margin	32.9	31.4	31.2	30.0	30.5
Operating profit margin	27.3	25.9	25.2	23.5	23.6
Net debt/equity	12.1	3.3	-4.7	-12.0	-18.4
Net debt/EBITDA (x)	0.3	0.1	-0.1	-0.5	-0.8
Per share data (CNY)					
EPS Rep (fully diluted)	1.03	0.97	0.93	0.80	0.78
HSBC EPS	1.03	0.97	0.93	0.80	0.78
CFPS	1.18	1.26	1.23	1.11	1.10
DPS	0.30	0.34	0.32	0.28	0.27

Key forecast drivers

Year to Dec	2006a	2007e	2008e	2009e	2010e
Alumina Price	436	3,532	3,017	2,823	2,687
Aluminium Price	2,563	2,739	2,480	2,260	2,148
Exchange rate USD / RMB	7.95	7.66	7.33	6.98	6.73
Alumina kt	9,462	9,951	11,316	11,738	12,271
Aluminium Kt (external sales)	1,823	2,295	2,567	2,567	2,567

Valuation data

Year to Dec	2006 a	2007e	2008e	2009e	2010e
EV/EBITDA	6.2	5.9	5.8	6.2	6.1
PE*	10.2	10.9	11.4	13.2	13.5
P/CFPS	8.9	8.4	8.6	9.5	9.6
P/FCF equity	25.0	13.8	13.7	13.0	13.3
Dividend yield (%)	2.9	3.2	3.1	2.6	2.6

Note: * = Based on HSBC EPS (fully diluted)

Issuer information

Share price (HKD)	10.76	Target price (HKD)	11.50	Potent'l tot rtn (%)	10.0

Reuters (Equity)	2600.HK	Bloomberg (Equity)	2600 HK
Market cap (USDm)	16,088	Market cap (HKDm)	125,827
Free float (%)	74	Enterprise value (CNYm)	123,384
Country	China	Sector	Metals & Mining
Analyst	Daniel Kang	Contact	+852 2996 6669

Price relative

Source: HSBC

Note: price at close of 17 May 2007

Alumina Ltd – A player in the consolidation game

- Well positioned to benefit in a consolidating sector
- Alcoa's hostile bid for Alcan could see Alumina Ltd participate in the bauxite and alumina asset injection into the AWAC JV
- Upgrade to Neutral with a AUD7.80 target price

Alcoa bid for Alcan is key

The key driver of Alumina shares is now squarely focused on developments with Alcoa's hostile bid for Alcan. Putting aside all other possibilities, a successful acquisition of Alcan by Alcoa holds significant benefits for Alumina Ltd. As Alcan's bauxite and alumina assets will likely be injected into AWAC JV, we believe Alumina Ltd will seek the opportunity to acquire its share (40%) of these assets. Given the favourable industry dynamics, we upgrade our rating to Neutral from Underweight. Under the terms of the AWAC joint venture agreement, it is stipulated that the AWAC enterprise will be the 'exclusive' vehicle for bauxite, alumina and industrial chemicals businesses. Thus, if the transaction is successful, Alumina Ltd will have the option to acquire a 40% share of Alcan's bauxite and alumina assets from Alcoa (60% shareholder in AWAC).

So, what's it worth?

Alcoa's offer for Alcan at USD73.25/share equates to a total value of nearly USD27bn.

Asset value of USD5.7bn. A glance at Alcan's 1Q result shows that total assets is near this value at USD29bn. The segmental breakdown shows that Alcan's bauxite and alumina assets represent about 21% of total assets. So one measure may be to apply a similar proportion to the bid value. This means that Alcan's bauxite and alumina assets may be worth USD5.7bn (i.e. 21% of USD27bn). At this level, Alumina would be required to pay 40% of this amount, ie USD2.3bn (AUD2.8bn).

Earnings-based valuation USD3.8bn. Alcoa's offer values Alcan at 6.2x 2006 group profits. Alcan's bauxite and alumina operations contributed only 14-15% of group earnings. Applying the 6.2x multiple to the segment's profits of USD609m in 2006, we arrive at a value for Alcan's bauxite and alumina of USD3.8bn. Alumina's 40% share equates to USD1.5bn (AUD1.9bn).

Target price raised to AUD7.80

We raise our target to AUD7.80 (was AUD5.80) to reflect assessed NPV. At this level, the stock would trade at a PE of ~15x, consistent with its three-year historical average. Our previous valuation blended assessed NPV of AUD6.96 and PE valuation of 10x 2007 estimates to take into account a corporate premium as a takeover target. A higher PE seems warranted given the sector re-rating and potential to be a beneficiary of consolidation.

HSBC

Financials & valuation: Alumina Ltd

Neutral

Financial statements

Year to Dec	2005 a	2006 e	2007 e	2008 e	2009 e	2010 e
Profit & loss summary (AUDm)						
Revenue	2,384	3,051	3,073	3,046	2,966	3,001
EBITDA	605	1,005	1,012	1,042	927	955
Depreciation & amortisation	-104	-116	-124	-143	-151	-169
Operating profit/EBIT	501	889	888	899	776	786
Net interest	-4	-30	-34	-31	-27	-22
HSBC PBT	497	859	853	869	749	764
Taxation	-166	-290	-275	-279	-242	-245
Net profit	330	569	578	590	508	519
HSBC net profit	330	569	578	590	508	519
Cash flow summary (AUDm)						
Cash flow from operations	683	1,502	1,600	1,642	1,445	1,484
Capex	-320	-447	-611	-159	-105	-106
Cash flow from investment	-8	-259	-433	-48	-41	0
Dividends	-233	-233	-248	-472	-406	-415
Change in net debt	184	-44	144	-70	-60	-104
FCF equity	436	685	703	733	659	688
Balance sheet summary (AUDm)						
Tangible fixed assets	1995	2186	2649	2698	2739	2739
Current assets	18	171	171	171	171	171
Cash & others	15	169	169	169	169	169
Total assets	3001	3572	3813	3864	3903	3973
Operating liabilities	5	15	3	3	3	3
Gross debt	479	588	732	663	602	499
Net debt	464	419	563	494	433	330
Shareholders funds	1,530	1,755	2,085	2,203	2,305	2,408

Ratio, growth and per share analysis

Year to Dec	2005 a	2006 e	2007 e	2008 e	2009 e	2010 e
Y-o-y % change						
Revenue	11.7	28.0	0.7	-0.9	-2.6	1.2
EBITDA	3.8	66.1	0.7	3.0	-11.0	2.9
Operating profit	3.9	77.5	-0.1	1.3	-13.7	1.3
PBT	5.6	73.0	-0.7	1.8	-13.7	2.0
HSBC EPS	8.3	71.8	3.9	3.2	-13.9	2.2
Ratios (%)						
ROE	22.5	34.7	30.1	27.5	22.5	22.0
EBITDA margin	25.4	32.9	32.9	34.2	31.3	31.8
Operating profit margin	21.0	29.1	28.9	29.5	26.2	26.2
Net debt/equity	30.3	23.9	27.0	22.4	18.8	13.7
Net debt/EBITDA (x)	0.8	0.4	0.6	0.5	0.5	0.3
Per share data (AUD)						
EPS Rep (fully diluted)	0.28	0.49	0.51	0.52	0.45	0.46
HSBC EPS	0.28	0.49	0.51	0.52	0.45	0.46
CFPS	0.59	1.29	1.40	1.46	1.28	1.32
DPS	0.20	0.22	0.22	0.42	0.36	0.37

Key forecast drivers

Year to Dec	2005a	2006e	2007e	2008e	2009e	2010e
LME Aluminium USD/lb (spot)	0.86	1.16	1.22	1.13	1.03	0.97
Alumina Price USD/t (Contract)	276	330	341	301	278	258
Exchange Rate Spot A$/USD	0.76	0.75	0.78	0.78	0.76	0.70
Alumina - 40% of AWAC (kt)	5,480	5,713	5,862	6,628	6,855	6.855
Aluminium - 40% of AWAC (kt)	151	149	153	153	154	155

Valuation data

Year to Dec	2005 a	2006 e	2007 e	2008 e	2009 e	2010 e
EV/EBITDA	12.2	7.1	6.8	6.5	7.1	6.8
PE*	26.9	15.7	15.1	14.6	17.0	16.6
P/CFPS	13.0	5.9	5.5	5.3	6.0	5.8
P/FCF equity	20.5	13.0	12.7	12.2	13.5	13.0
Dividend yield (%)	3.4	3.8	3.8	7.2	6.2	6.3

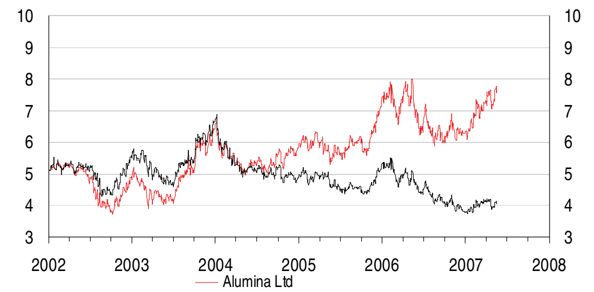
Note: * = Based on HSBC EPS (fully diluted)

Issuer information

Share price (AUD)	7.65	Target price (AUD)	7.80	Potent'l tot rtn (%)	5.8

Reuters (Equity)	AWC.AX	Bloomberg (Equity)	AWC AU
Market cap (USDm)	7,337	Market cap (AUDm)	8,932
Free float (%)	100	Enterprise value (AUDm)	7165
Country	Australia	Sector	Metals & Mining
Analyst	Daniel Kang	Contact	+852 2996 6669

Price relative



Source: HSBC

Note: price at close of 17 May 2007

Hindalco – Novelis turnaround holds the key

- Management's ability to turnaround the recently acquired Novelis, a significant loss maker, holds the key
- New equity funding arrangements likely in the near term causing further dilution
- Retain an Underweight (V) rating with new target price of INR145

Moving downstream

Margins and returns will be diluted

Strategically, the acquisition of Novelis takes Hindalco onto the global stage as the leader in downstream aluminium rolled products. However, with Novelis still to emerge out of losses, the purchase carries significant risks. The most obvious is the significant dilution that will result from a largely debt-funded acquisition. In the near term, we believe an equity raising is likely and retain an Underweight (V) rating.

The acquisition of Novelis will lift Hindalco's gearing (ND/E) to over 200%, which we believe makes an equity raising highly possible. At this point, we have not included Novelis into our forecasts but forecast an EPS dilution of 18% in FY08, in the absence of an equity raising.

At Novelis' long-term annual free cash flow target of USD400m (using a real WACC of 9%), we estimate the acquisition will destroy value by INR60/share. To put it another way, we estimate Hindalco will need to improve annual free cash flow by 35% to USD540m for the acquisition to be value (NPV) neutral.

The takeover of Novelis provides Hindalco with access to the leading downstream aluminium player in western markets. The purchase structurally shifts Hindalco from an upstream aluminium producer to a downstream producer. This is reflected in Novelis' downstream product capacity of ~3.0mt compared to Hindalco's existing primary capacity of ~500kt. Even with Hindalco's expansion plans to take primary production to 1.5mt by 2011, the group will remain a downstream aluminium producer.

Target price INR145

Driven by higher commodity price assumptions, we have upgraded near term Hindalco earnings (excluding Novelis) by 19% and 11% in 2008e and 2009e respectively. We have set a target price INR145 (was INR140) using a PE of 8.5x, being Hindalco's historical 10 year average, applied to our assessed mid-cycle EPS of INR17.00. Our previous valuation was based on blend of EVA and DCF; we think a PE re-rating is warranted given the overall sector re-rating.

HSBC

Financials & valuation: Hindalco

Underweight (V)

Financial statements

Year to Mar	2006 a	2007 e	2008 e	2009 e	2010 e	2011 e
Profit & loss summary (INRm)						
Revenue	120,362	183,130	196,321	167,808	155,883	179,562
EBITDA	29,380	44,005	47,971	39,269	33,800	46,174
Depreciation & amortisation	-7,888	-8,636	-10,773	-11,461	-12,027	-15,453
Operating profit/EBIT	21,492	35,369	37,199	27,809	21,773	30,721
Net interest	-3,014	-2,252	-2,281	-2,401	-3,036	-4,163
HSBC PBT	20,304	35,046	36,969	27,581	21,032	28,975
Taxation	-4,402	-9,403	-9,242	-6,895	-5,258	-7,244
Net profit	15,796	25,472	27,541	20,547	15,669	21,587
HSBC net profit	15,796	25,472	27,541	20,547	15,669	21,587
Cash flow summary (INRm)						
Cash flow from operations	12,144	22,562	38,727	42,052	34,174	35,665
Capex	-19,531	-46,636	-59,207	-55,332	-67,656	-90,570
Cash flow from investment	-19,452	-46,707	-59,156	-55,159	-67,360	-90,153
Dividends	-1,733	-4,330	-4,682	-3,493	-2,664	-3,670
Change in net debt		25,413	16,765	19,002	38,886	62,321
FCF equity	2,434	-14,286	-22,759	-25,360	-42,150	-55,803
Balance sheet summary (INRm)						
Tangible fixed assets	98,834	136,834	185,268	229,140	284,768	359,886
Current assets	78,781	88,409	108,725	94,453	94,214	103,572
Cash & others	10,423	1,150	15,045	11,491	15,153	14,280
Total assets	209,334	258,962	329,713	361,312	418,702	505,177
Operating liabilities	28,861	34,410	37,056	32,603	31,231	34,661
Gross debt	62,790	78,930	109,590	125,037	167,585	229,032
Net debt	52,367	77,780	94,545	113,546	152,432	214,753
Shareholders funds	93,857	120,313	153,799	170,854	183,859	201,776
Invested capital	138,331	189,683	241,892	279,499	332,599	414,517

Ratio, growth and per share analysis

Year to Mar	2006 a	2007 e	2008 e	2009 e	2010 e	2011 e
Y-o-y % change						
Revenue		52.1	7.2	-14.5	-7.1	15.2
EBITDA		49.8	9.0	-18.1	-13.9	36.6
Operating profit		64.6	5.2	-25.2	-21.7	41.1
PBT		72.6	5.5	-25.4	-23.7	37.8
HSBC EPS		52.3	-2.7	-25.4	-23.7	37.8
Ratios (%)						
ROIC	13.4	15.8	12.9	8.0	5.3	6.2
Keu	14.0	14.0	14.0	14.0	14.0	14.0
EV/IC (x)	1.5	1.2	1.0	0.9	0.9	0.9
ROIC/Keu (x)	1.0	1.1	0.9	0.6	0.4	0.4
REP (x)	1.5	1.0	1.1	1.6	2.3	1.9
ROE	33.7	23.8	20.1	12.7	8.8	11.2
EBITDA margin	24.4	24.0	24.4	23.4	21.7	25.7
Operating profit margin	17.9	19.3	18.9	16.6	14.0	17.1
Net debt/equity	55.0	63.9	60.8	65.8	82.1	105.4
Net debt/EBITDA (x)	1.8	1.8	2.0	2.9	4.5	4.7
Per share data (INR)						
EPS Rep (fully diluted)	16.03	24.41	23.76	17.72	13.52	18.62
HSBC EPS	16.03	24.41	23.76	17.72	13.52	18.62
CFPS	12.32	21.62	33.40	36.27	29.48	30.76
DPS	2.52	4.15	4.04	3.01	2.30	3.17

Key forecast drivers

Year to Mar	2006 a	2007 e	2008 e	2009 e	2010 e	2011 e
Aluminium price (USD/t)	2,065	2,593	2,633	2,425	2,260	2,260
Alumina price (USD/t)	250	352	331	295	278	278
Copper price (USD/t)	4,434	6,598	6,641	5,029	4,409	4,409
INR/USD	44	44	44	44	511	2,343
Aluminium production (kt)	429	443	492	511	511	511
Alumina production (kt)	1,203	1,199	1,458	1,543	1,543	2,343

Valuation data

Year to Mar	2006 a	2007 e	2008 e	2009 e	2010 e	2011 e
EV/EBITDA	6.8	5.1	5.0	6.5	8.7	7.7
PE*	9.2	6.0	6.2	8.3	10.9	7.9
P/CFPS	11.9	6.8	4.4	4.0	5.0	4.8
P/FCF equity	74.1	-12.6	-7.9	-7.1	-4.3	-3.2
Dividend yield (%)	1.7	2.8	2.7	2.1	1.6	2.2

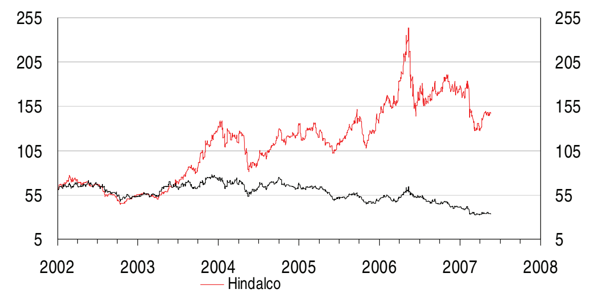
Note: * = Based on HSBC EPS (fully diluted)

Issuer information

Share price (INR)	146.90	Target price (INR)	145.00	Potent'l tot rtn (%)	1.4

Reuters (Equity)	HALC.NS	Bloomberg (Equity)	HNDL IN
Market cap (USDm)	4,430	Market cap (INRm)	180,265
Free float (%)	27.58	Enterprise value (INRm)	224,413
Country	India	Sector	Metals & Mining
Analyst	Daniel Kang	Contact	+852 2996 6669

Price relative



Source: HSBC

Note: price at close of 18 May 2007

Nalco – Vulnerable to spot volatility

- Limited volume growth over the next 2 years
- High exposure to spot alumina prices, which are starting to ease
- Net cash and low valuation provides downside protection, retaining a Neutral (V) rating; target raised to INR260

Lacking near-term growth

Nalco is one of the cheapest alumina producers in the world (with a cash cost of USD136/t), remains cash rich and is also the cheapest in the sector. While these features are attractive, the company's lack of volume growth over the next few years means that it remains heavily tied the aluminium and alumina price, which we forecast to peak in 1H07. With spot alumina prices already easing back over recent weeks, near term headwinds are building. We retain a Neutral (V) rating on Nalco with a new INR260 target price.

High exposure to the spot market

In the past, Nalco's export strategy had been to tie up 70% of its alumina in long-term overseas contracts and offer 30% in international spot markets. However, since 2005, the government has allowed the company to sell higher quantities on a spot basis to bolster price realisations at a time when prices hit a record USD660 per tonne. During 2006, we believe spot sales may have accounted for as much as 70% of production. We believe Nalco remains a significant spot seller of alumina.

GOI – Should I stay or should I go?

The Government of India's (GoI) 87% stake in Nalco has been a source of much speculation for many years. Over recent years, the GoI has repeatedly put forward the idea of selling a small stake, say 10%, of Nalco which would likely result in a share overhang. Equally, Nalco is a key profit making government investment (through dividends) and the government could just as easily revive plans to nationalise PSUs.

Target price INR260

Driven by higher commodity price assumptions and stronger than expected FY07 (to March) result, we have upgraded near-term Nalco earnings by 21% and 26% in 2008e and 2009e, respectively. We set a target price INR260 (was INR230) by applying a PE of 8.9x, Nalco's historical 10 year average, to our assessed mid-cycle EPS of INR29.00. We believe a PE re-rating is warranted from our previous valuation, which was based on a blend of EVA and DCF.

Financials & valuation: National Aluminium Co Ltd

Neutral (V)

Financial statements

Year to Mar	2006 a	2007 e	2008 e	2009 e	2010 e	2011 e
Profit & loss summary (INRm)						
Revenue	48,519	61,914	61,755	56,706	59,271	60,985
EBITDA	26,488	38,630	35,644	27,720	27,784	25,829
Depreciation & amortisation	-3,772	-3,697	-3,596	-3,500	-3,408	-4,466
Operating profit/EBIT	22,715	34,933	32,048	24,220	24,375	21,363
Net interest	1,289	1,316	2,611	3,267	3,559	4,346
Taxation	-8,674	-12,687	-12,131	-9,620	-9,777	-8,998
Net profit	15,622	23,562	22,528	17,866	18,157	16,711
HSBC net profit	15,622	23,562	22,528	17,866	18,157	16,711
Cash flow summary (INRm)						
Cash flow from operations	19,654	36,091	23,532	16,763	18,557	16,540
Capex	-2,331	-13,623	-11,537	-11,498	-5,324	-1,656
Cash flow from investment	-2,331	-12,306	-8,926	-8,231	-1,765	2,690
Dividends	-3,222	-3,222	-3,222	-3,222	-3,222	-3,222
Change in net debt		-21,581	-10,934	-4,859	-13,119	-15,558
FCF equity	16,394	11,898	14,663	10,542	16,135	19,509
Balance sheet summary (INRm)						
Intangible fixed assets	0	0	0	0	0	0
Tangible fixed assets	41,767	51,692	59,633	67,631	69,547	66,737
Current assets	32,979	56,200	67,096	71,321	84,757	100,547
Cash & others	21,937	43,518	54,452	59,311	72,430	87,988
Total assets	74,746	107,893	126,729	138,952	154,303	167,284
Operating liabilities	6,873	18,163	17,643	15,172	15,539	14,981
Gross debt	0	0	0	0	0	0
Net debt	-21,937	-43,518	-54,452	-59,311	-72,430	-87,988
Shareholders funds	58,927	78,816	97,672	111,865	126,350	139,388
Invested capital	45,935	46,212	54,634	64,469	66,334	64,314

Ratio, growth and per share analysis

Year to Mar	2006 a	2007 e	2008 e	2009 e	2010 e	2011 e
Y-o-y % change						
Revenue		27.6	-0.3	-8.2	4.5	2.9
EBITDA		45.8	-7.7	-22.2	0.2	-7.0
Operating profit		53.8	-8.3	-24.4	0.6	-12.4
PBT		49.2	-4.4	-20.7	1.6	-8.0
HSBC EPS		50.8	-4.4	-20.7	1.6	-8.0
Ratios (%)						
ROIC	31.0	49.3	41.3	26.4	24.2	21.3
Keu	13.7	13.7	13.7	13.7	13.7	13.7
EV/IC (x)	3.0	2.5	1.9	1.6	1.3	1.1
ROIC/Keu (x)	2.3	3.6	3.0	1.9	1.8	1.6
REP (x)	1.3	0.7	0.6	0.8	0.8	0.7
ROE	29.5	34.2	25.5	17.1	15.2	12.6
EBITDA margin	54.6	62.4	57.7	48.9	46.9	42.4
Operating profit margin	46.8	56.4	51.9	42.7	41.1	35.0
Net debt/equity	-37.2	-55.2	-55.7	-53.0	-57.3	-63.1
Net debt/EBITDA (x)	-0.8	-1.1	-1.5	-2.1	-2.6	-3.4
Per share data (INR)						
EPS Rep (fully diluted)	24.25	36.57	34.96	27.73	28.18	25.94
HSBC EPS	24.25	36.57	34.96	27.73	28.18	25.94
CFPS	30.50	56.02	36.52	26.02	28.80	25.67
DPS	5.00	5.00	5.00	5.00	5.00	5.00

Key forecast drivers

Year to Mar	2006 a	2007 e	2008 e	2009 e	2010 e	2011 e
Aluminium price - USD/lb	0.86	1.16	1.22	1.13	1.03	0.97
LME alumina price - USD/t	240	330	332	298	269	238
INR : USD	44	44	44	44	44	44
Alumina - kt	1,590	1,496	1,575	1,575	1,837	2,100
Aluminium metal - kt	359	345	345	345	388	460

Valuation data

Year to Mar	2006 a	2007 e	2008 e	2009 e	2010 e	2011 e
EV/EBITDA	5.2	3.0	3.0	3.7	3.2	2.8
PE*	10.3	6.8	7.1	9.0	8.8	9.6
P/CFPS	8.2	4.5	6.8	9.6	8.7	9.7
P/FCF equity	9.8	13.5	11.0	15.2	10.0	8.2
Dividend yield (%)	2.0	2.0	2.0	2.0	2.0	2.0

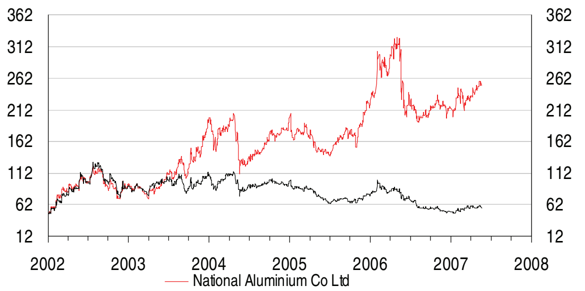
Note: * = Based on HSBC EPS (fully diluted)

Issuer information

Share price (INR) 249.30 | Target price (INR) 260.00 | Potent'l tot rtn (%) +6.3

Reuters (Equity)	NALU.BO	Bloomberg (Equity)	NACL IN
Market cap (USDm)	3,947	Market cap (INRm)	160,626
Free float (%)	6.7%	Enterprise value (INRm)	117108
Country	India	Sector	Metals & Mining
Analyst	Daniel Kang	Contact	+852 2996 6669

Price relative



Source: HSBC

Note: price at close of 18 May 2007

Disclosure appendix

Analyst certification

The following analyst(s), who is(are) primarily responsible for this report, certifies(y) that the views expressed herein accurately reflect their personal view(s) about the subject security(ies) and issuer(s) and that no part of their compensation was, is or will be directly or indirectly related to the specific recommendation(s) or views contained in this research report: Daniel Kang and Sarah Mak

Important disclosures

Stock ratings and basis for financial analysis

HSBC believes that investors utilise various disciplines and investment horizons when making investment decisions, which depend largely on individual circumstances such as the investor's existing holdings, risk tolerance and other considerations. Given these differences, HSBC has two principal aims in its equity research: 1) to identify long-term investment opportunities based on particular themes or ideas that may affect the future earnings or cash flows of companies on a 12 month time horizon; and 2) from time to time to identify short-term investment opportunities that are derived from fundamental, quantitative, technical or event-driven techniques on a 0-3 month time horizon and which may differ from our long-term investment rating. HSBC has assigned ratings for its long-term investment opportunities as described below.

This report addresses only the long-term investment opportunities of the companies referred to in the report. As and when HSBC publishes a short-term trading idea the stocks to which these relate are identified on the website at www.hsbcnet.com/research. Details of these short-term investment opportunities can be found under the Reports section of this website.

HSBC believes an investor's decision to buy or sell a stock should depend on individual circumstances such as the investor's existing holdings and other considerations. Different securities firms use a variety of ratings terms as well as different rating systems to describe their recommendations. Investors should carefully read the definitions of the ratings used in each research report. In addition, because research reports contain more complete information concerning the analysts' views, investors should carefully read the entire research report and should not infer its contents from the rating. In any case, ratings should not be used or relied on in isolation as investment advice.

Rating definitions for long-term investment opportunities

Stock ratings

HSBC assigns ratings to its stocks in this sector on the following basis:

For each stock we set a required rate of return calculated from the risk free rate for that stock's domestic, or as appropriate, regional market and the relevant equity risk premium established by our strategy team. The price target for a stock represents the value the analyst expects the stock to reach over our performance horizon. The performance horizon is 12 months. For a stock to be classified as Overweight, the implied return must exceed the required return by at least 5 percentage points over the next 12 months (or 10 percentage points for a stock classified as Volatile*). For a stock to be classified as Underweight, the stock must be expected to underperform its required return by at least 5 percentage points over the next 12 months (or 10 percentage points for a stock classified as Volatile*). Stocks between these bands are classified as Neutral.

Our ratings are re-calibrated against these bands at the time of any 'material change' (initiation of coverage, change of volatility status or change in price target). Notwithstanding this, and although ratings are subject to ongoing management review, expected returns will be permitted to move outside the bands as a result of normal share price fluctuations without necessarily triggering a rating change.

*A stock will be classified as volatile if its historical volatility has exceeded 40%, if the stock has been listed for less than 12 months (unless it is in an industry or sector where volatility is low) or if the analyst expects significant volatility. However, stocks which we do not consider volatile may in fact also behave in such a way. Historical volatility is defined as the past month's average of the daily 365-day moving average volatilities. In order to avoid misleadingly frequent changes in rating, however, volatility has to move 2.5 percentage points past the 40% benchmark in either direction for a stock's status to change.

Prior to this, from 7 June 2005 HSBC applied a ratings structure which ranked the stocks according to their notional target price vs current market price and then categorised (approximately) the top 40% as Overweight, the next 40% as Neutral and the last 20% as Underweight. The performance horizon is 2 years. The notional target price was defined as the mid-point of the analysts' valuation for a stock.

From 15 November 2004 to 7 June 2005, HSBC carried no ratings and concentrated on long-term thematic reports which identified themes and trends in industries, but did not make a conclusion as to the investment action that potential investors should take.

Prior to 15 November 2004, HSBC's ratings system was based upon a two-stage recommendation structure: a combination of the analysts' view on the stock relative to its sector and the sector call relative to the market, together giving a view on the stock relative to the market. The sector call was the responsibility of the strategy team, set in co-operation with the analysts. For other companies, HSBC showed a recommendation relative to the market. The performance horizon was 6-12 months. The target price was the level the stock should have traded at if the market accepted the analysts' view of the stock.

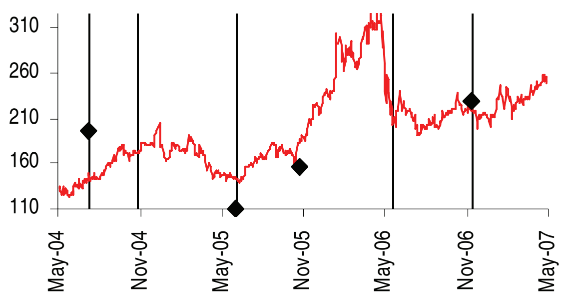
Rating distribution for long-term investment opportunities

As of 21 May 2007, the distribution of all ratings published is as follows:

Overweight (Buy)	42%	(17% of these provided with Investment Banking Services)
Neutral (Hold)	37%	(19% of these provided with Investment Banking Services)
Underweight (Sell)	21%	(13% of these provided with Investment Banking Services)

Share price and rating changes for long-term investment opportunities

National Aluminium Co Ltd Share Price performance INR Vs HSBC rating history



Source: HSBC

Recommendation & price target history

From	To	Date
Hold	Buy	29 July 2004
Buy	N/R	15 November 2004
N/R	Underweight	21 June 2005
Underweight	N/A	08 June 2006
N/A	Neutral	01 December 2006
Target Price	**Value**	**Date**
Price 1	195.00	29 July 2004
Price 2	N/R	15 November 2004
Price 3	110.00	21 June 2005
Price 4	156.00	09 November 2005
Price 5	N/A	08 June 2006
Price 6	230.00	01 December 2006

Source: HSBC

Aluminum Corp of China Share Price performance HKD Vs HSBC rating history

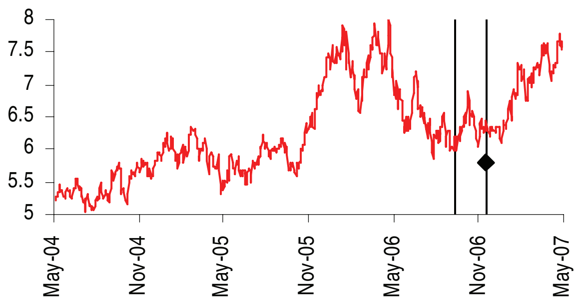
Source: HSBC

Recommendation & price target history

From	To	Date
N/A	Overweight	08 December 2006
Target Price	**Value**	**Date**
Price 1	8.00	08 December 2006
Price 2	9.00	17 January 2007

Source: HSBC

Alumina Ltd Share Price performance AUD Vs HSBC rating history



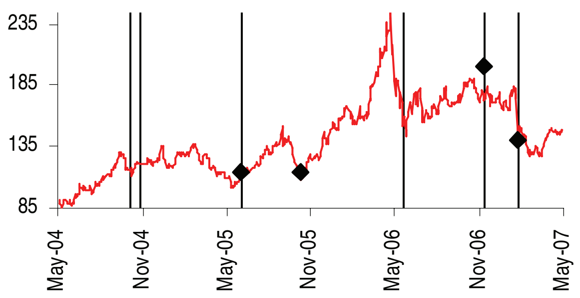
Source: HSBC

Recommendation & price target history

From	To	Date
Reduce	N/A	28 September 2006
N/A	Underweight	07 December 2006
Target Price	**Value**	**Date**
Price 1	5.80	07 December 2006

Source: HSBC

Hindalco Share Price performance INR Vs HSBC rating history



Source: HSBC

Recommendation & price target history

From	To	Date
Reduce	N/A	22 October 2004
N/A	N/R	15 November 2004
N/R	Neutral	21 June 2005
Neutral	N/A	08 June 2006
N/A	Neutral	01 December 2006
Neutral	Underweight	13 February 2007
Target Price	**Value**	**Date**
Price 1	N/R	15 November 2004
Price 2	113.49	21 June 2005
Price 3	113.49	27 October 2005
Price 4	N/A	08 June 2006
Price 5	200.00	01 December 2006
Price 6	140.00	13 February 2007

Source: HSBC

HSBC & Analyst disclosures

Disclosure checklist

Company	Ticker	Recent price	Price Date	Disclosure
ALUMINUM CORP OF CHINA	2600.HK	10.46	18-May-2007	4
HINDALCO	HALC.NS	146.90	18-May-2007	4

Source: HSBC

1 HSBC* has managed or co-managed a public offering of securities for this company within the past 12 months.
2 HSBC expects to receive or intends to seek compensation for investment banking services from this company in the next 3 months.
3 At the time of publication of this report, HSBC is a market maker in securities issued by this company.
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Additional disclosures

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