Fortis Asian metals monthly

April 2008

Gold, silver, aluminium, copper, lead, zinc, steel.

VM Group

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Contents

Fortis Asian Metals Monthly is an exclusive precious and base metals research joint venture between Fortis Bank SA/NV and VM Group.

Strategic view

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Introduction

The People's Bank of China raised by 50 basis points its reserve requirements for banks, taking it to a new record of 15.5%, with effect from 25th March. This is the 15th time the Bank has raised this since mid-2006 and is part of a continuing effort by the Chinese authorities to damp down the country's rapid economic growth. This latest incremental raise will not in itself do much to slow demand for base metals. The US Federal Reserve, meanwhile, cut America's headline interest rates to 2.25%, in an effort to stimulate the economy. Consumer confidence levels in the US (according to the Reuters/University of Michigan survey) are now the lowest since February 1992.

Gold

Having hit $1,000/oz in mid-March, gold faltered as the US currency recovered some of its dignity and investment funds slaughtered all commodities. However as the underlying illness of the US credit crisis has yet to be cured (although the symptoms have been alleviated), we still consider gold is only a few steps along the way of what will be a long march upwards.

Silver

Investors on Comex punished the unwary silver enthusiast in the third week of March, wiping 14% off the price in a brief whirlwind. The gusts that blew gold off course dealt even more harshly with silver, but it seems a correction not a crash. There is more to come, if gold goes higher.

Aluminium

The future is looking brighter by the week for aluminium, largely as a result of unexpected and largely unpredictable moves by China's top economic policy planners. There are now strong rumours that they will act to curtail exports of aluminium products by slashing export tax rebates on these products and this ought to see international aluminium prices rise in response. We see scope for another 25% rise in the price this year if China bears down on aluminium product exports. A serious US economic slowdown could throw that off course, however.

Copper

Copper investors have had their hopes kept high by a series of strikes and stoppages, worries over Chilean mine supply growth, persistently low exchange stocks – and no real sign that the background macroeconomic gloom is denting demand. Prices hit a record in March and after a correction, returned there in April. We remain convinced however that by mid-2008 prices will be lower than today.

Lead

The lead price suffered in the March sell-off, but has underlying strength from strong demand in developing economies and by Chinese refined metal exports remaining very low. There are growing concerns, however, about the impact of high prices on demand.

Zinc

A testament to the large volumes of zinc concentrates flowing into the market is the fact that this year's treatment and refining charges are being settled at much more advantageous terms this year for the refiners. The zinc price still has room for further falls.

Steel

Very high prices (compared to previous years) for iron ore and coking coal are underpinning steel prices at historic levels.

Forecasts

Price forecasts

		End-March	1-month	2-month	3-month	12-month
Gold	$ per oz	933.50	900-960*(r)*	980-1,100*(r)*	1,000-1,300*(r)*	1,400*(r)*
Silver	$ per oz	17.99	16.75-19.50*(r)*	19-23*(r)*	20-25	25*(r)*
Aluminium (3-month)	$ per tonne	2,987	2,800-3,300*(r)*	3,100-3,300	3,100-3,300	3,500
Copper (3-month)	$ per tonne	8,410	7,800-9,000*(r)*	7,500-8,000	7,500	6,000
Lead (3-month)	$ per tonne	2,805	2,700-3,100*(r)*	3,000*(r)*	>3,000	>3,000
Zinc (3-month)	$ per tonne	2,332	2,200-2,400*(r)*	2,200*(r)*	2,200	2,000
		Average 2009	**Average 2010**	**Average 2011**	**Average 2012**	**Average 2013**
Gold	$ per oz	1,000	800	650	600	500
Silver	$ per oz	23	15	13	13	10
Aluminium (3-month)	$ per tonne	4,000	3,500	3,500	3,000	2,500
Copper (3-month)	$ per tonne	6,000	5,000	5,000	5,000	4,000
Lead (3-month)	$ per tonne	2,500	2,000	1,300	1,200	1,000
Zinc (3-month)	$ per tonne	2,200	2,200	2,500	2,500	2,500

Source: VM Group *(r) = revised from last month*

Market Update

Prices and stock levels

Prices	7 April	Most recent price	Average over past 12 M	High	Low	Price 1 week ago	WoW (%)	Price 1 month ago	MoM (%)	Price 12 month ago	YoY (%)	Average 2007	Average 2006
Gold	$/oz	926.5	769.2	1,011.3	642.1	934.3	(0.8)	972.5	(4.7)	673.5	37.6	696.5	604.0
Silver	$/oz	17.96	14.52	20.92	11.67	18.36	(2.2)	20.22	(11.2)	13.6	32.3	13.38	11.57
Aluminium	$/tonne	2,961	2,669	3,212	2,376	2,996	(1.2)	3,211	(7.8)	2,840.5	4.2	2,662	2,593
Copper	$/tonne	8,641	7,553	8,810	6,340	8,456	2.2	8,560	(0.9)	7,411.0	16.6	7,096	6,671
Lead	$/tonne	2,960	2,885	3,880	1960	2,886	2.6	3,140	(5.7)	1,990.0	48.7	2,558	1,282
Zinc	$/tonne	2,389	2,971	4,106	2,201	2,359	(1.3)	2,670	(10.5)	3,401.0	(29.8)	3,243	3,252
LME Stocks	**7 April**	**Most recent stocks**	**Average over past 12 M**	**High**	**Low**	**Stocks 1 week ago**	**WoW (%)**	**Stocks 1 month ago**	**MoM (%)**	**Stocks 12 month ago**	**YoY (%)**	**Average 2007**	**Average 2006**
Aluminium	Tonnes	1,028,100	897,596	1,035,350	804,375	1,030,975	(0.3)	942,600	9.1	809,800	27.0	842,573	723,253
Copper	Tonnes	115,050	146,445	201,000	97,550	112,075	2.7	131,925	(12.8)	177,600	(35.2)	158,899	119,593
Lead	Tonnes	50,425	40,395	50,475	20,850	49,400	2.1	46,050	9.5	34,025	48.2	37,218	76,115
Zinc	Tonnes	125,425	85,734	127,050	58,100	123,600	1.5	123,925	1.2	108,050	16.1	81,377	218,452

Source: VM Group

Analysis

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Q1 2008 Review – bumpy but bountiful

While most of Asia's stock markets recorded a very poor performance during Q1 2008 – South Korea's KOSPI fell 10.2%, Hong Kong's Hang Seng was down 18.3%, and China's Shanghai Composite lost 34% – most metals, apart from zinc, put in some handsome returns. This is despite the late month stumble that affected all commodities – on Thursday 20th March, the Reuters-CRB commodity index, which is a broad measure of the sector, registered its biggest one-day decline, of 8.4%, since the index started life 50 years ago. All commodities took a battering that day, with some soft commodities suffering much greater falls than the metals. That this collapse was spread across all commodities testifies to the fact that it was a very broadly-based sell-off, unrelated to the specifics of individual commodities, and reflected an overall risk aversion and a desire to liquidate exposures in favour of cash – at least, for the time being. Given the uncertainties of the prospects for the US economy this kind of erratic swing will probably be a feature of commodity markets for some time to come, until some clearer macroeconomic tendencies emerge.

Price performance of metals and plastics in Q1 2008, settlement prices

	Unit	Open	Close	Change Q1 (%)	Average	Peak	Low	Range	Range as % of average	Standard Deviation (SD)	SD as % of average
Aluminium - 3 Month	$/tonne	2,413	2,987	**23.79**	2,772	3,212	2,401	811	29.26	257.33	9.28
Aluminium - 63 Month	$/tonne	2,758	3,070	**11.31**	2,884	3,217	2,590.5	626.5	21.72	163.37	5.66
Copper - 3 Month	$/tonne	6,706	8,410	**25.41**	7,726	8,810	6,706	2,104	27.23	601.31	7.78
Copper - 63 Month	$/tonne	6,070	6,563	**8.12**	6,234	6,689	5,352	1,337	21.45	294.50	4.72
Lead - 3 Month	$/tonne	2,580	2,805	**8.72**	2,890	3,461	2,482	979	33.88	270.41	9.36
Lead - 15 Month	$/tonne	2,468	2,793	**13.17**	2,813	3,333	2,447	886	31.50	250.74	8.91
Nickel - 3 Month	$/tonne	26,725	30,200	**13.00**	29,127	33,605	26,705	6,900	23.69	1,966.42	6.75
Nickel - 27 Month	$/tonne	26,425	27,625	**4.54**	27,225	30,225	25,200	5,025	18.46	1,256.63	4.62
Tin - 3 Month	$/tonne	16,245	20,575	**26.65**	17,772	20,700	16,075	4,625	26.02	1,528.71	8.60
Tin - 15 Month	$/tonne	16,510	20,465	**23.96**	17,771	20,555	16,220	4,335	24.39	1,450.99	8.16
Zinc - 3 Month	$/tonne	2,404	2,332	**(3.00)**	2,448	2,840.5	2,201	639.5	26.12	151.67	6.20
Zinc - 27 Month	$/tonne	2,390	2,323	**(2.80)**	2,399	2,733	2,200	533	22.22	128.60	5.36
Gold	$/oz	846.75	933.5	**10.25**	925	1,011.25	846.75	164.5	17.79	40.42	4.37
Silver	$/oz	14.93	17.99	**20.50**	17.59	20.92	14.93	5.99	34.05	1.69	9.61
Palladium	$/oz	371	445	**19.95**	441	582	364	218	49.39	63.96	14.49
Platinum	$/oz	1,541	2,040	**32.38**	1,867	2,273	1,531	742	39.74	239.38	12.82
Plastic (LLDPE)	$/tonne	1,425	1,440	**1.05**	1,439	1,465	1,412.5	52.5	3.65	14.67	1.02
Plastic (LL)	$/tonne	1,400	1,457.5	**4.11**	1,431	1,457.5	1,400	57.5	4.02	15.88	1.11

Source: VM Group

Of the two precious metals we cover in this report, **gold** (measured by the daily London afternoon fix) rose 10% in Q1 2008, peaking at $1,011.25/oz on 17th March and averaging $924.69/oz. **Silver** did even better (again measured by the daily London fix), with a gain of 23% and, like gold, peaking on 17th March at $20.92/oz, with an average of $17.59/oz. Silver had late last year lagged gold's rise but in Q1 2008 caught up very slightly. Taking the average price of gold and silver for the quarter the gold/silver ratio was 1:50 (fifty ounces of silver to purchase one of gold), while the ratio for the whole of 2007 was 1:52. Given that the historic ratio for most of the 20th century was 1:47 we might expect silver to continue outpacing gold for the short-term, if (as we expect) both will gain in price in the months ahead.

The base metals all did well (as measured by the LME 3-month benchmark contract) save for **zinc**, which fell 3% over the quarter. If anything, we are surprised zinc has not fallen still further. What has kept it relatively stronger than expected is the uncertainty over the underlying trend for China's zinc trade – China in February emerged as a very marginal net importer of zinc, a reversal of what had previously been a trend for it to become a large net exporter. The **lead** price has been borne along by the overall upward trend for base metals, rising 9% in Q1 2008, although little has changed in lead's fundamentals. The two strongest performers of all the metals we cover were **aluminium** (up 24%) and **copper** (up 25%) and both, once again, owe much of their strength to developments in China. The shift in China's aluminium trade has been evolving since November 2006, when the authorities – determined to curb the rapid growth of this very energy-hungry industry – imposed a 15% export tax on primary aluminium. They followed that up in mid-2007 with the same level of tax on exports of aluminium rods and bars, and we expect later this year to wake up one day and discover that all forms of aluminium products are to face the same level of export tax. Aluminium, like copper, is highly vulnerable to a serious economic slowdown in the US, but as yet the price of neither of these two metals has been bothered by this prospect.

What lies ahead

The first quarter of 2008 showed some remarkable volatility, with a trading range of almost $6/oz for silver, $164.50/oz for gold, $2,104/t for copper, $979/t for lead, $811/t for aluminium and $639.50/t for zinc. If the 20th March correction had not happened, silver would have risen by about 40%, gold by 19%, copper by 31%, lead by 34%, aluminium by 33% and zinc by a remarkable 18%. With the excusable exception of gold – which has regained much of its previous role as a quasi-currency since August 2007, and some of its reputation as the best place for frightened investors to guard themselves against inflation and currency collapse – none of these metals had seen any underlying dramatic change in their supply-demand fundamentals since the end of 2007. *Ergo*, they owe these quite spectacular gains to a substantial influx of speculative investment via investment funds. But what the 20th March trip-up told us was not so much that investing in commodities is not a one-way bet (we knew that already) but that such is the weight of investment flows, when the tide of sentiment turns it does so with a speed and ferocity that is qualitatively different from past times.

Awareness of this dictates some caution about offering prognoses, even short-term ones. On our hedge funds page we offer a view of the volume of investment money, larger than ever before, now making itself felt in commodity investment. What we suspect is likely to happen over the longer-term is that, as the perception of commodities as an asset class all of their own gradually matures, the extremities of such swings will diminish, but the prices themselves will remain at much higher levels. In soft commodities this is likely to be driven partly by a growing awareness that an expanding global population will be competing more intensively for food resources; the consequence will be higher prices. In precious metals we remain of the view that while gold's new mine supply is currently slowing, high prices will encourage new mines and expanded investment in building new capacity in existing mines. At the same time, gold's special status means that in a world where inflation is once again becoming a threat, it will continue to be sought by investors as a safe haven, particularly when the world's dominant currency – the US dollar – remains extremely weak, despite short-term recoveries. Silver is a different case – plentiful supply and shrinking industrial demand will continue to be counterbalanced to some extent by silver's propensity to cling to gold's coattails.

And we remain firmly convinced that even the biggest volume of investment will not slosh into commodities that have unattractive fundamentals. In base metals, the least favoured for the rest of this year and into 1H 2009 must remain zinc, with its prospect of a growing surplus of both concentrates and refined metal. As for lead, while the automotive sector growth in developing economies remains very strong (accounting for 70% of demand for lead, in the form of lead-acid batteries), the continued low level of refined metal exports from China (about 250,000t/year currently, 50% of that prior to the new export tax regime) is helping to underpin prices at around $2,500/t. Aluminium is likely to improve steadily over the months ahead, although with (relatively limited) swings, largely because the major factor in its cost of production – the price of electricity

– is climbing everywhere, and some producing countries (South Africa, China especially) have an insufficient supply. How China's aluminium trade evolves over the rest of this year will be a key factor in how the price moves, and we expect China progressively to import more primary metal and export less aluminium products.

Copper continually poses a dilemma. As the leading base metal indicator of overall global economic health, it ought to have shown signs of weakness this quarter, but did not. Quite the reverse – it set a new record peak of $8,810/t on 6th March, which, given the probability of a slowing US economy, was the clearest sign one could wish for that it had been carried aloft on a rising tide of investment enthusiasm. It has clearly benefited from the relatively weak dollar, but there have also been disappointing results from the world's biggest producer, Chile, which had output of 423,201t in February, 8% higher than February 2007 but almost 16,000t less than January. Much will hinge on the extent to which Chinese copper import demand holds up for the rest of this year. The International Copper Study Group (ICSG) expects Chinese copper consumption growth to slow significantly in 2008, to 6%, against 23% in 2007. That should have an impact on prices, but all the time there are supply side worries hanging over Chile and other significant producers, and persistently low stocks on the LME – still at less than one week's global consumption – then there is little cause for copper investors to flee elsewhere.

Focus

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Congo's copper – a new and tougher regime

A government-appointed mines review commission in the Democratic Republic of Congo has now published a long-awaited report concerning contracts signed by a previous government and private sector multinational mining companies. The commission was formed last year with the brief to reconsider 61 contracts, including a number signed during the country's civil war of 1998-2003. The report recommends a number of significant changes to several of these contracts. In the long term one country (other than the DRC itself) is likely to emerge as Africa's new copper king – China.

Mining has always been a risky business; in some places the risks are not just about digging ore out of the ground. In the Democratic Republic of Congo (DRC), a country larger in area than western Europe, there are plenty of other risks too – a hostile climate, too many lethal diseases to mention, a five-year civil war … and politicians. Up until late March there existed a state of almost complete confusion as to what the DRC's government had in mind for 61 mining contracts, which since June 2007 had been "under review". We now know the results of this review and they involve a substantial re-negotiation of previously existing projects and contracts, which ultimately will unduly prolong the business of actually getting copper out of the ground – at least, for a number of western-based companies who imagined they had the right to mine.

The DRC is home to about 10% of the world's known copper deposits, about 30% of its cobalt, and a similar volume of cassiterite, the ore that is smelted into tin. The country also has significant deposits of diamonds, gold, silver, zinc, bauxite, iron ore, coal, manganese, germanium, uranium, radium and coltan, (columbite and tantalite), which is used in the mobile phone industry.

Back in June 2007 Martin Kabwelulu, the DRC's mines minister, said when he announced the review that it would have "the delicate job of exposing all irregularities that taint these contracts … I don't want to say just yet if there will be any eventual cancellation of contracts. We are confident that the partners we've signed contracts with want to see our country develop. I hope no contracts will be cancelled." That final sentence was seen by many of the mining executives who have ploughed millions of dollars into the DRC as something of a warning shot. The review itself was, in terms of transparency and simple equity, probably entirely justified. If nothing else it should have drawn a line under the heated controversy surrounding the numerous contracts signed by the previous regime and various mining companies. It should have put an end to the long-running claims and counter-claims, all mired in mutual recriminations, between non-governmental organisations, mining companies (big and small), and politicians (both from the DRC and the international circuit), accusing one another of corruption and double-dealing. But it has not done that. Instead it has pleased no-one.

A draft version of the review – which has been criticised by Control Risks Group, the London-based business risk consultants as being "far from a model of transparency" – was leaked to journalists in November 2007. This leak purported to suggest that 23 existing contracts would be cancelled and 38 others renegotiated. In the boardrooms of some of the world's biggest mining companies – including AngloGold Ashanti, BHP Billiton, First Quantum, and Freeport-McMoRan – the temperature went up sharply. The share prices of smaller fry at work in the DRC, those companies with much greater exposure to the country, slumped. Towards the end of last year DRC government officials began making some placatory noises, saying mining companies had no need to worry as the draft was exactly that, and no final decision had been made. But as matters stand the review that has finally been published looks very serious for some companies and good only for the DRC's state-owned copper producer Gecamines. The review recommends that the contract governing the exploitation of the massive Tenke Fungurume copper/cobalt project, which has an estimated 500 Mt of ore with 3.5% grading of copper, with the possibility that it could eventually be producing 400,000t of copper concentrates/year, should be renegotiated, with the view that Gecamines' stake in the project – majority owned (57.75%) by Freeport McMoRan, with another 24.75% owned by the Canadian-based company Lundin Mining – be raised from the current 17% to 45%. As to how that should be achieved, at what cost, and to whom, the report is silent. Moreover, Gecamines is no longer – or soon will no longer be – a DRC state-owned company; 68% of it has fallen into the hands of Chinese state-owned companies.

Freeport has simply responded that its original contract was transparently negotiated, complied with the law, and it intends to stand by its existing terms. In early December 2007 Richard Adkerson, CEO of Freeport-McMoRan, said that he had recently met the DRC's President Joseph Kabila and had received the latter's "assurances". These assurances now look a little hollow. The Tenke Fungurume project was taken on by Freeport when the company acquired Phelps Dodge in 2007. It was scheduled to start production in 2009, but its capital costs have already risen from an original $650m to $900m, and delays mean extra costs. The new twist to the wrangle over ownership will only delay matters further. All of which is good for copper bulls – metal that was thought to be heading to market (albeit slowly, painfully slowly) will now take very much longer to be dug out of the ground, as posses of international mining contracts' lawyers descend into Kinshasa to pick over the bones of this affair, perhaps for years to come.

Smaller companies have also received their own shocks at the hands of the review. First Quantum Minerals, listed in London and Toronto, has been told its title to the copper/cobalt project at Kolwezi was improperly arrived at, that it got the project too cheaply, and that it must accept a re-drawn contract stipulating up-front payments in cash and a bigger role for Gecamines in the management of the project. Similar recommendations have been made by the review for gold and diamond mining contracts in the DRC.

Apart from the licence review debacle, doing business in the DRC is more perilous than some other countries. It is, for example, written into DRC law that the military can requisition mining company vehicles as and when it pleases. Anvil Mining, an Australian junior mining company which owns the Dikulushi copper/silver project, had some of its vehicles commandeered in 2004 and was subsequently accused by human rights organisations of having played a role in a village massacre carried out by the army. According to versions of the leaked draft, the agreement pertaining to Anvil's Dikulushi mine is one of those that will be terminated.

Enter the Chinese

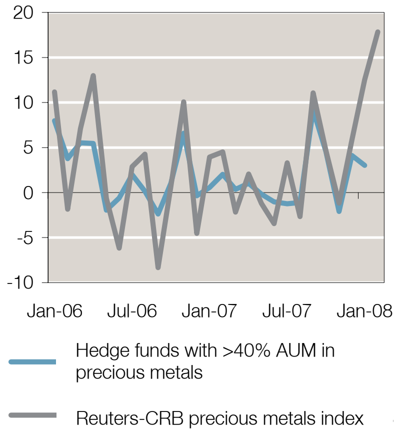
According to the Group of Experts on the DRC who report to the United Nations, 2,144 mining and quarrying concessions have been contracted in the DRC, some of which, there is little doubt, were drawn up with scant regard either for international mining codes or the long-term interests of the DRC itself. The danger right now however is that the DRC throws the baby out with the bath water – by seeking to renegotiate the most dubious contracts, many others which were arrived at entirely legitimately might also be jettisoned in a bout of over-enthusiastic 'contract cleansing'. It is too simplistic to blame the mining ministry or the central government for the current mess. The country is not only vast, but is governed (if that's the right word) in a vastly complex manner. Its 11 provinces are subdivided into a multitude of territories, all of which have their own provincial governors and clan heads, and rogue army units still hold sway in some northern parts of the country. The country's infrastructure is in tatters after years of war and under-investment. There is a real risk that in the attempt to undo the misdemeanours of the past, the government might be closing some doors to the future. Revoking legally sound contracts with foreign multi-national companies may satisfy nationalist pride, but it will discourage others from looking to the DRC for a long time to come.

Perhaps the DRC's government is uninterested in that possibility. For into this unknown some are treading eagerly, with no fear of official disfavour. In September this year China agreed to lend the DRC $5bn for infrastructure projects, including $2bn to be invested in the mining sector; the loan will be repaid with concessions granted by the DRC to China to exploit the country's minerals. And here's where the Chinese stake in Gecamines comes in; four Chinese state-owned companies are taking a 68% stake in Gecamines as part of the terms of the loan.

It is conceivable that at least some of the mining concessions that will be revoked will therefore find themselves in the hands of Chinese state-owned companies. Whether this will ultimately prove more beneficial to the DRC's poverty-stricken inhabitants than the previous private-sector arrangements is a moot point. But it's yet another terrific deal for China, not least because the country now has a new, reliable political supporter at the heart of Africa. Mokolo wa Mpombo, deputy speaker in the DRC's Senate, met Wu Zexian, the Chinese ambassador to the DRC, in March, when he solemnly informed him (according to the Chinese state press agency Xinhua) that, in the opinion of the DRC, "the affair pertaining to Tibet is China's internal affair, and the DRC resolutely supports the Chinese government to take all necessary measures to stabilise Tibet." As the old adage has it – you scratch my back, and I'll scratch yours.

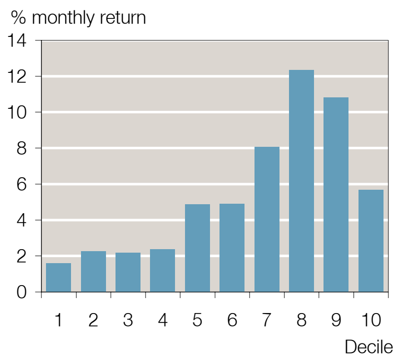
Hedge funds activity

Hedge funds % monthly returns by type



Source: VM Group

Hedge fund % return in February by proportion commodity investment



Source: VM Group
Notes: Decile 10 is the 10% of funds with the highest proportion of AUM in commodities (in February this was 80% or higher). Decile 1 is the 10% of funds with the lowest proportion (in February this was 1% to 4%).

- Apr 1st: Macquarie Capital has purchased a European-based commodities hedge fund from Craton Capital. Craton is said to want to focus on its long-only precious metals fund.
- Mar 30th: Treasury Secretary Hank Paulson has proposed sweeping changes of the US financial regulatory system, giving more power to the Federal authorities and more oversight of investment banks. Hedge funds were not specifically targeted but the proposals would see oversight move from the Commodities and Futures Trading Commission (CFTC) to the Securities and Exchange Commission (SEC).
- Mar 22nd: Bloomberg reports that Saracen Investors, a Houston-based energy fund, lost up to 22% in February on US natural gas investments.

Analysis

- Strong February but March data will be telling

Unsurprisingly given the strength of commodity prices (the Reuters-CRB total return commodity index saw an 11.9% monthly gain, its highest since at least 1980) the commodity hedge funds we track had a strong February (the latest available data). All the hedge funds in the Barclay database of more than 6,000 funds returned 2.0% during February, but those with some commodity exposure saw a 6.1% gain, and those with more than 50% of their assets under management (AUM) enjoyed a 7.1% gain. Funds that were precious metal-heavy, that is with more than 40% of their AUM in just precious metal-related investments, saw a smaller 3.9% monthly return, but this is based on a small sample size.

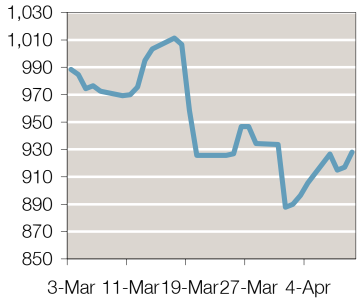
By and large the more commodity investment a hedge fund had as a percentage of its AUM the better its performance in February. We have ranked all the hedge funds that have some commodity investment – over 1,000 – by the percentage of their AUM in commodities and then split them into ten groups, with the lowest decile being the group that has the least commodity investment (just 1% to 4% of their AUM), the highest decile the ones that have the most (80% to 100% of their AUM) and the others with an amount in between that. The second chart shows the relationship between this and their monthly percentage return. The best performance came in the 8th and 9th decile, which were those hedge funds with respectively 55% to 63%, and 64% to 79%, of AUM invested in commodities. Monthly returns were 12.4% and 10.9% respectively. Interestingly the highest decile, which as we noted translates to funds with 80% or more of their AUM in commodities, returned a lower 5.7%.

Outlook

Given the strong performance across the commodity spectrum, commodity hedge funds were going to have a strong February. March data, available next month, will be more revealing – the Reuters-CRB index shed 6.9% during the month. Our data for commodity indices – another large source of investment funds in these markets – suggests that in March they have seen outflows of money for four consecutive weeks, the longest period since June 2006.

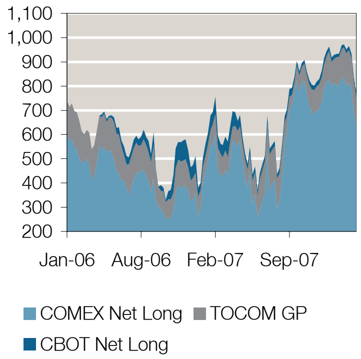
Gold

Gold price ($/oz)



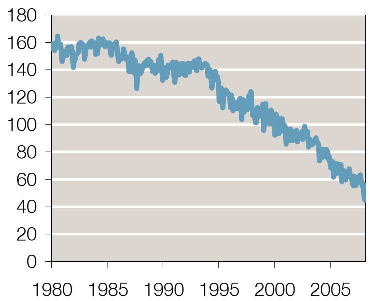
Source: London Bullion Market Association

Comex: Non-commercial net position (tonnes)



Source: VM Group

South Africa gold production (2000=100)



Source: Reuters Ecowin

News

- Apr 10th: India's gold imports in March were 27t, half the level in the same month of 2008. However this represents an improvement on February's numbers, which were down 83% at 10t.
- Apr 6th: IMF gold sales moved a step closer as the Fund's Executive Board agreed to implement most of the findings of the Crockett Commission on IMF financing, which recommended the sale of 12.96 Moz of gold. However the US Congress still needs to agree the measure.
- Apr 3rd: Turkey's imports of gold in March were just 0.675t, the lowest monthly imports since data became available in 1995. The sharp decline from February's 13t reflects both the impact of higher prices and also the legal problems of Turkish importer, Goldas.
- Mar 29th: Germany's finance ministry denied reports in the German press that it was proposing to the country's central bank, the Bundesbank, that part of Germany's 3,417t of gold reserves should be sold to boost federal budget expenditure.

Analysis

- South African output declines

The problems with South Africa's electricity supply have dominated platinum group metal prices in the last few weeks but the country's gold sector has not escaped unscathed. Output in February was 28.2% lower than in the same month of 2007. Jacob Maroga, CEO of Eskom, said mid-March that the power supply crisis could persist for 5-8 years while committing the company to a huge capital investment programme of Rand 1.3 trillion ($165bn) between now and 2025. Whether that huge programme will actually materialise is anyone's guess, but meanwhile gold supply from South Africa looks like it will continue to dwindle this year.

Outlook

Gold in March slipped back from $1,000/oz as the US dollar recovered a little and capital markets breathed a sigh of relief at various steps taken by the US Federal Reserve, injecting greater liquidity into the banking system and once again slashing interest rates. But there is a remarkable propensity to short-term thinking going on right now. The fundamental cause of the US credit crisis was a whole flock of chickens coming home to roost, not least of which is a huge US trade deficit (running at about $700bn/year) and an instant gratification psyche of US consumers to gorge on easy credit. The Fed has so far patched up the symptoms of the crisis, not remedied the underlying illness. There will be corrections en route but the prospect is a continuation of the trend towards higher gold prices later this year and into next. London afternoon daily fix, short-term: $900/oz-$960/oz.

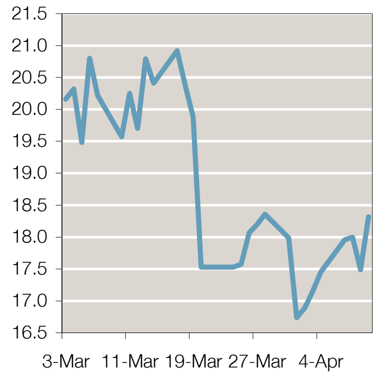
Market data (March unless stated)

Prices	US$/oz:	Yuan/kg	Yen/gr	ETF inv.	Holdings end-month	Monthly change	Lease rates	1m	3m	6m	12m	Option volatility (end month, %)	
Average	966	219,746	3,130	US (2)	699.7	6.7	Average	0.16	0.29	0.44	0.46	1-month:	26.30
High	1,011	230,285	3,281	UK (2)	142.9	11.5	High	0.31	0.48	0.54	0.55	3-month	26.30
Low	926	209,881	2,957	Aus	19.6	1.6	Low	(0.07)	0.03	0.21	0.35	6-month	26.30
				S. Africa	29.0	2.0						12-month	26.30
				Swiss	32.6	1.5						24-month	26.20
				India (4)	4.0	0.2							
				German	6	1.7							
				Turkish	1	-							

Source: Prices: London Bullion Market Association, Others: Virtual Metals. Indian ETF holdings calculated from rupee amounts and thus are approximations

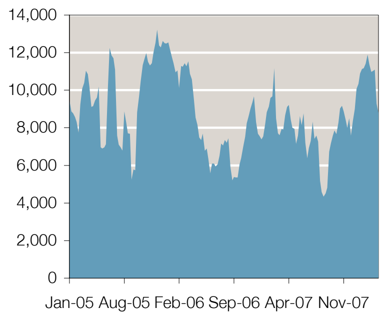
Silver

Silver price ($/oz)



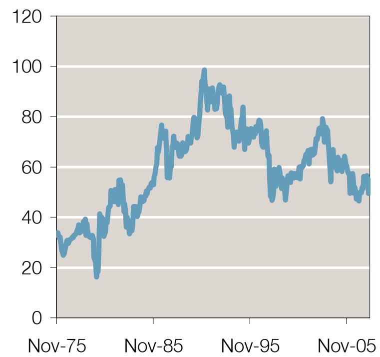
Source: London Bullion Market Association

Comex: Non-commercial net position (tonnes)



Source: Comex

Gold/silver ratio



Source: VM Group
Note: The no. of ozs of silver you could exchange for one oz of gold

News

- Apr 3rd: Peruvian gold and silver miner, Buenaventura expects its 2008 silver production to rise to 373t, from 303t in 2007.
- Mar 28th: Mexico's silver output fell 23% in January (compared to the same month of 2007) to 5.178 Moz, according to the country's National Statistics Institute. By contrast that of Peru, now the world's biggest silver producer (having displaced Mexico from that slot) rose 1.23% in February vs. the same month last year, to more than 8.63 Moz.
- Mar 28th: Silver Standard Resources, the Canadian-based exploration company, said in March that it hopes to commission its Mina Pirquitas mine in the north western province of Jujuy, in Argentina in Q4 2008. The mine will produce silver, tin and zinc concentrates, and has proven and probable reserves of 136 Moz of silver, based on a silver price of $5.35/oz. Once up and running the mine would have annual production of some 10.9 Moz/year over ten years.
- Mar 27th: Russia's national gold producers' union said the country's total silver production in 2007 was 1,200t, 4% lower year-on-year.
- Mar 24th: China's net imports of silver in January and February this year were more than 6.83 Moz, according to latest customs data. Its imports of silver so far this year have been running at more than 81% higher than the same period of 2007, while its exports have been growing at just 15%.

Analysis

- Comex rout scorches price but not for long

Silver is more volatile than gold, and this was shown again in March in Comex silver futures' trading. Data from the CFTC (Commodity Futures Trading Commission) reveals that the slump in the silver price in that week (see top chart) was very largely attributable to a massive sell-off by large speculators, who cut their net long position by more than 52 Moz. Small speculators on Comex joined in, resulting in a reduction of the net long position of almost 58 Moz, or 14%, taking total investment down to almost 299 Moz.

Interestingly the silver-backed exchange traded fund (ETF) did not lose an ounce during that period, and actually rose in early April, to stand at a new record high on 9th April of 184.7 Moz. If ETF silver investors decline to sell in such a major correction we will take it as further confirmation of what we have long assumed – that ETF investors in all commodities, not just silver, tend to be in for the long haul and less for short-term speculative aims.

Outlook

The Comex net long position in the week to 1st April saw a modest return of investment interest, with the long position rising by a collective 6 Moz, as gold and silver started to gain again after the March correction. Until there are clear signs of a US economic recovery, which will boost the dollar, the price should go higher still. Short term London PM fix: $16.75/oz-$19.50/oz.

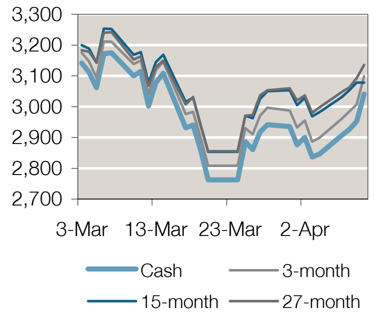
Market data (March unless stated)

Prices	$/oz	€/oz	£/oz		Imports (kg)	Exports (kg)	Lease rates	1m	3m	6m	12m	Option volatility (end month, %)	
Average	19.4	4.4	6.3	USA (Dec)	310,703	201,672	Average	(0.05)	0.03	0.26	0.42	1-month	41.00
High	20.9	4.8	6.9	Japan (Dec)	391,786	826,505	High	0.16	0.30	0.49	0.60	3-month	39.50
Low	17.5	4.0	5.6	China (Dec)	473,541	343,608	Low	(0.45)	(0.38)	(0.19)	0.01	6-month	38.00
												12-month	37.00

Source: Prices: London Bullion Market Association, Others: VM Group.

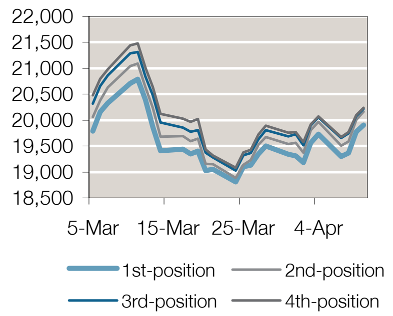
Aluminium

Aluminium price ($/tonne)



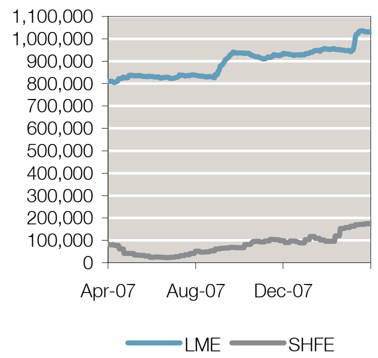
Source: London Metal Exchange

Aluminium price, SHFE (yuan/tonne)



Source: Reuters Ecowin

Aluminium stocks (tonnes)



Source: London Metal Exchange

News

- Apr 9th: China Power Investment Corporation is planning a joint project with Russia's UC Rusal to build a 0.5 Mt a year aluminium smelter in China and a 2.8 Mt alumina complex in Guinea.
- Mar 27th: Chalco has been granted government approval to build an alumina production plant in Shanxi province of China. The plant will have annual capacity of 800,000t. Chalco expects China's total alumina production this year will rise to 25 Mt-27 Mt.

Analysis

- What's next for China?

China's position as a net importer of primary aluminium was further consolidated in February, according to the latest customs data. Its primary aluminium exports fell by almost 90% compared to the same month of 2007, to 2,372t (and for the first two months of this year are down more than 82% at a total of 7,893t). Its imports of the unwrought metal in February rose more than 197% to 12,712t and for the first two months of the year are up by more than 92% compared to the same period of 2007, and total 27,155t. So far this year China has thus been a net importer of 19,262t of primary aluminium. However, as yet in 2008 it has remained a net exporter of aluminium alloy, with net exports of 27,872t. Its alumina imports so far this year have fallen almost 14%, totalling 957,953t (with very little exports, slightly more than 5,000t), while its bauxite imports have continued to grow at a very fast rate of 49% over the first two months of 2008 totalling almost 4 Mt in January and February. The big question for the metal this year is likely to focus on what action the Chinese authorities take (if any) to curb the country's exports of semi-wrought aluminium products. These have been growing very strongly – up 50% year-on-year in 2007 to 1.85 Mt – as Chinese aluminium producers opted to export more products after the export tax on primary aluminium was raised to 15% in November 2006. Also bullish are reports that export rebates, currently at 5%-13% on various aluminium products, might be slashed in June this year. That would damage the earnings of various big Chinese producers – but should be supportive of higher international primary and products' prices.

Outlook

Global aluminium exchange stocks have now tipped over into the 1 Mt-plus mark and this is bound to have a depressing effect on the price. Western world unwrought aluminium producer stocks (i.e. excluding Chinese stocks) fell to 1.577 Mt at the end of February, against a (revised) figure of 1.65 Mt in January, according to the IAI, marginally higher year-on-year. Nevertheless, although the metal suffered in the generalised commodity mini-rout in the business week ending 21st March, we regard the growing net import figures for primary aluminium going into China as very supportive over the longer term. LME 3-month short-term: $2,800/t-$3,300/t.

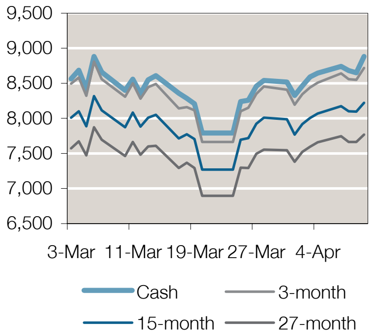
Market data (March unless stated)

Prices ($/t)	Cash	3-month	15-month	27-month	Stocks (tonnes)	LME	SHFE	Prod (kt)	Jan-08	Feb-08	LME Open Interest (contracts)	
Average	2,981	3,024	3,066	3,061	Feb-08	947,425	94,954	Europe	781	738	Aluminium	716,879
High	3,174	3,212	3,253	3,242	Mar-08	1,032,050	157,638	Americas	721	674		
Low	2,761	2,808	2,853	2,855				Asia	321	295		
								China	1,060	1,004		
								Other	346	317		
								Total	3,229	3,028		

Source: London Metal Exchange, except Production: International Aluminium Association

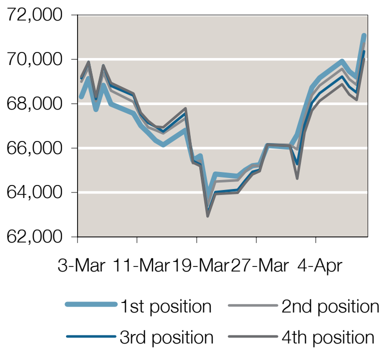
Copper

Copper price ($/tonne)



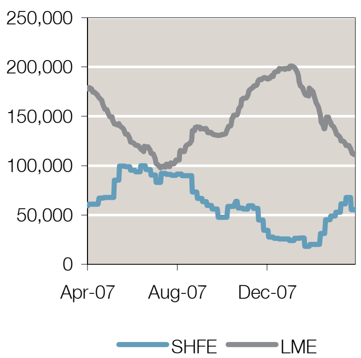
Source: London Metal Exchange

Copper price, SHFE (Yuan/tonne)



Source: Reuters Ecowin

Copper stocks (tonnes)



Source: London Metal Exchange

News

- Apr 9th: Antofagasta, the Chilean copper producer, expects its output to rise 40% in 2010, from 460,000t in 2008 and 2009. The boost will come as its Esperanza mine begins full production. The industry association, SONAMI, said that Chile's output is expected to be 5.9 Mt in 2090, 5.5% higher than in 2007.
- Mar 27th: The International Copper Study Group (ICSG) reported that the global refined market was in deficit by 42,000t in 2007, against a surplus of 287,000t in 2006. It put total production at 18.16 Mt and consumption at 18.20 Mt.
- Mar 26th: Jiangxi Copper, which is China's second biggest producer of refined copper, plans to increase its output by 27% in 2008 to 700,000t of copper cathode.
- Mar 25th: The Brazilian mining company Vale said it had ended its interest in taking over Xstrata.
- Mar 24th: China's refined copper imports in February fell by 8.3% (compared to the same month of 2007) to 136,243t, according to customs data; however this was 8,172t more than its January imports. In the first two months of this year China has imported 264,314t, 5.8% lower than the same period of 2007.

Analysis

- Copper firms amid supply uncertainties

The decline of copper inventories on the LME in 2008, from 198,925t at the end of 2007 to a low of 111,350t on 31st March, played a key part in pushing the copper price to a new settlement record on the LME on 6th March of $8,810/oz for the 3-month contract. On the LME it is evident from the exchange's compliance reports that there is a dominant long position, which has helped keep the price at this very high level, which presumably is betting on Chinese buyers – currently living hand to mouth – being forced to return to the market in much larger numbers during the (traditionally) busier Q2 period. Chinese imports of refined copper in February were 136,043t, the highest monthly total since April 2007 but 8% lower than February 2007. So far the feared US economic slowdown is a remote threat to demand, and on the supply side there are further bullish indicators – the ICSG reported that global mine utilisation rates in 2007 fell to 87.6% against 88.3% in 2006, against a rate of 90% or more in most years since the start of the new century.

Outlook

Copper prices were subjected to the same kind of wild gyrations as witnessed in most other commodities, falling to a low of $7,665/t (LME 3-month contract) during trading on 20th March, but they soon bounced back and by 10th April they were within a whisker of their March 6th all-time high. LME warehouse copper stocks remain critically low, at less than one week's global consumption. By any normal standard (i.e. without the threat of a US recession) that would in itself be enough to see prices very firmly above $8,000/t, on recent past precedents. LME 3-month short-term: $7,800/t-$9,000/t.

Market data (March unless stated)

Prices ($/t)	Cash	3-month	15-month	27-month	Stocks (tonnes)	LME	SHFE	SHFE	Contracts traded (average)	LME Open Interest (contracts)	
Average	8,377	8,270	7,841	7,425	Feb-08	141,375	20,245	Feb-08	180,303	Copper	275,371
High	8,881	8,810	8,320	7,875	Mar-08	111,350	48,885	Mar-08	142,724		
Low	7,789	7,665	7,270	6,895							

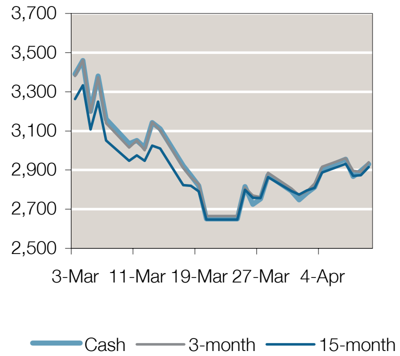
Source: London Metal Exchange

Lead

News

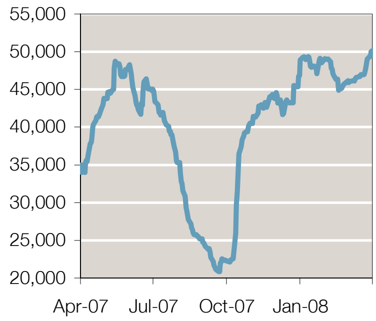
- Mar 24th: China's refined lead exports continued declining in February, at just 6,503t; in the first two months of 2008 its refined lead exports were down 6.6% against the same period of 2007, to a total of 16,510t, according to official customs data. Meanwhile its refined lead imports over the same two months have risen 15.4% to 4,861t.
- Mar 17th: The International Lead and Zinc Study Group (ILZSG) estimated that the global refined lead market was in a 6,000t deficit in January, with global output of 726,200t (against 691,000t in January 2007) and consumption of 732,500t (698,000t in January 2007). Commercial stocks (western world producers, consumers, merchants and the LME) were put at 267,900t, giving a stocks/consumption ratio of 2.6 weeks, unchanged from the same month in 2007.
- Mar 13th: Dow Jones Indexes launched a lead sub-index of their DJ-AIG commodity index thus allowing London Exchange Traded Fund (ETF) provider, ETF Securities, to launch a fund based on lead (and which will hold LME futures.
- Mar 4th: Annual refined lead demand in India will rise 50% by 2010 to 505,000t, according to estimates made by Anil Agrawal of Met Trade India, India's largest scrap producer of the metal. The increase is attributed to the country's probable strong growth in automobiles.

Lead price ($/tonne)



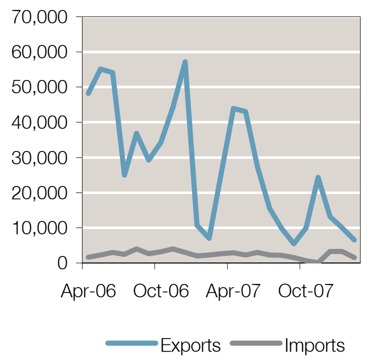
Source: Reuters Ecowin

LME stocks (tonnes)



Source: Virtual Metals from LME

SHFE stocks (tonnes)



Source: VM Group from Reuters

Analysis

- Demand and supply concerns

Will the high price of lead have a major impact on demand? As recently as 2003 LME lead was trading below $500/t. Ben Trevers, Chief Executive of Calder Group, said the "price of lead remains disconnected with the cost of the production", and he added that although "the scale of substitution to date had been limited" every effort was now being made to reduce the product cost. However Paul White of the ILZSG noted that Chinese demand, particularly for batteries in electric bicycles, would remain very strong.

Chinese lead production could be affected this year by two factors – attempts by Chinese banks to rein in lending, which will curb some of the expected 500,000t of new capacity planned for H2 2008, and also a global shortage of the right kind of lead concentrate, which is that with a low silver content. Most of this kind of concentrate that is available has been tied up in long-term contracts, and so smelters are being forced to look at concentrate with high silver content. This is more expensive due to the high prices of silver and so involves the smelter in a greater additional outlay of money, which it can only recoup after selling the silver, again exacerbating cashflow problems.

Outlook

Lead had a bad March, with the 3-month LME price falling below $2,700/t at its worst. The interplay between the Chinese market and the international market will be what determines prices moving forward. LME 3-month short-term $2,700/t-$3,100/t.

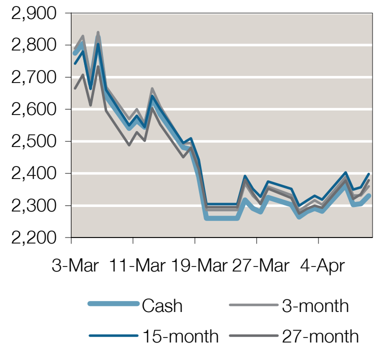
Market data (March unless stated)

Prices ($/t)	Cash	3-month	15-month	LME stocks	Lead	LME Open Interest (contracts)	
Average	2,974	2,976	2,917	Feb-08	45,825	Lead	69,597
High	3,460	3,461	3,333	Mar-08	49,325		
Low	2,650	2,664	2,647				

Source: London Metal Exchange

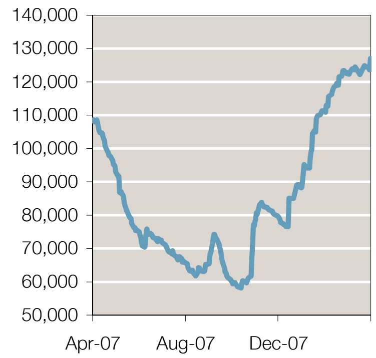
Zinc

LME zinc price ($/tonne)



Source: London Metal Exchange

LME stocks (tonnes)



Source: Reuters Ecowin

SHFE stocks (tonnes)

Source: Reuters Ecowin

News

- Apr 10th: Indian mining group Vedanta produced 135,000t of refined zinc in Q1 08, up 42.1% on the previous quarter.
- Mar 31st: Japan's refined zinc exports rose to 9,676t in February, 86% higher than the same month of 2007.
- Mar 19th: Nyrstar, now the world's biggest single producer of zinc (the company was formed from the merger of Zinifex and Umicore) said its total zinc production in 2007 rose 3% to 1.073 Mt.
- Mar 17th: The International Lead and Zinc Study Group (ILZSG) estimated that the global refined zinc market was in a small surplus in January, by 26,600t; production was almost 1.005 Mt while consumption was 978,300t. The stocks/consumption ratio rose to 4.1 weeks in January, against 3.8 in December 2007.

Analysis

- Treatment charges reflect growing concentrates' supply

The always prickly annual sparring match between miners and processors over zinc treatment and refining charges has dragged on rather longer than usual this year, but negotiations seemed to have taken a step forward with the settlement of contract talks between Korea Zinc and Teck Cominco. The terms of the deal remain secret, but market understanding is that Korea Zinc settled at a treatment fee of $300/t at an LME zinc basis price of $2,000/t, compared to 2007's benchmark of $300/t at an LME basis price of $3,500/t. The advantage has shifted back to processors in the context of greater availability of zinc concentrates as new mines and mine expansions come on-stream. European smelters are holding out for even higher charges.

Latest trade data regarding China's zinc exports show it was a net importer of refined metal in February, by 2,305t, with its exports falling by 86% (to 6,679t) compared to February 2007 and imports rising by more than 29% (to 8,984t). So far in 2008, including January, China is still a small net exporter of refined zinc but the most striking fact is that *both* imports and exports are down against the same period of 2007, by almost 44% and nearly 86% respectively. What appears to be happening is that inventories of refined zinc are rising rapidly inside China; as evidence of this, Shanghai Futures Exchange stocks have risen more than 43,000t since October 2007. Compared to domestic prices for zinc, the LME price has fallen much faster and has reached a point where imports have again become cheaper than domestic zinc. This situation of course cannot last forever and it is likely that some of the least competitive Chinese refiners will have to mothball capacity later this year, unless LME prices rise significantly – which given the very large global zinc surplus that is likely to develop this year, perhaps 250,000t by the end of the year, is not likely to happen in a hurry.

Outlook

Of all metals we analyse, zinc was the worst performer in Q1 this year, falling by 2%. Demand is holding up well and yet it is unlikely to rise sufficiently fast to prevent further price slippages later in 2008. LME 3-month short-term: $2,200/t-$2,400/t.

Market data (March unless stated)

Prices ($/t)	Cash	3-month	15-month	27-month	LME stocks	Zinc	LME Open Interest (contracts)	
Average	2,488	2,514	2,511	2,472	Feb-08	122,525	Zinc	192,432
High	2,826	2,841	2,803	2,733	Mar-08	123,975		
Low	2,260	2,286	2,305	2,295				

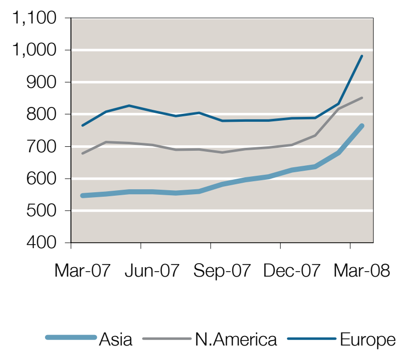
Source: London Metal Exchange

Steel

News

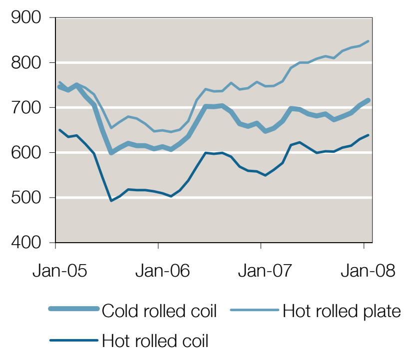
- Apr 10th: The world's fourth largest steelmaker, South Korea's POSCO, increased its steel price by up to 20.7%. The move follows an agreement for a 65% rise in iron ore prices with Vale, the Brazilian miner.
- Apr 4th: Tokyo Steel Manufacturing, Japan's largest maker of construction steel, has stopped signing export contracts as the rising price of steel scrap and the strong yen have made them unprofitable.
- Mar 20th: The International Iron and Steel Institute said that global crude steel production rose 5.3% in February (compared to the same month in 2007) to 107 Mt. China is still the world's biggest producer and is still growing faster than the average – its total output in February was 38.9 Mt and the percentage growth was 7% (year-on-year).
- Mar 19th: Vale, the Brazilian mining company and the world's biggest iron ore producer, reported that it had secured an 86.67% price rise for its iron pellet price with the Italian steel manufacturer Ilva. Earlier this year Vale signed a deal with Chinese steel producers, agreeing a rise of 65%-71% in its iron ore contracts for the current year.

Composite steel price ($/tonne)



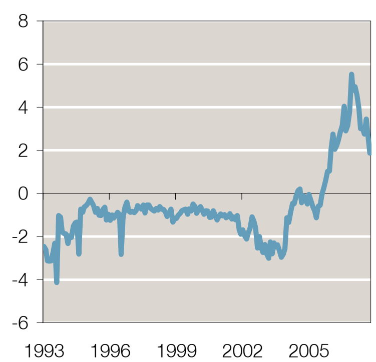
Source: London Metal Exchange

Steel products, world prices ($/tonne)



Source: MEPs, Reuters Ecowin
Note: "World" is average of Asia, N.America, and Europe

China, net exports of steel products, Mt



Source: Reuters Ecowin

Analysis

- Demand and feedstock prices underpin steel's strength

Steel prices have been very strong over the first quarter of this year, considering the turmoil in capital markets and the macroeconomic gloom emerging from the US. Rebar and billet prices in those parts of the world where growth is still vigorous have been rising quite rapidly. In the United Arab Emirates (UAE) prices for both have risen some 10% in the first half of March and construction companies have begun to anticipate prices rising to as high as $1,000/t. The Gulf Organisation for Industrial Consulting reported in March that the UAE's demand for steel was 3.5 Mt in 2006 and by the end of this year the UAE would be consuming almost 20 Mt of iron and steel products. Long-term contracts for coking coal and iron ore have been struck that are much higher, year-on-year, and spot prices for both are substantially increased.

In China, there was more progress towards the inevitable consolidation of the country's highly fragmented steel sector; the two state-owned companies Laiwu Steel and Jinan Iron and Steel are to merge their assets into the Shandong Iron and Steel Group. The provincial authorities of Shandong, in eastern China, appear determined to consolidate mills and shut older plants while constructing a new 20 Mt/year capacity plant on the east coast. The two companies merging into the Shandong group had combined production in 2007 of almost 24 Mt, while the country's biggest (and also state-owned) producer, Baosteel Group, had output of 28.6 Mt.

Outlook

Later this month (28th April) the LME's steel futures contracts will start trading in the ring. So far volumes have been small, but prices have been tracking spot prices fairly closely.

Market data (March unless stated)

Prices ($/t)	Asia Composite	N. America Composite	Europe Composite	World Composite
Jan-08	637	734	789	720
Feb-08	680	817	833	776
Mar-08	764	851	982	866

Source: Reuters Ecowin from MEPs
Note: Composite prices are a weighted average of the low transaction values for all carbon steel products in the flat & long categories identified in three regions (EU, Asia, and North America).

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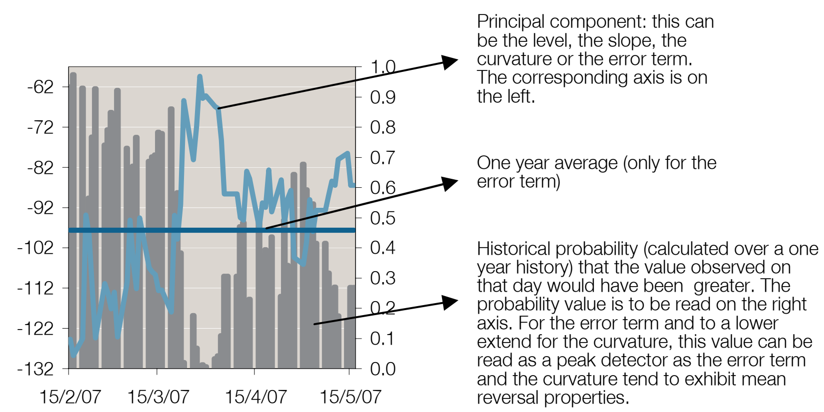
PCA background

PCA stands for Principal Component Analysis. It is a standard technique used for the study of forward curve dynamics. At any point in time, a future curve can be represented by three values known as the level, the slope and the curvature. Each of these values has a physical meaning. A variation of the level represents a parallel shift of the curve, while a variation of the slope represents a rotation. An increasing slope indicates a clock-wise rotation and therefore reveals a backwardation of the curve. By contrast, a decreasing slope indicates a curve that shows a contango. We can therefore expect the slope to respond to market events associated with supply, demand, and stocks. Furthermore, the curvature gives an insight into prices during the particular month. A rising curvature indicates that during the first and the last third of the contract month the price increases, while the second third decreases. This provokes a distortion, or a sharper bend of the curve.

Provided charts

For each metal there are five graphs. The first, at the top of the page, displays the forward curve for a number of dates. These are selected in order to demonstrate specific evolutions of the curve during the last month, and also to illustrate some particular features of the curve. The vertical axis displays the price of each contract (in USD) as provided by Bloomberg. The horizontal axis gives the future's settlement date. The used contracts are known as generic and are constructed by using successive contracts which always expire "in N months", as appropriate.

Demonstration of PCA graph



Source: Fortis Modelling

Aluminium

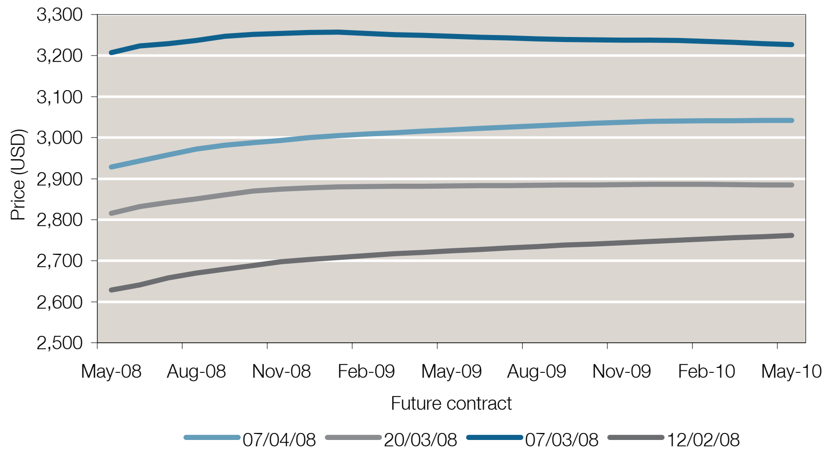
Future curve analysis

Fundamental outlook

China's position as a net importer of primary aluminium was further consolidated in February, according to the latest customs data. Also bullish are reports that export rebates, currently at 5%-13% on various aluminium products, might be slashed in June this year. Falling Chinese supply should underpin prices even though LME stocks have risen above the 1 Mt mark.

LME 3-month short-term: $2,800t-$3,300/t.

Future contract

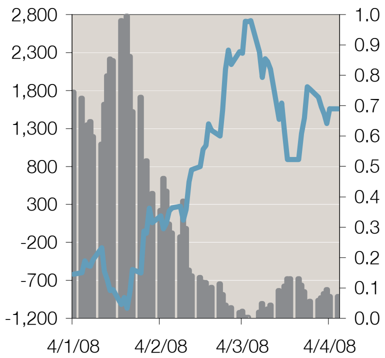


Source: Fortis Modelling, Bloomberg

Principal component analysis (arbitrary units)

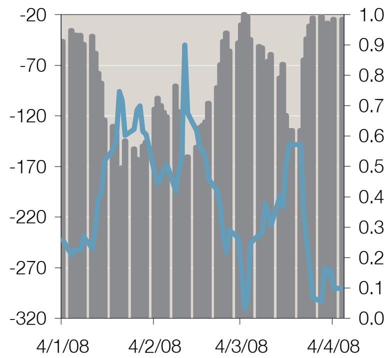
During the past months there has been a significant drop in the slope component. This agrees with a counterclockwise rotation of the curve. It is caused by the anticipated increased demand (or decreased supply) from China in the long term that is priced in the curve.

Level (t) – 92% of curve variance



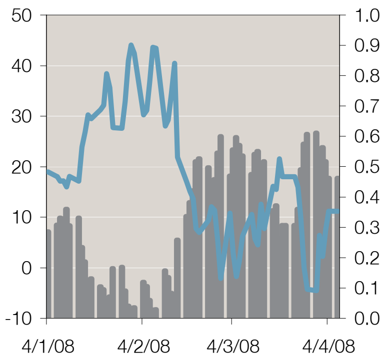
Source: Fortis Modelling

Slope (t) - 8% of curve variance



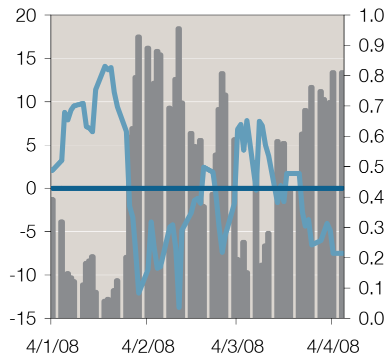
Source: Fortis Modelling

Curvature (t) - 0.1% of curve variance



Source: Fortis Modelling

Error (t) - 0.01% of curve variance



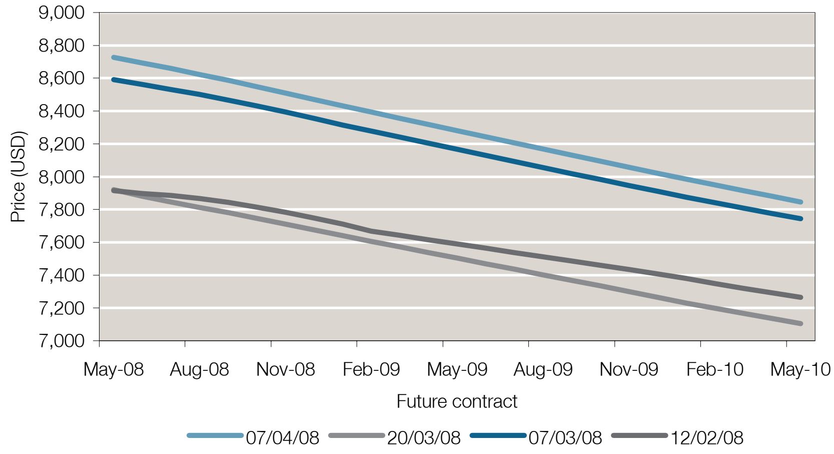
Source: Fortis Modelling

Copper
Future curve analysis

Fundamental outlook
The decline of copper inventories on the LME in 2008, from 198,925t at the end of 2007 to a low of 111,350t on 31st March, played a key part in pushing the copper price to a new settlement record on the LME on 6th March of $8,800/oz for the 3-month contract. By any normal standard (i.e. without the threat of a US recession) that would in itself be enough to see prices very firmly above $8,000/t, on recent past precedents.

LME 3-month short-term: $7,800/t-$9,000t.

Future contract

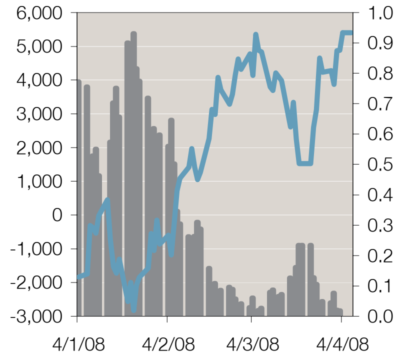


Source: Fortis Modelling, Bloomberg

Principal component analysis (arbitrary units)

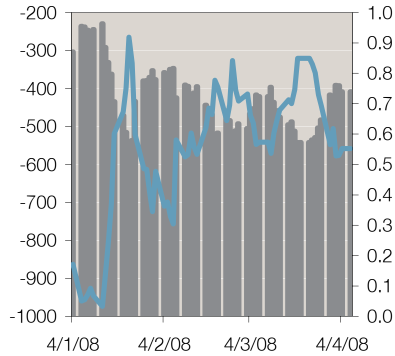
Copper curve movements during the last month have been mainly parallel shift.

Level (t) – 92% of curve variance



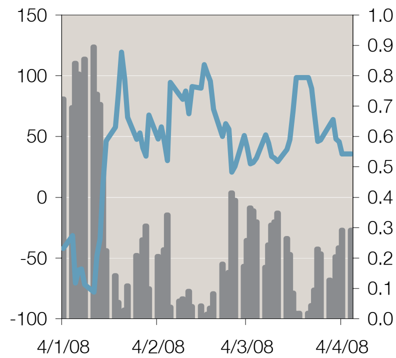
Source: Fortis Modelling

Slope (t) - 8% of curve variance



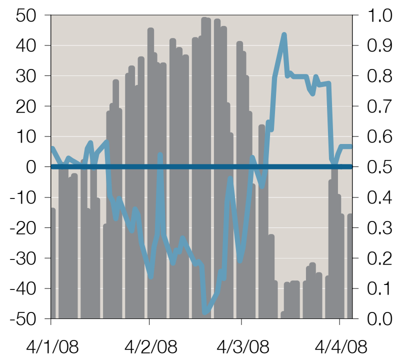
Source: Fortis Modelling

Curvature (t) - 0.06% of curve variance



Source: Fortis Modelling

Error (t) - 0.01% of curve variance



Source: Fortis Modelling

Lead

Future curve analysis

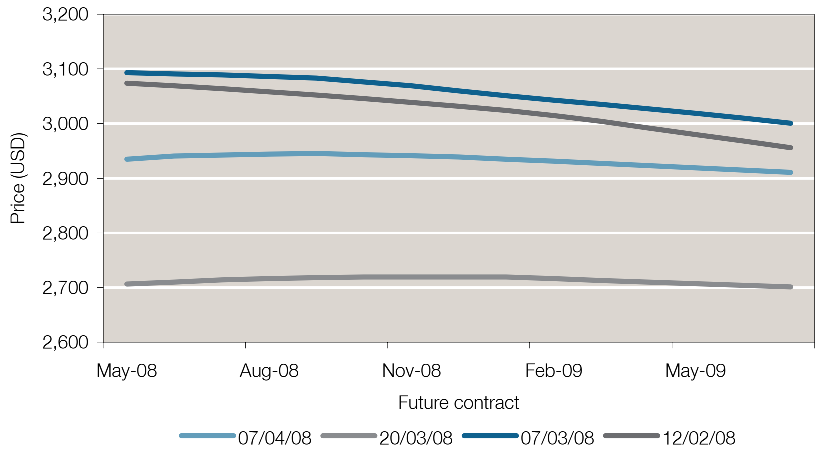
Fundamental outlook

The lead price suffered in March, with the 3-month LME price falling 17% over the month to close at $2,805/t. It had reached $3,461/t on 4th March, its highest price since November 2007. Much of the explanation of this is the long liquidation similar to all metals, although there are growing concerns about the impact of high prices on end-product demand. As recently as 2003 LME lead was trading below $500/t.

LME 3-month short-term: $2,700t-$3,100/t.

During the past month there has been a significant drop in the slope component. This agrees with a counterclockwise rotation of the curve.

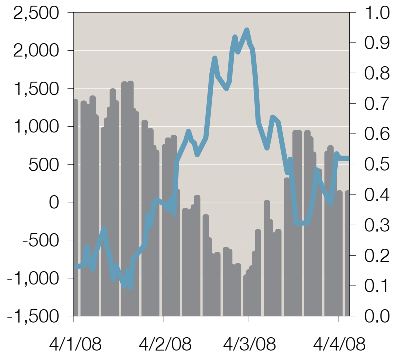
Future contract



Source: Fortis Modelling, Bloomberg

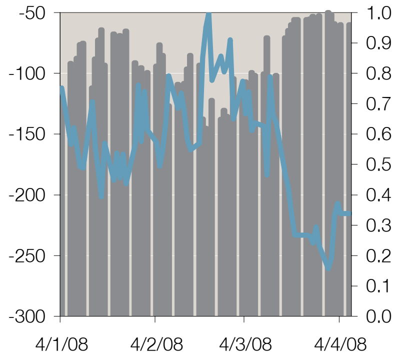
Principal component analysis (arbitrary units)

Level (t) – 99.5% of curve variance



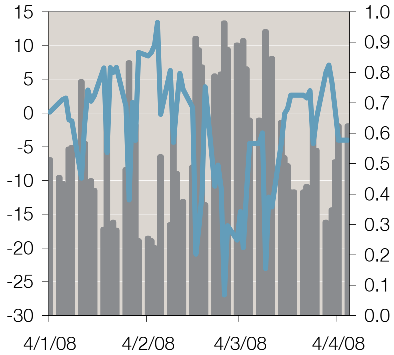
Source: Fortis Modelling

Slope (t) - 0.5% of curve variance



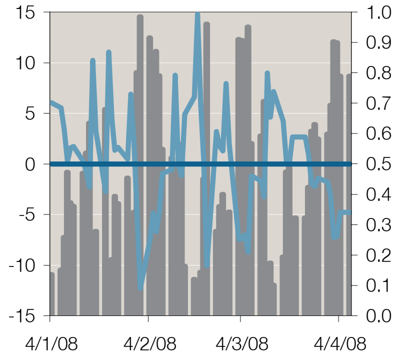
Source: Fortis Modelling

Curvature (t) – 0.01% of curve variance



Source: Fortis Modelling

Error (t) – 0.00% of curve variance



Source: Fortis Modelling

Zinc

Forward curve analysis

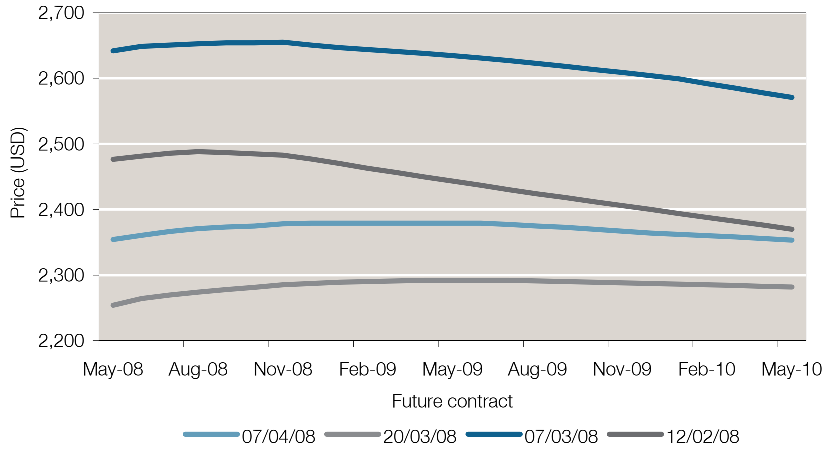
Fundamental outlook

Latest trade data regarding China's zinc exports show it was a net importer of refined metal in February, but the most striking fact is that so far in 2008 both imports and exports are down against the same period of 2007, by almost 44% and nearly 86% respectively. What appears to be happening is that inventories of refined zinc are rising rapidly inside China; as evidence of this, Shanghai Futures Exchange stocks have risen more than 43,000t since October 2007.

Global demand for zinc is holding up well and yet it is unlikely to rise sufficiently fast to prevent further price slippages later this year.

LME 3-month short-term: $2,200/t-$2,400/t.

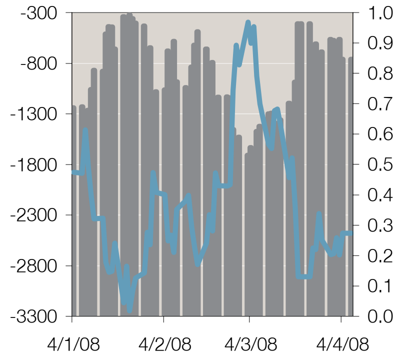
Future contract



Source: Fortis Modelling, Bloomberg

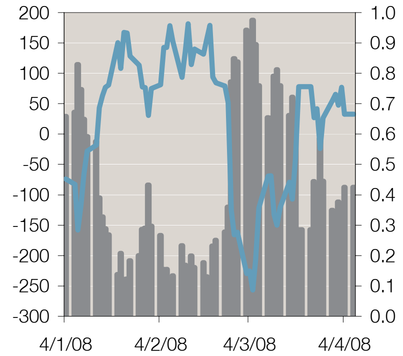
Principal component analysis (arbitrary units)

Level (t) – 99.5% of curve variance



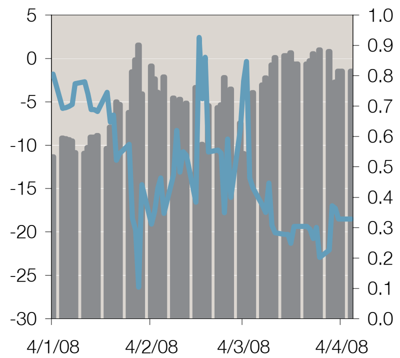
Source: Fortis Modelling

Slope (t) – 0.5% of curve variance



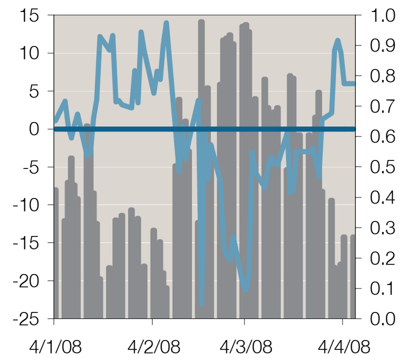
Source: Fortis Modelling

Curvature (t) - 0.02% of curve variance



Source: Fortis Modelling

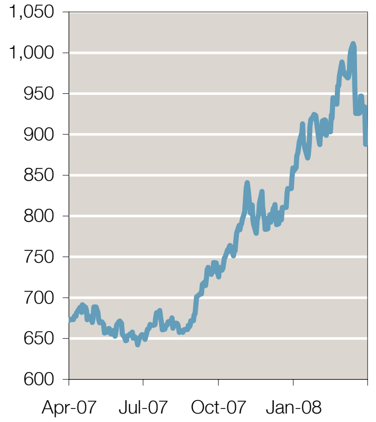
Error (t) - 0.00% of curve variance



Source: Fortis Modelling

Prices

Gold ($/oz)



Source: London Bullion Market Association

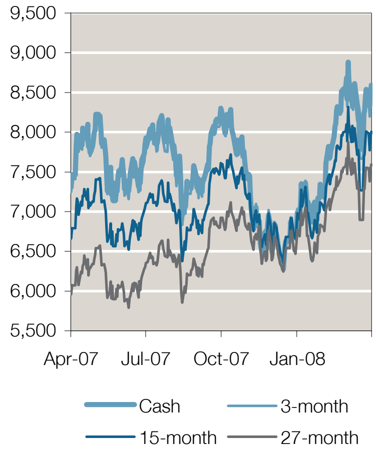
Silver ($/oz)

Source: London Bullion Market Association

Aluminium ($/tonne)

Source: London Metal Exchange

Copper ($/tonne)



Source: London Metal Exchange

Lead ($/tonne)

Source: London Metal Exchange

Zinc ($/tonne)

Source: London Metal Exchange

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VM Group is a commodities research consultancy. The VM Group, which through its subsidiary Virtual Metals Research and Consulting covers precious and base metals, specialises in the analysis of the fundamentals of commodities and their geopolitical impact and contexts.

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