VM Group research for Fortis Bank Nederland

Metals Monthly

March 2010

Fortis Bank Nederland

Price forecasts

		March 17th	1-month	2-month	3-month	12-month
Gold	$/oz	1,122	1,075-1,140	*1,100*	*1,200*	*950*
Silver	$/oz	17.54	16.50-17.75	*17.00*	*19.00*	*16.00*
Platinum	$/oz	1,636	1,550-1,699	*1,550*	*1,500*	*1,750*
Palladium	$/oz	476	425-499	*450*	*420*	*486*
Aluminium (3-month)	$/tonne	2,278	2,100-2,400	*2,325*	*2,250*	*2,300*
Copper (3-month)	$/tonne	7,517	6,950-7,700	*7,100*	*6,900*	*7,500*
Lead (3-month)	$/tonne	2,276	2,050-2,380	*2,000*	*2,000*	*2,500*
Nickel (3-month)	$/tonne	22,175	19,000-23,350	*22,225*	*21,450*	*24,500*
Tin (3-month)	$/tonne	17,725	16,500-18,950	*16,500*	*16,500*	*19,000*
Zinc (3-month)	$/tonne	2,346	2,100-2,450	*2,250*	*2,400*	*2,700*
Steel: (3-month) Med	$/tonne	515	450-525	*500-550*	*500-550*	600
		2010 av	**2011 av**	**2012 av**	**2013 av**	**2014 av**
Gold	$/oz	*1,105*	*952*	*873*	*908*	*870*
Silver	$/oz	*17.55*	*16.00*	*14.98*	*15.21*	*14*
Platinum	$/oz	*1,580*	*1,746*	*1,883*	*2,058*	*1,950*
Palladium	$/oz	*445*	*485*	*523*	*571*	*485*
Aluminium (3-month)	$/tonne	*2,185*	*2,652*	*2,500*	*2,667*	*2,900*
Copper (3-month)	$/tonne	*7,240*	*7,908*	*8,168*	*8,525*	*7,950*
Lead (3-month)	$/tonne	*2,161*	*2,463*	*2,142*	*1,825*	*1,820*
Nickel (3-month)	$/tonne	*20,311*	*24,792*	*26,875*	*30,667*	*31,525*
Tin (3-month)	$/tonne	*17,078*	*19,521*	*19,708*	*18,167*	*19,326*
Zinc (3-month)	$/tonne	*2,278*	*2,825*	*3,575*	*3,483*	*3,321*
Steel: (3-month) Med	$/tonne	525	900	1,100	1,050	*1,200*

Source: VM Group *italics denote revision from previous month*

VM GROUP

The Metals Monthly is produced as part of a joint venture between
Fortis Bank Nederland and VM Group

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Contents

Prices and stocks

Price forecasts

			1-month	2-month	3-month	12-month
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Steel: (3-month) Med	$/tonne		450-525	*500-550*	*500-550*	600
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Steel: (3-month) Med	$/tonne	525	900	1,100	1,050	*1,200*

Source: VM Group *italics denote revision from previous month*

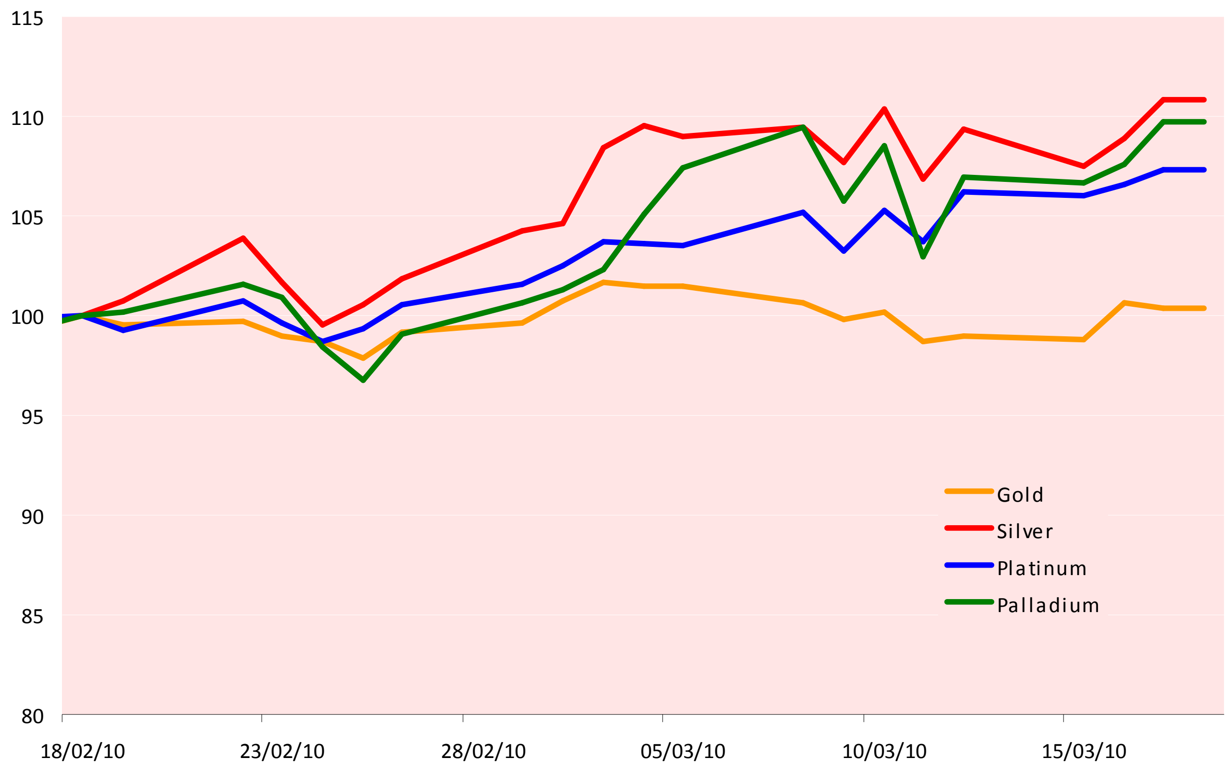
Historic prices & base metal stocks

Prices	17 Mar	Most recent price	Past 12 months Average	High	Low	1 week ago	WoW (%)	1 month ago	MoM (%)	12 months ago	YoY (%)	Av. 2009	Av. 2008
Gold	$/oz	1,122	1,015	1,213	870	1,104	1.6%	1,082	3.7%	893	25.6%	973	873
Silver	$/oz	17.54	15.57	19.18	11.98	16.9	3.7%	15.3	14.4%	12.6	39.1%	14.7	15.15
Platinum	$/oz	1,636	1,318	1,636	1,044	1,580	3.5%	1,505	8.7%	1,044	56.7%	1,205	1,599
Palladium	$/oz	476	314	476	194	447	6.5%	416	14.4%	194	145.4%	264	357
Aluminium	$/tonne	2,278	1,866	2,357	1,376	2,227	2.3%	2,035	11.9%	1,376	65.5%	1,703	2,659
Copper	$/tonne	7,517	5,983	7,700	3,763	7,411	1.4%	6,775	11.0%	3,763	99.8%	5,186	7,030
Lead	$/tonne	2,276	1,971	2,620	1,250	2,265	0.5%	2,100	8.4%	1,334	70.7%	1,738	2,136
Nickel	$/tonne	22,175	16,596	22,975	9,480	21,400	3.6%	18,500	19.9%	9,805	126.2%	14,762	21,689
Tin	$/tonne	17,725	14,665	18,290	9,950	17,575	0.9%	16,195	9.4%	9,950	78.1%	13,382	18,766
Zinc	$/tonne	2,346	1,922	2,660	1,222	2,337	0.4%	2,130	10.1%	1,222	92.1%	1,687	1,924
Steel (Med)	$/tonne	515	390	515	290	500	3.0%	429	20.0%	290	77.6%	364	747
Steel (Far East)	$/tonne	500	435	510	310	485	3.1%	440	13.6%	310	61.3%	406	695

LME Stocks		Most recent stocks	Past 12 months Average	Average	Average	1 week ago	WoW (%)	1 month ago	MoM (%)	12 months ago	YoY (%)	Av. 2009	Av. 2008
Aluminium	Tonnes	4,618,200	4,387,743	4,640,750	3,448,900	4,518,800	2.2%	4,550,025	1.5%	3,448,900	33.9%	4,037,328	1,231,093
Copper	Tonnes	524,175	401,506	555,075	256,900	532,575	(1.6)%	549,125	(4.5)%	493,450	6.2%	388,201	176,337
Lead	Tonnes	170,350	116,257	170,525	58,850	170,150	0.1%	159,200	7.0%	60,100	183.4%	94,440	62,174
Nickel	Tonnes	158,478	127,088	166,476	101,436	158,940	(0.3)%	165,084	(4.0)%	101,778	55.7%	111,852	51,857
Tin	Tonnes	24,040	21,014	27,905	10,480	23,835	0.9%	26,215	(8.3)%	10,480	129.4%	17,440	7,314
Zinc	Tonnes	540,400	418,731	542,350	317,750	538,750	0.3%	499,825	8.1%	343,500	57.3%	379,530	150,777

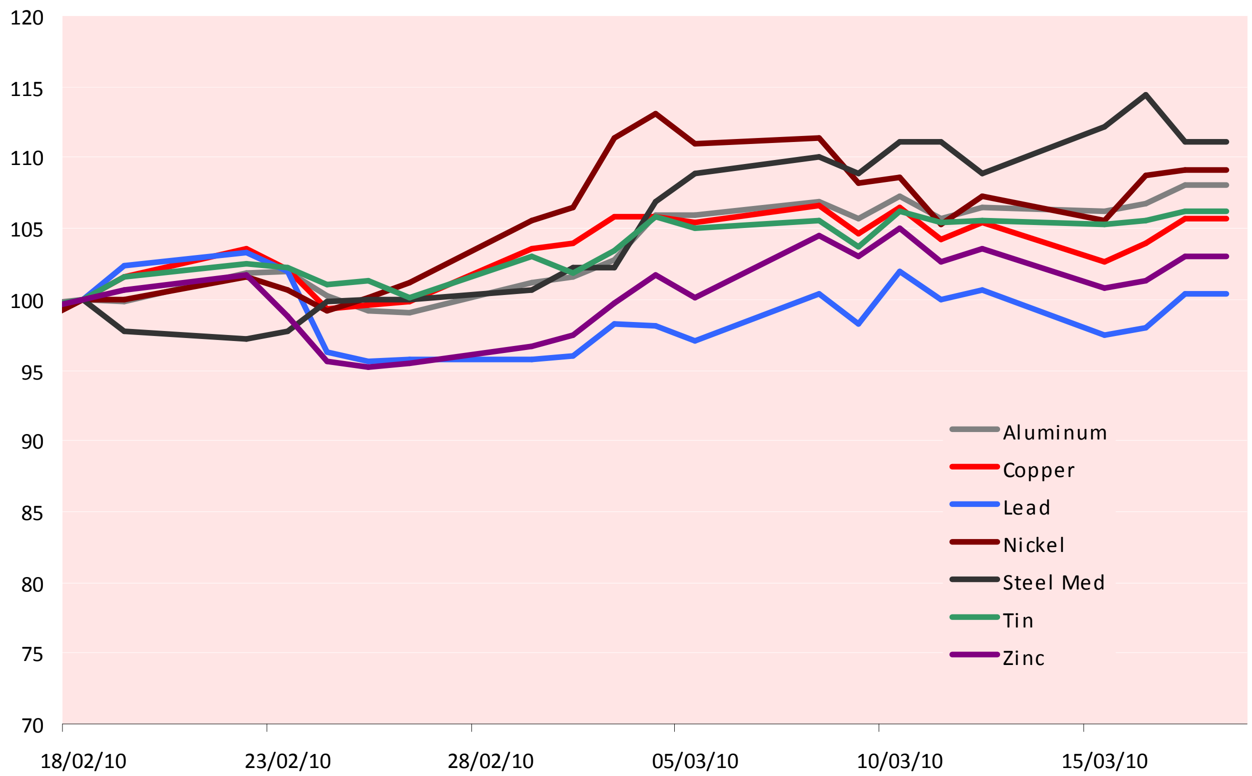
Source: VM Group

London fix precious metal prices, over past month: re-based to 100



Source: VM Group

LME 3-month base metal prices, over past month: re-based to 100



Source: VM Group

Feature

Zinc driven by long term promise

LME three-month zinc prices rose by 125% in 2009 on the back of strong Chinese demand and fund investment seeking good returns in the near zero interest rate environment, ending the year at $2,596/t. But 2010 threatens to end the one-way bet. Our estimate that the three-month price will average $2,217/t in 2010 belies the acute volatility we expect will shape the base metals' markets this year, with zinc in particular being vulnerable.

Producers have restarted idled zinc supply rapidly over the past few months, even though demand outside of China remains lethargic, while the construction of new production capacity is accelerating. This ought to point to a period of price weakness, to rein-in supply and beef-up demand, but prices in the opening months of 2010 have remained firm, apart from the short-lived sub-$2,000/t correction in early February. Why has the price remained so firm while the supply-side is building up a fresh head of steam? The answer, we suspect, is related to the new dynamics that have come to shape the base metals markets in recent years, with investor-driven demand based on expectations of tighter market conditions ahead, keeping prices above equilibrium. This was never more evident than in 2009. The non-commercial investment support for some base metals remains firmly wedded to the view that demand is going to remain stronger for longer, and has to some extent priced this long perspective into the market. Zinc, like copper, has very favourable prospects in the longer term, and this has garnered it support among the investment community, in a period where immediate fundamentals suggest otherwise.

The elevated price level could create an environment whereby miners and smelters are encouraged to ramp-up supply way more than is justified by current physical demand, threatening that the zinc market surplus remains high in 2010, at approximately 325,000t, against some 690,000t in 2009. Judging by the weak level of industrial recovery in the US and Europe to date, and the unlikely scenario that China will repeat last year's extraordinary level of demand, our estimate may be on the conservative side.

Last year Chinese consumption grew by 18%, to more than 4.7 Mt, according to the International Lead and Zinc Study Group (ILZSG), which resulted in a huge rise in zinc imports that soaked up much of the global surplus. In real terms, and from a lower base than that estimated by the ILZSG of about 3.7 Mt, we estimate Chinese consumption grew by as much as 11% in 2009, to 4.1 Mt. If we add into that China's reported refined zinc production and net imports of refined zinc, the total figure was 5 Mt, leaving an overhang of as much as 900,000t of excess metal – all of which we suspect has gone into stocks. This year, real Chinese consumption growth is likely to slow to about 8%, to ~4.5 Mt, while US and European demand may bounce back slightly, but only when measured against 2009 levels – consumption will still be markedly down from previous years.

Our current estimates for zinc supply in 2010 is for mine production to rise by as much as 6.4% on year-ago levels, to 11.71 Mt, as a number of operations restart and new supply comes online either via new projects or mine expansions. Refined production will rise by a more modest 3.4%, to 11.54 Mt, although capacity will rise considerably more, due to smelter expansions and new Chinese facilities. Global demand meanwhile will grow by about 7% year-on-year, to 11.2 Mt, as the Chinese construction and automobile sectors continue to flourish under Beijing's stimulus package and relatively loose monetary policies, and while OECD economies emerge from the gloom of 2009.

New mines, expansions and mine restarts could add as much as a net 704,000t of zinc mine capacity to the market in 2010 (see table). This includes some

320,000t of new, restarted or expanded Chinese output, the continued ramp up of Hindustan Zinc's Rampura Agucha mine, Minmetals' Century mine in Australia and the restart of Glencore's Tennessee mines in the US. Losses include a 25% fall in output from Peru's Antamina mine, which has recently been given the go-ahead for a $1.3bn expansion, and the closures of the Galmoy mine in Ireland as well as the Iscaycrus operation in Peru, among others.

Zinc mine supply changes, 2010-2011, 000t

	Expansions/restarts	Output capacity increase, 000t		Expected annual production, 000t	
Country	Operation	2010	2011	2010	2011
China	Known projects/mines	335	122	3,334	3,456
India	Rampura Agucha	60	60	659	719
Australia	Mount Isa	29	21	344	365
Iran	Angouran	40	20	100	120
Peru	El Porvenir	16	0	80	80
Peru	Colquijirca El Brocal	13	10	80	90
Peru	Paragsha	0	50	80	130
Sweden	Boliden Area Operations	20	5	50	55
USA	East Tennessee Mines	34	10	40	50
USA	Gordonsville	30	20	40	60
Brazil	Morro Agudo	13	0	40	40
Bolivia	Porco	17	0	37	37
Bolivia	Bolivar	17	0	37	37
Chile	El Toqui	11	0	32	32
Bolivia	Huari-Huari	13	0	29	29
Peru	Pallca	10	3	12	15
Pakistan	Duddar	8	10	10	20
Rest of World	Various	30	72	334	406
Total		**696**	**403**		
	New projects				
Mexico	Penasquito	58	(5)	70	65
Finland	Talvivaara	25	20	30	50
Tajikistan	Altin-topkan	48	5	50	55
Canada	Wolverine	6	3	7	10
Mexico	Don Ramon	10	40	10	50
Saudi Arabia	Al Masane	1	19	1	20
India	Kayar	0	20	0	20
India	Ambaji	0	18	0	18
Total		**148**	**120**	**168**	**288**
	Total capacity increase	**844**	**523**		
	Losses through attrition and closures	**(140)**	**(224)**		
	Total net gain/loss	**704**	**299**		

Zinc smelter supply changes, 2010-2011, 000t

		Output capacity increase, 000t		Expected annual production, 000t	
Country	Operation	2010	2011	2010	2011
Peru	Cajamarquilla	335	122	3,334	3,456
India	Chanderiya RLE II	60	60	659	719
India	Debari	29	21	344	365
Belgium	Balen	30	72	334	406
Canada	Trail	40	20	100	120
Canada	Valleyfield	16	0	80	80
China	Various	13	10	80	90
	Total capacity increase	**896**	**101**		

With regard to refined supply, China will drive global growth, adding more than 350,000t to total output capacity this year. This will include the expansion of Bayi Zinc Co's Hanzhong plant; the ramp up of Baohui Group's Huixan smelter; the expansion of the Dongshengmiao smelter; and the ramp up of Zhuzhou's direct leach operation. Other potential capacity expansions derive from a number of new smelter projects, namely Yunnan Metallurgical Group's Hulunbuir smelter and Xing'an Smelting's Xilingol plant. Outside of China, smelter restarts might add as much as 500,000t, including Nystar's Balen plant in

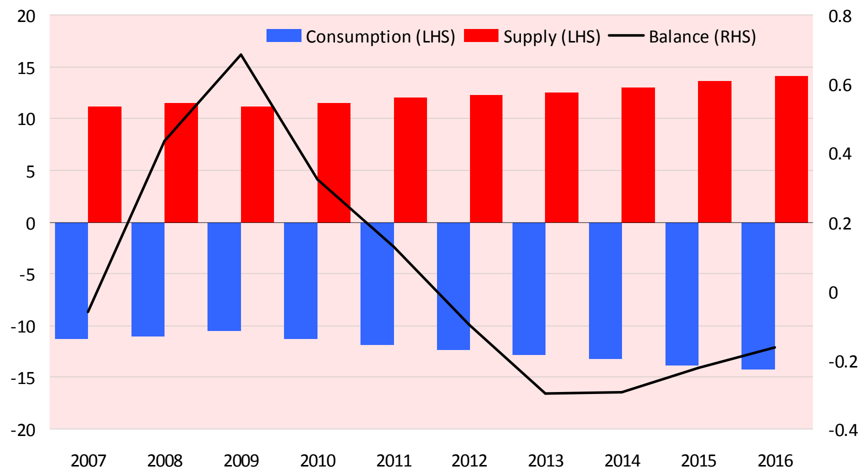
Belgium, and the expansion of Votorantim's Cajamarquilla operation in Peru. Overall this will add as much as 900,000t/year of output capacity in 2010.

Demand for zinc will be led by China, growing at an estimated 8% in 2010, to almost 4.5 Mt, while the rest of the world will also see demand rise year-on-year, once fiscal stimulus measures gain momentum. Japanese zinc demand could see as much as an 11% rebound year-on-year, while the key markets of the US and Europe may record growth as high as 15% and 10%, respectively v. 2009, but signs to date from the key construction and automobile sectors suggest that consumption may fall short of this growth estimate. Relative to 2008 and 2007 levels however, Japanese, US and European zinc demand will still be down by 15%, 14% and 11%, respectively, from 2008, and 8%, 7% and 6% on 2007. Nevertheless, global demand, thanks to China, will more or less be on par with that of 2007.

Golden prospects

So we are facing the prospect of a large market surplus in 2010, which ought to be extremely negative for prices; but immediate fundamentals are largely being ignored, due to zinc's promising medium to long-term prospects. The zinc concentrate and refined markets are heading for sizeable deficits after 2011, as demand grows rapidly in emerging economies and numerous mines reach the end of their life, with little new committed supply in the pipeline.

Zinc supply/demand, 2007-2016, Mt (2009 estimated, 2010-2016 forecast)



Source: VM Group

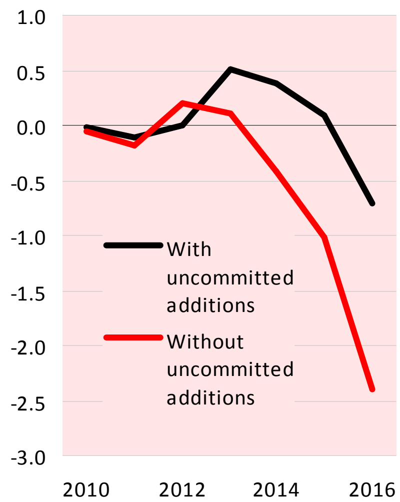
Maybe this long-term demand growth view will prove to be correct, although it is basing itself almost entirely on the view that emerging market growth – particularly in Asia – will continue its recent trajectory. Demand growth from the US and Europe ought to be largely discounted, since consumption rates between 2000-2008 have been either flat or in decline. Thus zinc's longer-term demand prospects lie with the rate of industrialisation in emerging economies.

Is this a reasonable assumption? Quite possibly. Discounting 2009, China's zinc consumption has grown at an average annual growth rate of 13.5% since 2000. From 1.35 Mt in 2000, we estimate China will consume 4.5 Mt in 2010. In the event that China continues on this path, then by 2020 it could be consuming as much as 14.5 Mt of zinc – or 30% more than the world consumed in 2008. This is not altogether fanciful, since China requires an enormous level of infrastructure development relative to the developed world, with its far fewer airports, roads and railways per capita, while its urban population could increase by 150m by 2020, according to UN estimates. This will require a huge amount of new construction, in which zinc demand must soar through its use in galvanised steel.

However, supply constraints, and perhaps a tighter monetary policy by Beijing in the coming decade, may slow the rate of China's zinc demand. Nevertheless, even on a much slower average annual demand growth rate of 5%, China will still be consuming 6.7 Mt of zinc per year by 2020. There will also be an appreciable rise in Indian zinc consumption, averaging 6% over the next decade, and from other major emerging economies. Altogether this could push up world annual zinc demand growth to an average of more than 3%, to about 15.5 Mt/year by 2020. This will require a 3.5 Mt/year jump in refined zinc output and a more than 4 Mt/year rise in zinc mine supply above current levels.

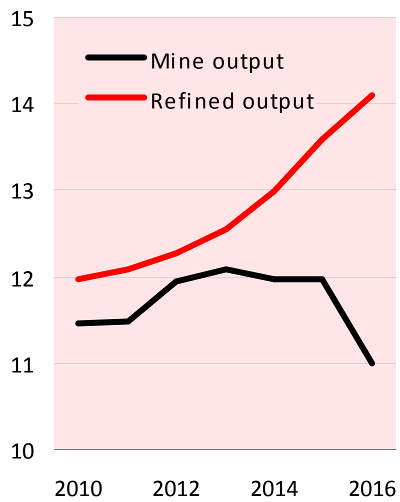
Taking into account all the uncommitted and committed supply projects currently in the pipeline, the zinc market profile therefore appears extremely tight going forward, especially in the period from 2012-2016. The zinc concentrate market, including all committed and uncommitted mine supply, has the potential to move into a surplus of more than 400,000t in 2013, but without uncommitted supply, or part thereof, this surplus would fall to just 100,000t. By 2014 we could be facing a zinc concentrate market deficit of as much as 500,000t, rising to ~3 Mt by 2016. This will depend on total smelter production capacity and utilisation rates, but here too we find a deficit against estimated consumption, even taking into account existing operations, closures, expansions and committed and uncommitted new capacity.

Implied zinc concentrate balance with and without uncommitted mine supply, Mt



Source: VM Group

Forecast refined supply and mine supply, without any uncommitted additions, Mt



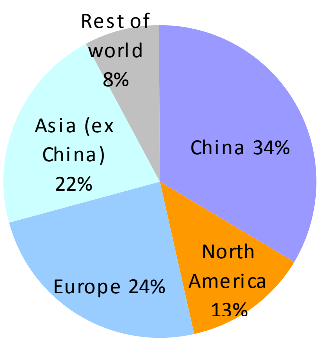
Source: VM Group

By 2012, and accounting for disruptions and other production losses, the refined zinc market balance could potentially show a deficit of as much as 100,000t tripling by 2013-2014 and declining only slightly, to 200,000t, in 2015-2016. Should zinc mine supply fall short by as much as 3 Mt in 2016, then the refined zinc market could be plunged even further into deficit, as concentrate supply is insufficient to feed available smelter capacity. Of more concern is the fact that it can take up to ten years to bring a mine into production; even if all uncommitted projects go ahead, it looks likely that the refined zinc market is still heading for a slight deficit over the next several years.

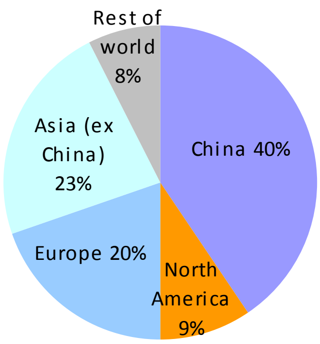
We estimate that almost 2.4 Mt/year of zinc mine production will close between 2011 and 2016, providing the Skorpion mine in Namibia, the Tara and Lisheen mines in Ireland, Perseverance and Brunswick mines in Canada and Cerro Lindo operation in Peru, among many others, are closed as currently planned. Expansions announced to date only account for an additional 650,000t/year over the same period and new committed projects another 300,000t/year. Another 1.75 Mt/y exists in potential uncommitted mine projects.

Higher market prices will obviously encourage investment into new mine supply, but not without significant time lags. The recession has delayed such investment, but if the price stays high, then we foresee a rush to bring through new mine capacity over the next decade, or otherwise face a sustained market deficit. Current prices are therefore not without substance, despite near term fundamentals looking decidedly negative. We forecast zinc to average $2,825/t in 2011, $3,575/t in 2012 and ~$3,500/t in 2013. However, risk is to the upside, barring a double-dip scenario or some significant pause in the China growth story.

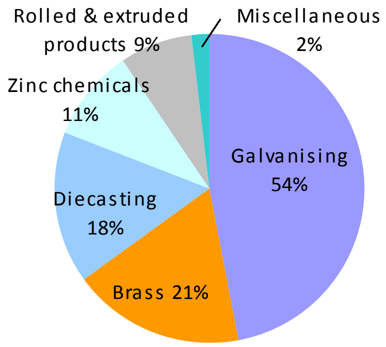
Zinc consumption share by country/region, 2008



Zinc consumption forecast share by country/region, 2020



World zinc consumption by end use, 2008



Source: VM Group

Gold

Key events & analysis

- **Gold has been in a skittish mood recently,** trading from 15 February to 17 March in a range of $1,094.50/oz to $1,136.50/oz (using the London PM fixes) with little sense of direction and rarely looking like breaking decisively higher or lower. It began March brightly, reaching $1,136.50/oz on 3 March, its highest since 14 January 2010, but it could not maintain its gains and slipped to $1,106.25/oz by 15 March, before rebounding strongly to $1,122.75/oz by 18 March.

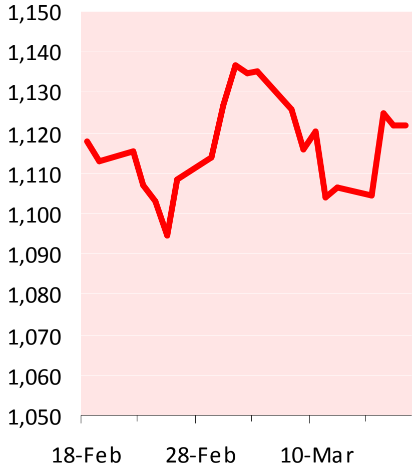
- **Comparing prices in March to gold's all-time high of $1,212.50/oz in early December 2009 suggests gold has been a disappointment, but this is to ignore the much stronger dollar now than back then.** The US currency is currently 7% stronger than it was when the gold price peaked on its index (a broader measure of the dollar's strength), and against the euro it has done even better, trading by 17 March 8% higher than it was when gold peaked. Indeed, earlier in March the dollar was even stronger, when gold was trading higher, meaning it set *record highs* when measured in many currencies – euros and sterling chief among them – on 5 March.

- **This suggests gold is not as weak compared with its December 2009 level as it might appear if we simply looked at the dollar price**. The question is – what currency should we use? Naturally the dollar price remains the most important, and it is not simply the case that in other currencies gold has been doing better than in dollars, as some currencies are still appreciating against the US currency. Notably this includes China, whose yuan is semi-fixed to the dollar but slowly gaining – thus pushing gold prices slowly down there, relative to the US dollar price – and India, whose currency floats but which has been limpet-like attached to the dollar in recent months.

- **One method to get a broader sense of gold's global strength is to look at its price in a basket of currencies**. One such currency would be the IMF's SDR, a basket of dollars, euros, yen and sterling. We have created a broader basket of the top 20 major currencies, with their importance **weighted by their country's share of global GDP.** If we compare this to the dollar price of gold by rebasing the two series to be the same at the start of 2009 we find that the current dollar price of $1,125/oz (as of 16 March 2010) is only slightly higher than our GDP-weighted price of $1,095/oz. This means the dollar's movement has had little impact on the gold price over this period. However, what is different is that the sharp rise in the dollar price of gold from about September 2009 is not so pronounced when using our basket – the dollar peak of $1,212.50/oz in December was only $1,151/oz on a GDP-weighted exchange rate basis. Because of this, gold's decline from that peak to today's levels has been smaller (5%) compared with 8% for the dollar gold price. This is perhaps a better guide to gold's strength (or weakness).

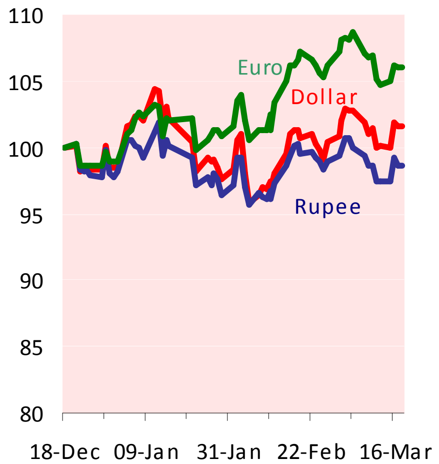
- **This leaves a conundrum. Why is gold relatively strong, when ETF demand appears to have collapsed?** Our estimate of the supply/demand balance for 2010 posited a chunky surplus, even with 700t of ETF demand (up slightly from 576t in 2009). But inflows as of mid March in 2009 have not just been light; there were in fact net *outflows* of around 15t across the 17 ETFs we track. By this time last year there had been huge inflows, 105t in January 2009 and an enormous 221t in February 2009, while March 2009 also saw a large inflow. Unless investment in ETFs show significant

Gold, London PM fix, $/oz



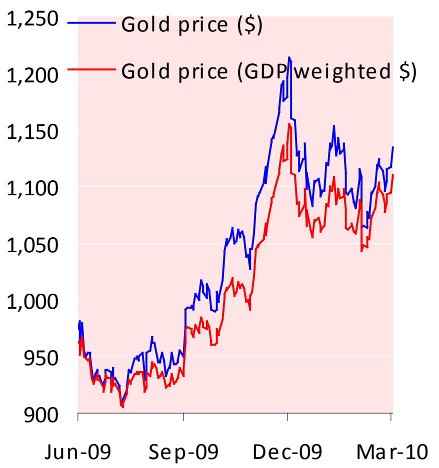
Source: LBMA, VM Group

Gold price in various currencies, three months ago = 100



Source: LBMA, VM Group

GDP weighted gold price, $/oz



Source: VM Group
Note: GDP weighted gold price reweighted to equal dollar gold price as of January 2009

increases soon, Q1 2010 will have seen an enormous shortfall of over 400t of gold. With fears over the euro still prevalent in financial markets, perhaps nervous European investors looking to preserve wealth might make some large ETF purchases; however there is no evidence of this yet.

- **That the price is remaining relatively strong despite this shortfall in ETF demand suggests either supply is lower than expected or demand is higher.** On the supply side, mine supply moves too slowly to be a major factor, and mining company hedging has been very limited for some time. Central bank sales have been zero this year when in Q1 09 hey were about 60t, which explains some of the difference. If we were to pin down a supply shortfall then scrap might be the explanation, but this too was huge in Q1 09 and is more limited this year.
- **On the demand side there is some evidence that jewellery demand is picking up.** The Bombay Bullion Association puts Indian imports of gold in February at 35t, more than four times the level of February 2009. Industrial and electronic demand might be recovering faster than we expected. Dehedging in Q1 2010 is likely to be limited, now that Barrick have closed out their book, but it was also very slow in Q1 2009, so on a year-on-year basis this might be a positive factor.
- **Yet even if we take the most negative view on supply and the most positive on demand these views are still not able to account for the shortfall in ETF demand.** Perhaps then there is another major factor bringing the market into balance, even at these prices. Is there a central bank purchase we don't know about? Has investment moved from the easily visible exchange-traded products to less visible bars, or even to a classic under-the-mattress purchase of coins?

Short term outlook

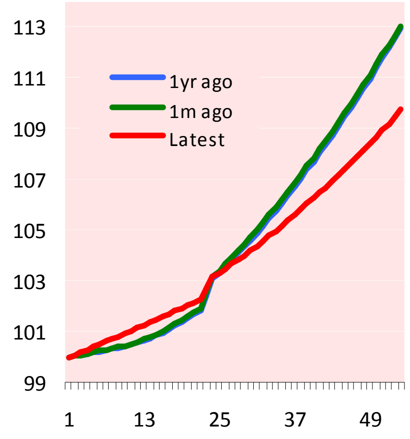
The dollar started falling again on 16 March and gold gained, pushing through $1,130/oz. However by 19 March it was back down to $1,108/oz. This volatility is likely to continue but the range could get wider as investors sense a break higher or lower. Short-term London PM fix: $1,075/oz-$1,140/oz

Gold supply & demand balance, tonnes

	2008	2009	2010f
Supply			
Mine supply	2,356	2,432	2,435
Scrap recycling	1,185	1,408	1,300
Hedging	33	38	20
Central Bank sales	298	351	260
Total supply	**3,871**	**4,229**	**4,015**
Demand			
Jewellery fabrication	1,976	1,798	1,800
Legal tender coins	201	215	201
Electronics	422	366	400
Other end uses	313	284	250
ETFs	320	576	500
Central Bank purchases	191	380	250
Dehedging	374	229	110
Total demand	**3,796**	**3,848**	**3,511**
Residual	**75**	**397**	**504**

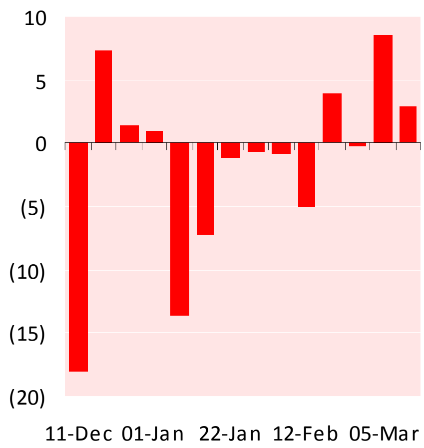
Source: VM Group

Gold forward curve (Comex), 1st position = 100, various dates

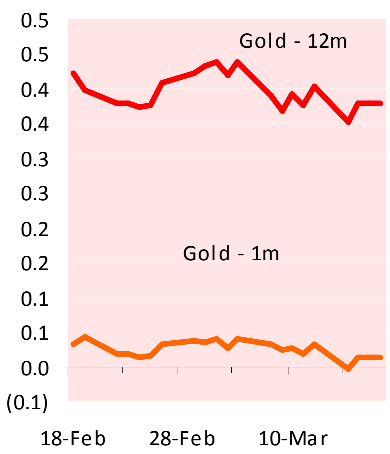


Source: VM Group

Gold ETF offtake, tonnes



Lease rates, 1m and 12m, % per annum



Source: VM Group

Silver

Key events & analysis

- **Silver has performed strongly recently**, especially in comparison with gold. Fixing at $15.57/oz on 15 February, the price traded in a narrow range up to 24 February ($15.76/oz) before racing higher, to $17.47/oz by 10 March. Subsequently it has succumbed to profit taking on a weaker gold price, but as of 18 March was still at $17.49/oz, 10% higher than a month earlier.

- **As gold was essentially flat over this period, the gold/silver ratio has moved sharply in silver's favour**, reaching a low of 63.91 on 12 March, compared with over 70 in mid-February. However it fell back on 15/16 March, as gold recovered.

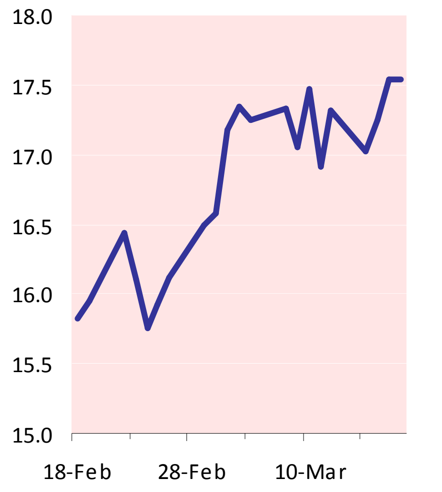
- **What was behind silver's gains?** Base metal prices performed strongly in this period, with a 9% gain for the LME index of base metal prices between 15 February and 15 March, exactly the same as silver's price gain. One reason for both is the devastating earthquake that hit Chile, the world's fourth largest silver producer (and largest copper producer), on 27 February, with another (termed an 'aftershock' in some reports) following hard on its heels on 11 March.

- **ETF demand has been very weak.** The holdings of the physical ETFs so far in 2010 have shown a slight fall of 241,249 oz (7.5t). In 2009 by contrast 47.7 Moz had been purchased at this stage (1,485t), and in 2008 20.9 Moz (649t).

Short term outlook

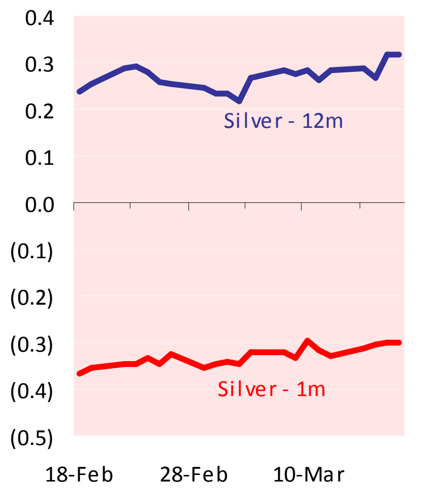
The Chilean earthquake emphasises the role of the unexpected in determining metal prices. Nevertheless, silver's latest gains in price only bring the gold/silver ratio back to where it was in early January, before silver suffered a bout of price weakness. Whether the price can maintain these gains will depend on the extent of the damage done to Chile's silver mines, and how quickly they can return to full production, plus the extent to which fragile investor sentiment remains bullish. We expect some pull-back over the next month, especially with respect to gold. Short-term London fix: $16.50/oz-$17.75/oz.

Silver, London fix, $/oz



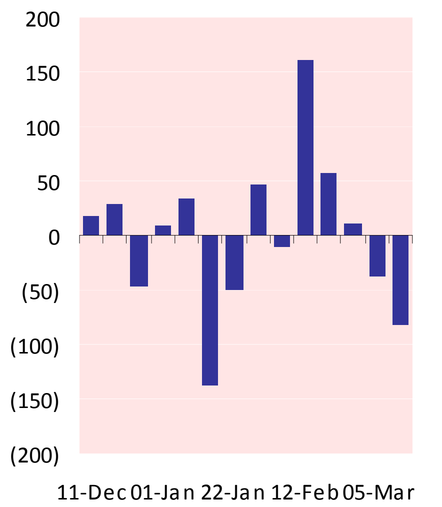
Source: LBMA, VM Group

Lease rates, 1m and 12m, % per annum



Source: LBMA, VM Group

Silver ETF offtake, weekly, tonnes



Source: VM Group, ETF providers

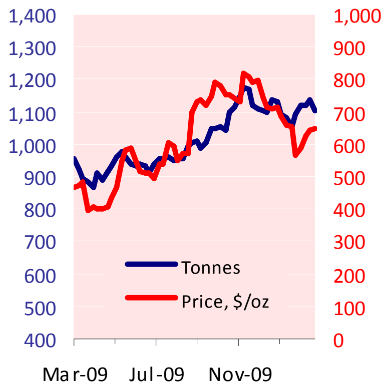
Silver supply & demand balance, tonnes

	2008	2009e	2010f
Supply			
Mine supply	21,353	21,907	22565
Recycling	13,058	13,132	12,972
Government	500	500	250
Total supply	**34,910**	**35,539**	**36,570**
Demand			
Jewellery and Silverware	7,784	7,996	8,044
Photographic	4,349	3,604	3,930
Electrical/Electronics	4,349	3,604	3,930
Brazing Alloys	1,293	1,287	1,285
Catalysts	1,516	1,501	1,516
Others	3,127	3,288	4,011
ETF	2,325	3,107	3,000
Coins	1,470	1,955	2,443
Total demand	**28,460**	**28,955**	**30,487**
Residual	***6,450***	***6,584***	***6,084***

Source: VM Group

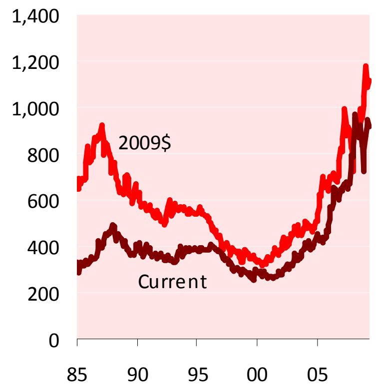
Gold and silver data

Gold CFTC net long position & price



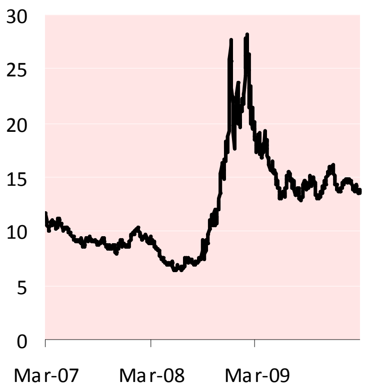
Source: VM Group, CFTC

Gold in current $/oz and 2009 $/oz



Source: VM Group

Gold/oil ratio, past 3 years

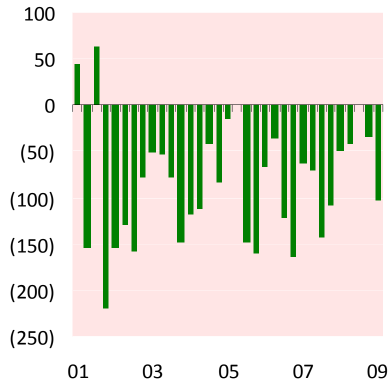


Source: VM Group

Gold/silver ratio, past 3 years

Source: VM Group

Gold dehedging, tonnes/quarter



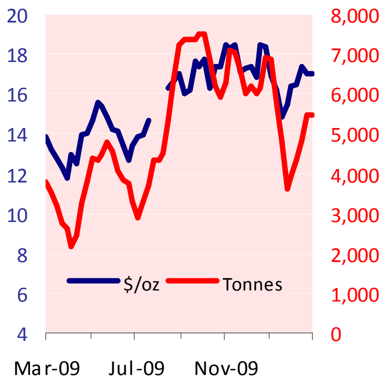
Source: VM Group.

Latest central bank data (Jan 10)

Country/institution	Tonnes
Belarus	(1.4)
Mexico	(0.2)
Total sales	**1.6**
Russia	3.8
Total purchases	**3.8**
Net change	**2.3**

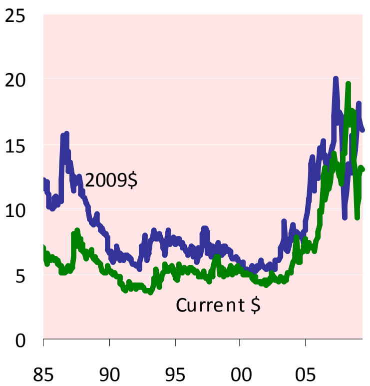
Source: IMF, International Financial Statistics & national country website. Not all country changes shown

Silver CFTC net long position & price



Source: VM Group, CFTC

Silver in current $/oz and 2009 $/oz



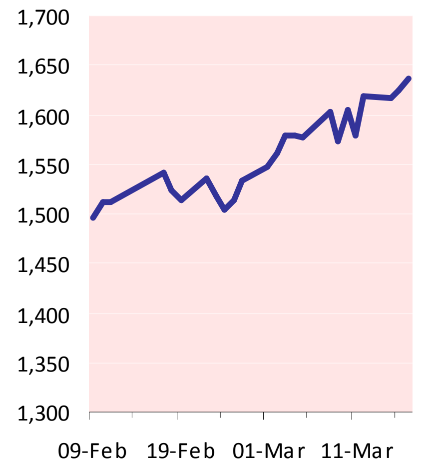
Source: VM Group.

Silver/copper ratio, past 3 years

Source: VM Group.

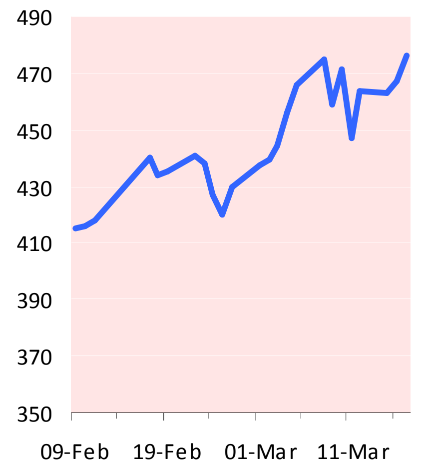
Platinum and palladium

Platinum price, PM fix, $/oz



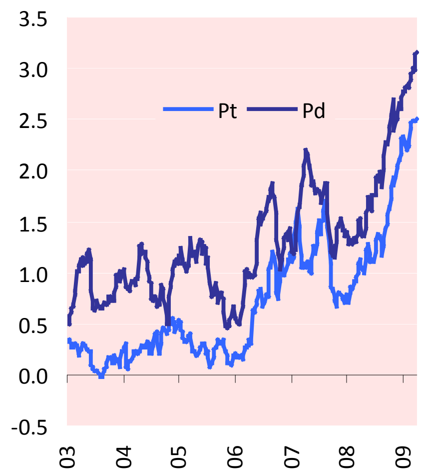
Source: LPPM, VM Group

Palladium price, PM fix, $/oz



Source: LPPM, VM Group

ETF/Futures holdings, Moz



Source: VM Group, ETF Securities, ZKB,
Note: First ETFs launched in 2007.

- Since their tumble in early February **platinum and palladium prices** have been extremely strong. From a low of $1,475/oz on 5 February, platinum gained steadily to hit $1,624/oz by 16 March, a gain of 10% and just shy of the $1,627/oz it fixed at in January. Palladium did even better, rising from a low of $395/oz on 5 February to hit $475/oz by 8 March, 20% up from its low, and beating its January high – indeed it's the highest fix for palladium since the same $475/oz seen on 20 June 2008.

- **What's behind these gains? Unlike gold and silver, investment flows remain positive into the ETFs,** although the rapid pace seen in January after the launch of the US ETF has ebbed away, particularly in platinum**.** As of 12 March, total platinum ETF holdings were 934,296 oz, up from 902,230 oz at the end of January. Palladium has done better, with holdings of 1,636,523 oz, as of 12 March, up from 1,493,664 oz at end January (with more than 100,000 oz of this coming from the US ETF). If we add to these the net long positions on the futures exchanges of Tocom and Nymex, both platinum and palladium are at a record high (see chart ETF/Futures holdings). Platinum totals 2.6 Moz while palladium is at 3.2 Moz.

- **Car sales have been a mixed bag.** Passenger cars and light commercial vehicles sales in China amounted to 942,900 units in February, 55% higher than the same month of 2009. While this remains a tremendous rate of annual growth, it was the lowest units sold in a month since August 2009. February is traditionally a weaker month for Chinese sales, because of the fewer days in the month and also the week long Chinese New Year festivities, when data show a 10%-20% lower level than in January and 20%-40% lower than in March on average, over the past five years.

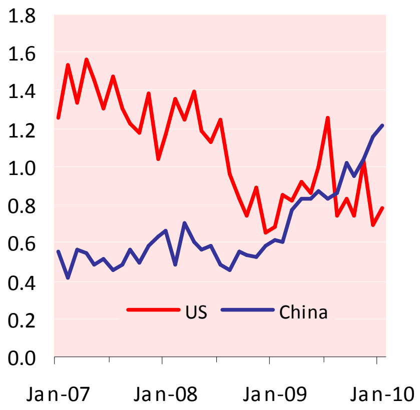
- **Meanwhile US sales** of 866,667 light vehicles in February were 14% higher year-on-year, a similar rate of increase to January's 12%. However a comparison with 2008 shows a decline of 33%, highlighting how far the market remains from levels considered 'normal' not so long ago. In **Europe** diesel continues to recover, posting a 51% market share in December, up from its low of 42.2% in August 2009, a positive trend for platinum. But overall sales are struggling, up just 3% year-on-year in February. Germany is suffering a hangover from its lavish incentive schemes, down 30% in February (which represents an amount of 82,000 fewer cars being sold) but Italy, Spain, the Netherlands, France and the UK all managed gains sufficient to cancel out Germany's decrease in car sales. March however might see very poor figures on a year-on-year basis, as in that month of 2009 German car buyers bought 400,965 units, the highest March amount of vehicles purchased in the country since unification.

Short term outlook

We've been relatively negative on PGMs due to our view that car sales had been artificially boosted and would begin to decline, especially in Europe. This is happening but China's efforts to surge ahead help palladium and Europe's diesel bounce-back will support platinum. Production woes will also provide a floor, and so short term we are slightly more positive than we were. A lot will depend however on the US ETFs. Short-term London fix, platinum: $1,550/oz-$1,699/oz, palladium: $425/oz-$499/oz.

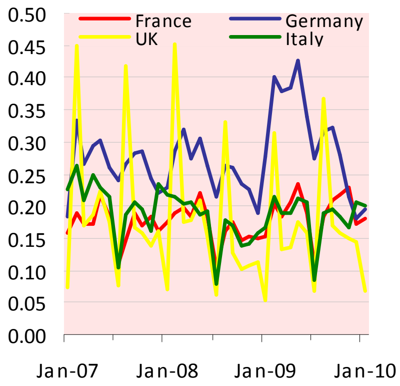
PGMs data

US & China car sales, monthly, million units



Source: VM Group, national data

Top four European car markets sales, monthly, million units

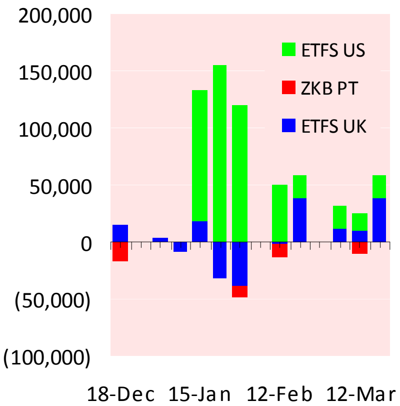


Source: VM Group, national data

Platinum turnover on the SGE, rolling 3m average, annualised, oz

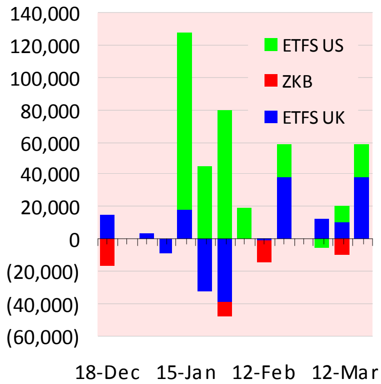
Source: VM Group, SHFE

Palladium ETFs weekly offtake, oz



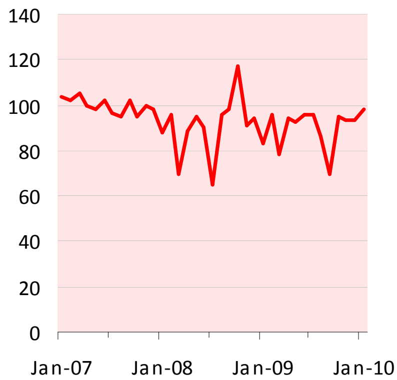
Source: VM Group, *issuing companies*

Platinum ETFs weekly offtake, oz



Source: VM Group, issuing companies

South Africa PGM output, 2005=100



Source: VM Group, SSA

Platinum supply & demand balance

Platinum	2008e	2009f	2010f
Supply			
Mine supply	5,964	6,1 20	6,120
Scrap recycling	875	735	740
Total supply	**6,839**	**6,855**	**6,860**
Demand			
Autocatalysts	3,538	2,950	3,000
Jewellery	1,396	2,200	1,500
Other industrial	1,912	1,371	1,571
Total demand	**6,846**	**6,521**	**6,071**
Residual	**(7)**	**334**	**789**
Stock movements			
ETF inflows	**102**	**280**	**750**
Other investment	**440**	**175**	**175**
Unknown/implied investment	**(549)**	**(121)**	**(136)**

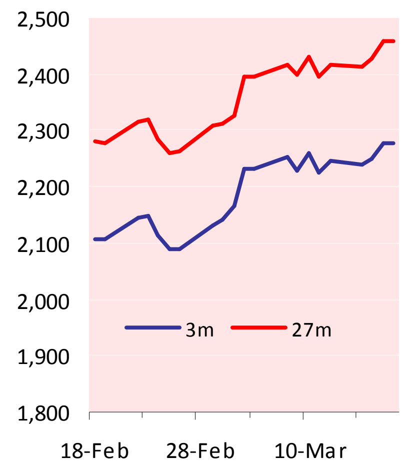
Palladium supply & demand balance

Palladium	2008e	2009f	2010f
Supply			
Mine supply	6,242	6,169	6,200
Scrap recycling	1,392	1,150	1,150
Total supply	**7,634**	**7,319**	**7,350**
Demand			
Autocatalysts	4,411	4,000	4,150
Jewellery	1,022	1,075	1,000
Other industrial	2,234	2,092	2,140
Total demand	**7,667**	**7,167**	**7,290**
Residual	**(33)**	**152**	**60**
Stock movements			
ETF inflows	**367**	**485**	**1,000**
Russian stock sales	**(1,000)**	**(950)**	**(950)**
Unknown/implied investment	**600**	**617**	**10**

Source: VM Group, Johnson Matthey

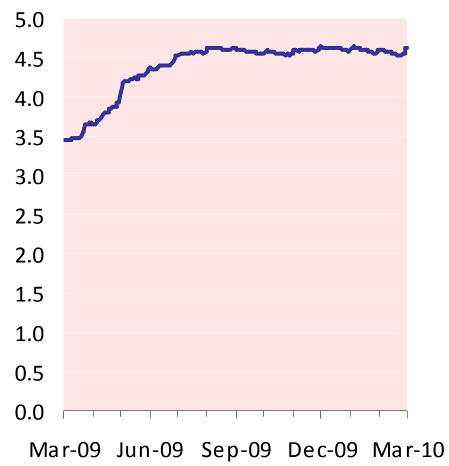
Aluminium

Aluminium price, LME, $/tonne



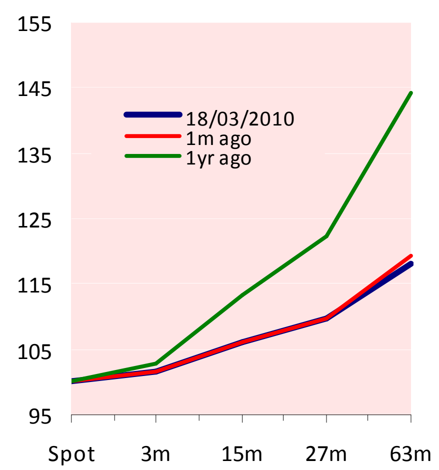
Source: LME, VM Group

Aluminium stocks, LME, Mt



Source: LME, VM Group

Aluminium forward curve, LME, various dates, spot price = 100



Source: LME, VM Group

Key events & analysis

- **LME stock declines imply that demand is recovering.** LME stocks have inched down since mid-February to mid-March, but over this period Shanghai stocks have grown, leaving the net change in total exchange stocks down by ~7,000/t. With total stocks at more than 4.9 Mt, the net decline is a mere 0.15%, although the trend suggests that further stock outflows is probable. This is also supported by rising LME cancelled warrants, which are more than double that of early December 2009, at almost 0.28 Mt on 11 March, or about 6% of total LME inventories. More than 0.19 Mt of this cancelled tonnage is in the US, which suggests an improvement in demand in the world's second largest consumer.

- **Global aluminium output falls** by 28,000t in January from a month earlier, to 3.287 Mt. This was however a temporary event due to adverse weather conditions in China that month, and February's National Bureau of Statistics' (NBS) figures show China's output rising 3.6% month-on-month, to 1.308 Mt. Aluminium production outside of China has also expanded, rising to 1.995 Mt in January from 1,984 Mt in December, as high prices have encouraged some smelters to ramp-up production. Output levels are still down by as much as 200,000t/month on 2008 and 2007, but with rising forward sales implying that certain producers may be locking-in prices ahead of restarting capacity, the risk is that other smelters will be compelled to follow suit or lose market share.

- **Chinese imports slow.** China's imports of unwrought aluminium and aluminium products fell 34% month-on-month in February, to 64,356t, while exports declined by 38%, to 28,117t. Consequently, net imports fell to their lowest since January 2009. With production soaring, China is unlikely to be as big an importer as last year.

Short term outlook

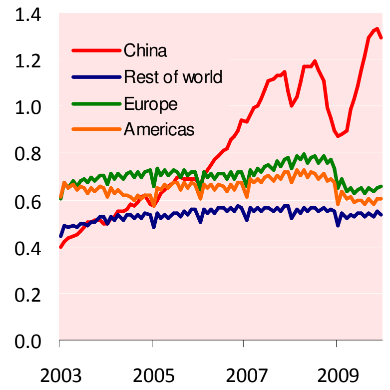
Smelters outside of China are beginning to inch up output, since prices are above marginal costs, while rising premiums and growing aluminium orders in the US and EU signal that demand is recovering. The rate smelters ramp-up however will be critical to the overall market balance this year. Chinese consumption is likely to stay strong in 2010, but it also remains to be seen whether domestic supply will overshoot demand, creating a glut that could find its way onto the international market in product form. But with much of the LME stock locked into term financing deals there still is room for prices to rise. Short-term LME three-month price: $2,100/t-$2,400/t.

Chinese aluminium and alumina prices, yuan/t

17 March 2010	Current	YoY % chg	Last mth	YoY % chg
SHFE spot price	16,440	33%	16,515	41%
SHFE three-month price	16,775	40%	16,825	47%
SHFE six-month price	17,200	45%	17,075	54%
SHFE stocks, tonnes	360,253	79%	328,397	83%
Chinese aluminium ingots (99.7%min)	16,185	28%	16,125	33%
Chalco alumina prices	3,000	36%	3,000	36%
Chinese alumina (Australian import)	2,925	56%	2,875	46%

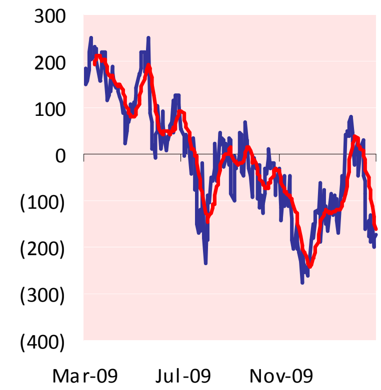
Aluminium data

Aluminum output by region, monthly, Mt



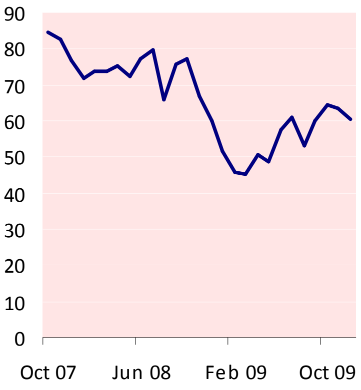
Source: IAI, VM Group

SHFE/LME price differential, $/t



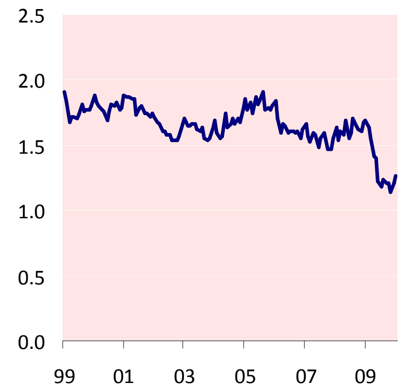
Source: SHFE, LME, VM Group

Japanese domestic shipments of extruded products, 000t



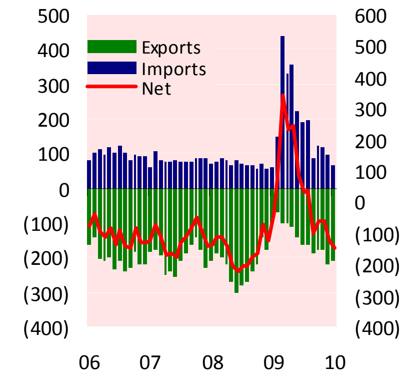
Source: Japan Aluminium Association

Unwrought aluminium producer stocks, Mt



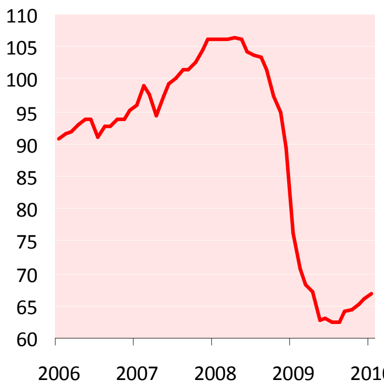
Source: IAI, VM Group

Chinese imports/exports of unwrought aluminum and aluminum products, 000t



Source: China Customs

US output, alumina and aluminium, 100=2002



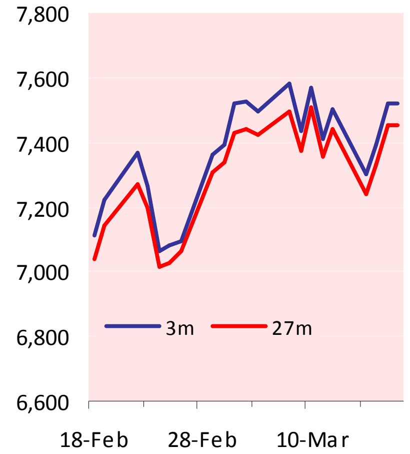
Source: Federal Reserve, VM Group

Aluminium supply & demand balance, 000t

	2006	2007	2008	2009e	2010f	2011f
Supply						
China	9,352	12,605	13,247	13,483	16,190	17,885
North America	5,334	5,643	5,783	4,762	4,779	4,801
Europe & CIS	9,197	9,665	9,997	8,774	8,784	8,482
Rest of world	10,029	10,181	10,588	10,438	10,452	11,100
Total world output	**33,912**	**38,094**	**39,615**	**37,457**	**40,204**	**42,268**
Year-on-year % chg	6%	12%	4%	(5%)	7.3%	5.1%
Demand						
Total world consumption	**34,121**	**37,765**	**38,265**	**35,721**	**38,668**	**41,665**
Year-on-year % chg	7%	11%	1%	(7%)	8.3%	7.7%
Implied market balance	**(209)**	**329**	**1,350**	**1,736**	**1,536**	**603**
Total stocks	3,671	4,248	4,987	6,695	8,177	8,496
Average 3-m LME price ($/t)	**2,593**	**2,662**	**2,626**	**1,703**	**2,185**	**2,652**

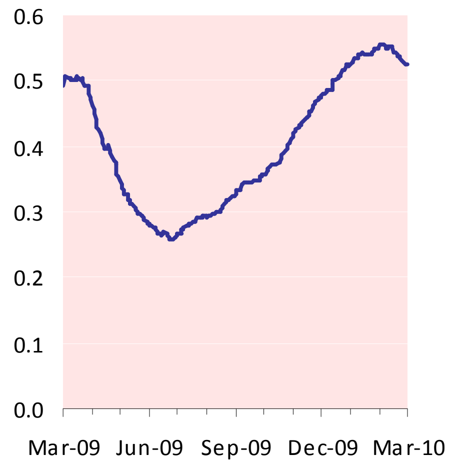
Source: IAI, WBMS, VM Group

Copper price, LME, $/tonne



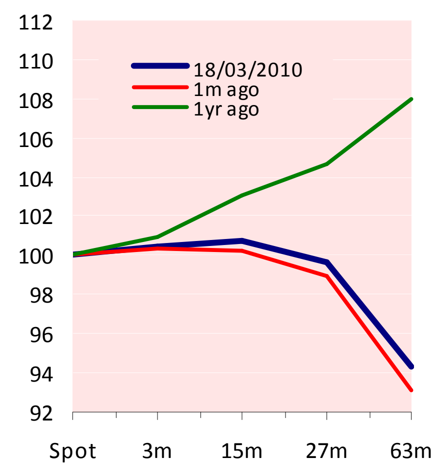
Source: VM Group

Copper stocks, LME, Mt



Source: VM Group

Copper forward curve, LME, various dates, spot = 100



Source: VM Group

Copper

Key events & analysis

- **Monetary tightening in China** continues to be the primary focus of the copper market, given that loose stimulus lending in 2009 soaked up much of the copper surplus in 2009. Chinese trade data so far for 2010 has showed imports and exports for all goods up significantly from last year. This has stoked fears that Beijing will tighten lending considerably to prevent economic overheating, cooling demand. February data for new loans certainly seems to add fuel to the fire, with loans almost half that of January, at Yuan 700bn. However, these new loans at second glance are very positive, given that they are up significantly on any month in 2H 2009, and were achieved despite the mid-month New Year festivities.

- **China's import of unwrought copper and copper products** flew in the face of expectations in February, rising 10.3% on the month, to 322,282t. The rise can be partly explained by low copper scrap levels, with imports down 57,000t on the month, to 280,000t in February. It is also a function of arbitrage trading between the SHFE/LME differential (including VAT), which was open for part of February. Even so, China's imports of copper were impressive, especially given that Chinese refined copper production in February rose 6.5% to 358,000t v. January, and suggests China may remain a big importer of copper in 2010.

- **LME copper stocks** have fallen consistently since late February from Asian and, importantly, European and US locations, suggesting an improvement in demand. In addition, bonded warehouse stocks in Shanghai fell by 50,000t in February, to less than 100,000t in early March. They were close to 250,000t at the start of this year. This is positive because it erodes the buffer of China's refined copper imports in the months ahead. Much of this however has gone into SHFE inventories, which have increased by more than 54,000t over the same period, to more than 155,000t as of 12 March. Importantly, LME cancelled warrants have risen since 10 February to as much as 35,975t in early March, and by mid-March 77% of this cancelled tonnage (totalling 21,450t) was for metal in US and European locations.

Short term outlook

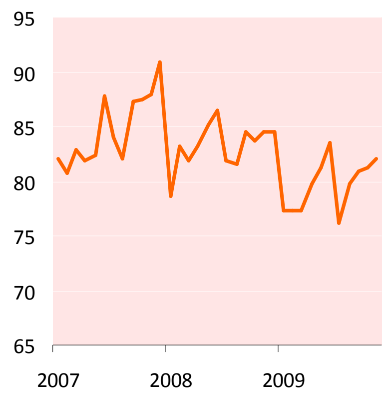
Copper prices have recovered from their downward blip in early February, with the Chilean earthquake providing a brief spike in late February. Outside of fluctuations in the dollar and concerns over monetary tightening in China, the stage looks set for copper to rally further. Short-term LME three-month price: $6,950/t-$7,700/t.

Chinese copper prices, yuan/t (unless stated otherwise)

17 March 2010	Current	YoY %chg	Last mth	YoY %chg
SHFE spot price	59,290	90%	56,210	113%
SHFE three-month price	59,660	95%	56,280	120%
SHFE six-month price	60,190	98%	56,390	120%
SHFE stocks, tonnes	114,302	264%	117,169	246%
Chinese copper cathode (99.95%)	58,850	93%	55,250	92%
		Current	**Last mth**	**6m ago**
Copper TC (cif) China ($/t)		10.5	10.5	12.5

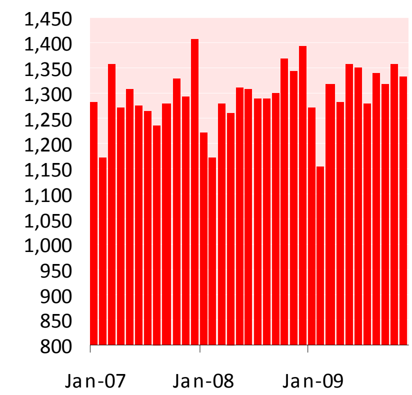
Copper data

World mine capacity utilisation, %



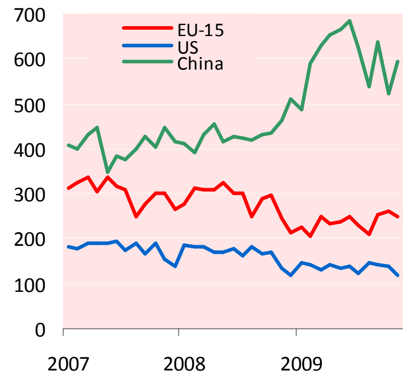
Source: ICSG, VM Group

Global copper concentrate output, monthly, 000t



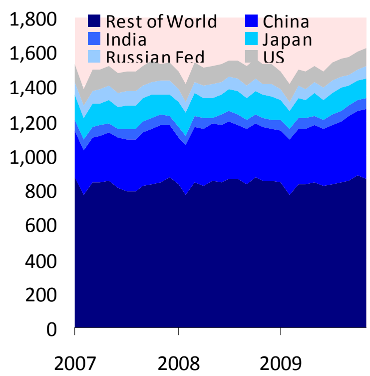
Source: ICSG, VM Group

Apparent copper usage, monthly, 000t



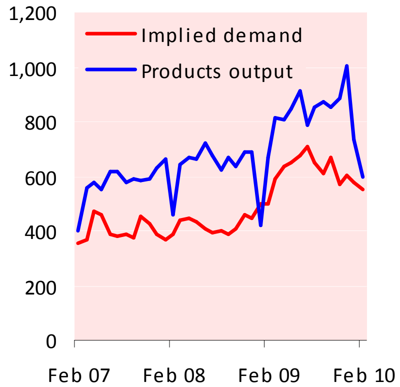
Source: ICSG, VM Group

Monthly refined copper production (primary and secondary), 000t



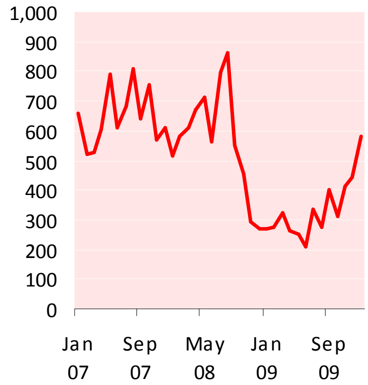
Source: ICSG, WBMS, VM Group

China implied copper demand & copper output, monthly, 000t



Source: China customs, NBS, VM Group

US copper imports, $m



Source: US Census Bureau, VM Group

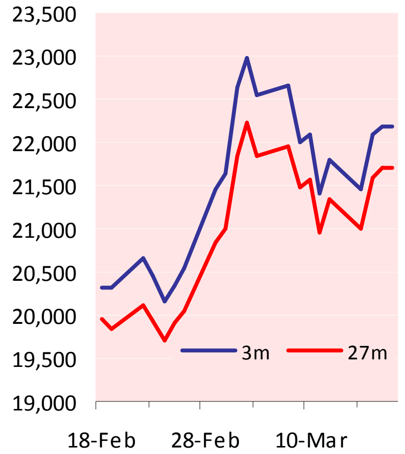
Copper supply & demand balance, 000t

	2006	2007	2008	2009f	2010	2011
Supply						
Total mine production	**14,983**	**15,439**	**15,450**	**15,262**	**15,949**	**16,148**
Year-on-year %change	0.4%	3.0%	0.1%	(1.2%)	4.5%	1.3%
North America	2,150	2,169	2,182	2,002	2,055	2,151
Latin America	3,555	3,600	3,515	3,564	3,601	3,604
Asia (ex China)	3,974	4,167	4,121	3,952	4,056	4,065
China	2,822	3,222	3,597	4,005	4,048	4,047
Europe	3,551	3,578	3,698	3,522	3,621	3,680
Total refined production	**17,361**	**18,011**	**18,232**	**18,194**	**18,531**	**19,068**
Year-on-year %change	4.8%	3.7%	1.2%	(0.2%)	1.9%	2.9%
Demand						
Total refined consumption	**17,148**	**18,048**	**18,027**	**17,765**	**18,432**	**19,082**
Year-on-year %change	2.9%	5.2%	(0.1%)	(1.5%)	3.8%	3.5%
Implied balance	**213**	**(37)**	**204**	**430**	**99**	**(14)**
Total stocks	1,093	1,422	1,158	1,263	1,437	1,423
Average 3-m LME price ($/t)	**6,861**	**7,096**	**6,871**	**5,186**	**7,240**	**7,908**

Source: ICSG, WBMS, VM Group

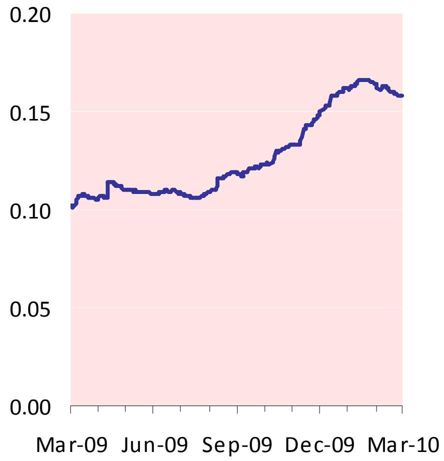
Nickel

Nickel price, LME, $/tonne



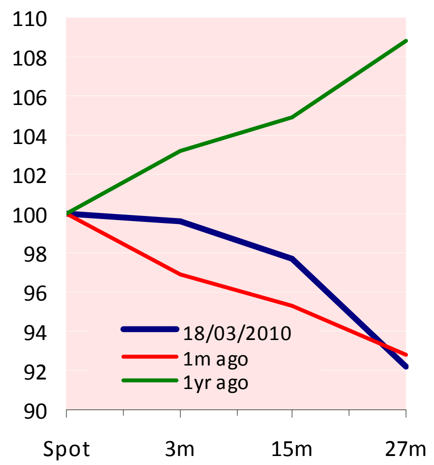
Source: VM Group

Nickel stocks, LME, Mt



Source: VM Group

Nickel forward curve, LME, various dates, spot = 100



Source: VM Group

Key events & analysis

- **The relative strength of nickel prices against high LME stocks** is somewhat unusual and explicable partly by speculators' expectations that restocking is imminent. But have prices too high, too rapidly? The fact that LME stocks have fallen consistently since early February implies a pickup in demand, but whether this indicates the beginning of a fiercer restocking phase is uncertain. Rising cancelled warrants in Europe also suggest a recovery is underway.

- Nickel was in overall **supply deficit** in the seven months to January 2010, with deficits recorded in July-October 2009 and surpluses in November 2009-January 2010, according to the International Nickel Study Group (INSG). January's data however shows the market surplus declining sharply to 2,100t, from 11,700t in December 2009, and perhaps signals a trend back into deficit in February. The fact that LME stocks have only now begun to fall may suggest that destocking has only recently given way to restocking.

- **Nickel supply remains constrained** but Vale's aim to restart its Sudbury operations in Canada with contractors, after failing to agree a wage deal with unionised workers, could tip the market balance into a wide surplus. This will be compounded further should more idled nickel supply restart and Chinese nickel pig iron production start growing again. At current prices this is feasible and would plunge the market back into surplus later in 2010 and 2011.

- **In the longer term we are watching** Vale's high pressure acid leach (HPAL) Goro nickel laterite project in New Caledonia, and its implications for long term nickel supply. Following the mothballing of BHP Billiton's HPAL Ravensthorpe project in Australia after just two months of operation, much now depends on Goro's success, given that 14 other similar projects are in the pipeline. Failure to produce nickel cost effectively could impact the other projects and significantly dent the nickel supply pipeline, given that sulphide deposits are increasingly hard to find or at depth. Because of the vast sums of money Vale has spent on Goro we fully expect the project to enter commercial production later this year.

Short term outlook

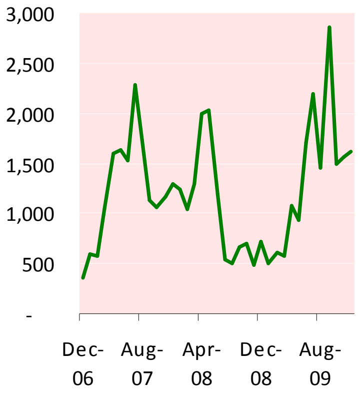
High prices could tempt producers to rapidly bring on new supply and restart idled supply, as well as encourage Chinese NPI output to rise further. Current prices are not sustainable and we are looking for some correction in the near-term. Short-term LME three-month price: $19,000/t-$23,350/t.

Chinese nickel and stainless steel prices, yuan/t

17 March 2010	Current	YoY %chg	Last mth	YoY %chg
Nickel cathode (Jinchuan, 99.9% min)	158,500	83%	143,500	60%
Nickel cathode (Norilsk 99.9% min)	158,000	89%	143,000	63%
Nickel cathode (Vale Inco, 99.9% min)	170,000	74%	162,500	59%
Stainless steel				
Hot rolled sheet (304)	20,050	60%	19,550	41%
Cold rolled coil (304)	23,550	53%	22,950	40%

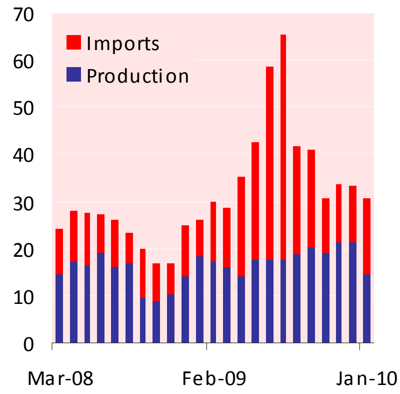
Nickel data

Chinese imports of nickel ore, 000t



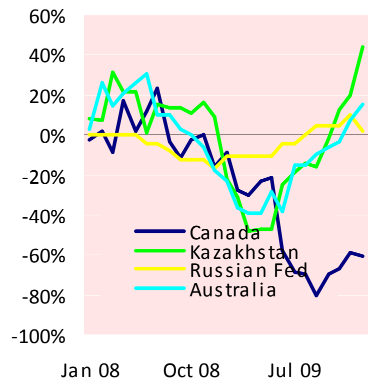
Source: China Customs

Chinese refined nickel output and imports, 000t



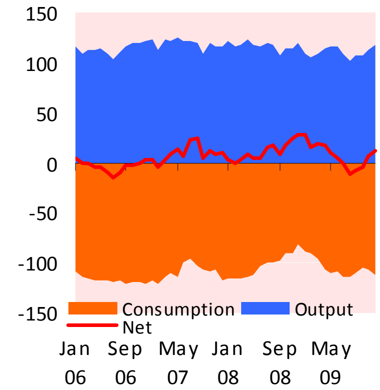
Source: China Customs, NBS

Nickel mine production, year-on-year % change



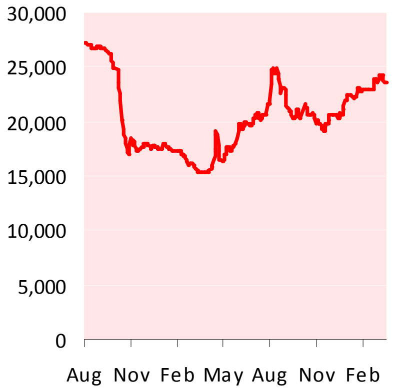
Source: INSG, VM Group

World primary output and refined consumption, 000t



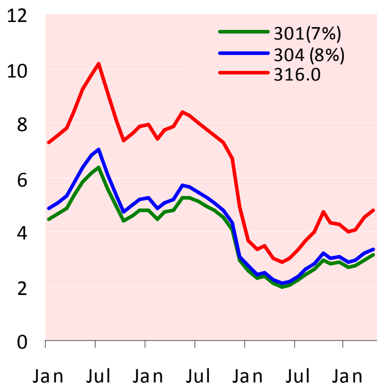
Source: INSG, VM Group

Chinese stainless CR Sheet (304 2b, 1mm), yuan/t



Source: Asian Metals, VM Group

US stainless steel prices for flat rolled coil, $/kg



Source: Metal Prices

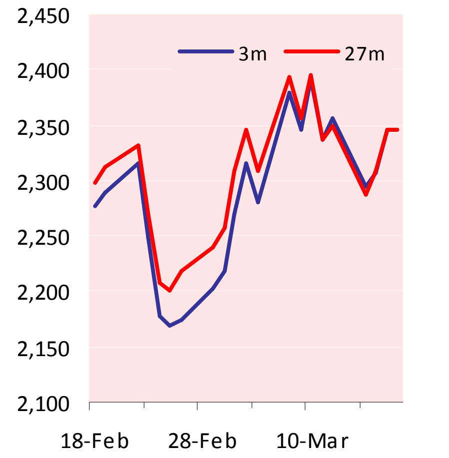
Nickel supply & demand balance, 000t

	2006	2007	2008	2009f	2010	2011
Supply						
Total mine production	**1,469**	**1,595**	**1,476**	**1,331**	**1,410**	**1,581**
% chg y-o-y	5.9%	8.6%	(7.5%)	(9.8%)	5.9%	12.2%
Canada	147	154	168	116	155	165
China	137	199	200	240	265	267
Japan	152	162	158	142	152	161
Russian Fed.	286	272	258	244	250	265
Australia	114	111	104	112	114	118
Total refined production	**1,368**	**1,395**	**1,375**	**1,294**	**1,370**	**1,462**
% chg y-o-y	7.3%	2.0%	(1.4%)	(5.9%)	5.9%	6.7%
Demand						
Total refined consumption	**1,398**	**1,351**	**1,319**	**1,238**	**1,388**	**1,456**
% chg y-o-y	12.0%	(3.4%)	(2.4%)	(6.1%)	12.1%	4.9%
Implied balance	**(31)**	**44**	**57**	**56**	**(18)**	**5**
Total stocks	96	146	182	238	220	225
Average 3-month LME price ($/t)	**23,266**	**36,217**	**21,240**	**14,762**	**20,311**	**24,792**

Source: INSG, WBMS, VM Group

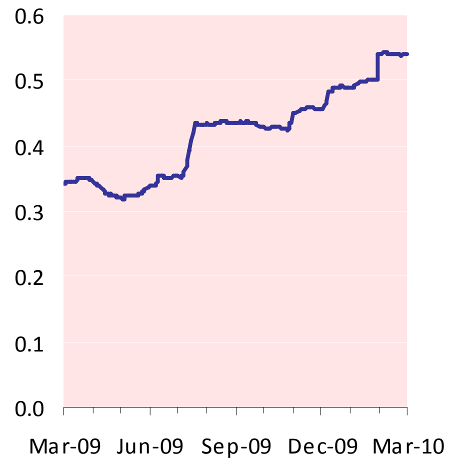
Zinc

Zinc price, LME, $/tonne



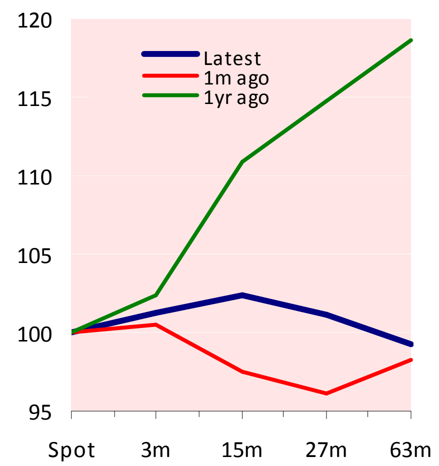
Source: VM Group

Zinc stocks, LME, Mt



Source: VM Group

Zinc forward curve, LME, various dates, spot = 100



Source: VM Group

Key events & analysis

- **Rising supply and the uncertain timing of recovery of the important galvanising steel industry** paints a bleak picture of zinc's short term prospects. According to the International Lead and Zinc Study Group, refined zinc supply surpassed the 1 Mt/month mark in the three months to January 2010, outstripping zinc usage by more than 200,000t over that period. We expect a similar surplus in February, as producers ramp-up output too rapidly against lagging demand. The rise in supply is across the board, with restarts by Nystar, Teck, Boliden and Mitsui Mining, among others, joining record Chinese output. Chinese refined zinc output rose 37% year-on-year in February, to 363,000t, following a 60% rise in January, to 376,000t, and a 47% rise in December 2009, to 461,700t. With the weather beginning to turn warmer in northern China we expect **mine output** will continue to rise, as more capacity is switched back on. China's zinc concentrate production totalled 416,000t in the first two months of 2010, up a staggering 71.2% year-on-year. This would have been even higher but for a number of shutdowns due to the harsh winter weather conditions. Consequently world zinc concentrate output fell 9% on the month, to 987,000t in January, but there were noticeable rises in Canadian and Mexican output.

- **There is no shortage of zinc concentrate** currently, nor a shortage of spare smelter capacity, with Chinese spot processing fees as high as $210/t in March, up $20/t from the start of the year, and benchmark fees reportedly agreed in late February at ~$270/t, up almost 40% year-on-year, and based on a $2,500/t LME zinc price.

- **With demand** estimated to grow by about 7% in 2010, from a 5% fall in 2009, much depends on the strength of market prices and thus the year-end market balance. Zinc's longer term prospects are promising, as the market reaches a supply crunch owing to the closure of numerous major mines and the dearth of new projects coming on stream; investors understandably see the metal as a good bet – keeping prices well above equilibrium and producers in profitability. Our estimate of supply growth of 3.4% this year may therefore be on the conservative side should prices remain high.

Short term outlook

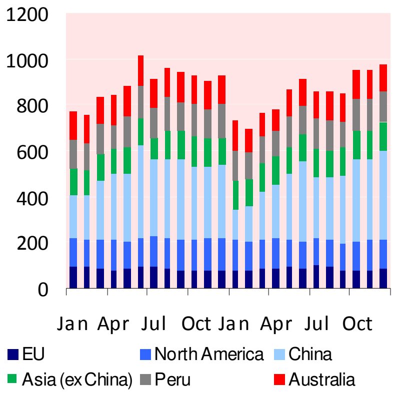
LME zinc stocks are inching down but supply continues to outpace. Even so, investors are transfixed by zinc's long term prospects, which could result in another wide surplus in 2010. Short-term LME three-month price: $2,100/t -$2,450/t

Chinese zinc prices, yuan/t, unless otherwise stated

17 March 2010	Current	YoY %chg	Last mth	YoY %chg
SHFE spot price	18,530	72%	17,995	70%
SHFE three-month price	18,840	76%	18,320	73%
SHFE six-month price	19,275	79%	18,745	36%
Chinese zinc ingot (99.995% min)	18,250	70%	20,950	95%
Chinese zinc conc (55% min) S China	11,850	93%	11,550	85%
Chinese zinc conc. (55% min) N China	11,550	94%	11,250	96%
Zinc conc TC (50% min, cif) China ($/t)	205	116%	205	78%

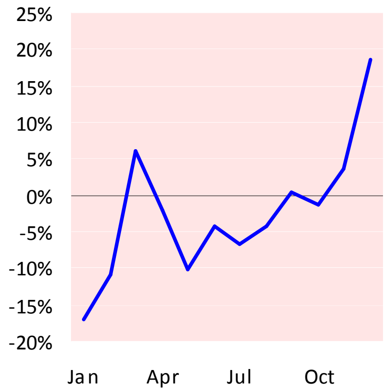
Zinc data

Zinc mine production, 000t



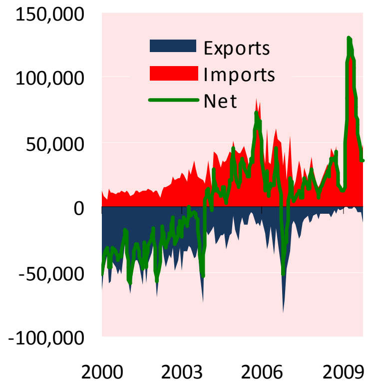
Source: ILZSG, WBMS, VM Group

World zinc demand, Jan 2009-Oct 2009, y-o-y % change



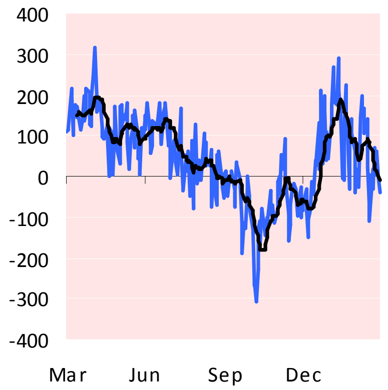
Source: ILZSG, CHR Metals, VM Group

China: imports and exports of unwrought zinc, 000t



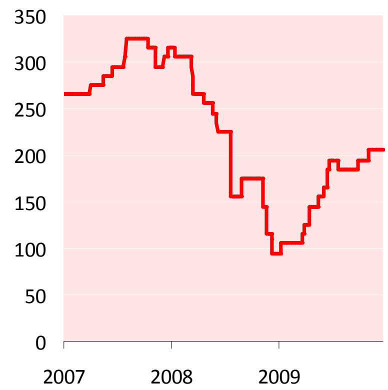
Source: China Customs

SHFE/LME price differential (incl VAT)



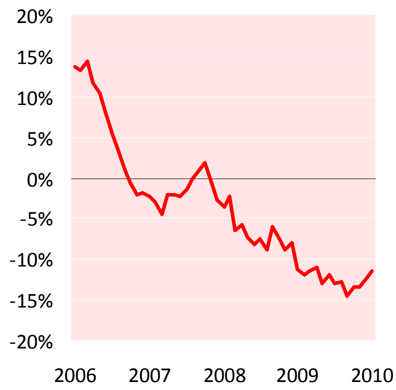
Source: SHFE, LME, VM Group

Zinc concentrate TC, cif China, $/t



Source: Asian Metal, VM Group

US construction spending, y-o-y % change



Source: USCB

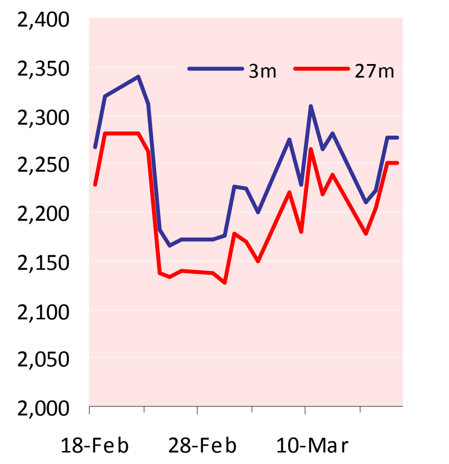
Zinc supply & demand balance, 000t

	2006	2007	2008	2009f	2010	2011
Supply						
Total mine production	**10,321**	**10,975**	**11,501**	**11,008**	**11,713**	**11,830**
% chg y-o-y	5.9%	6.3%	4.8%	(4.3%)	6.4%	1.0%
China	3,117	3,740	3,829	4,323	4,676	5,712
North America	1,371	1,388	1,356	1,023	1,074	1,504
South America	491	471	475	450	489	577
Europe	2,436	2,486	2,429	2,020	2,227	2,503
Australia	463	498	498	500	520	520
Total refined production	**10,573**	**11,189**	**11,481**	**11,164**	**11,544**	**11,962**
% chg y-o-y	5.5%	5.8%	2.6%	(2.8%)	3.4%	3.6%
Demand						
Total refined consumption	**11,005**	**11,250**	**11,048**	**10,478**	**11,219**	**11,943**
% chg y-o-y	5.9%	2.2%	(1.8%)	(5.2%)	7.1%	6.5%
Implied balance	**(432)**	**(61)**	**433**	**685**	**325**	**19**
Total stocks	851	641	825	1,123	1,404	1,401
3-month LME price ($/t)	**3,252**	**3,243**	**1,894**	**1,687**	**2,278**	**2,825**

Source: CHR Metals, ILZSG, WBMS, VM Group

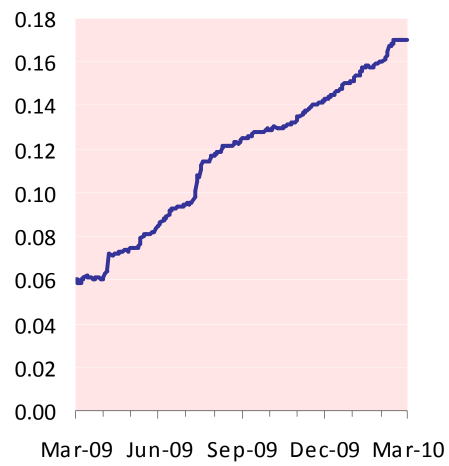
Lead

Lead price, LME, $/tonne



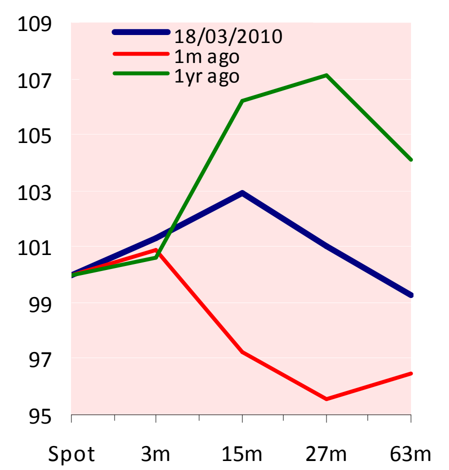
Source: VM Group

Lead stocks, LME, Mt



Source: VM Group

Lead forward curve, LME, various dates, spot = 100



Source: VM Group

Key events & analysis

- **LME lead stocks have risen relentlessly**, ending February 2010 at 167,200t, up from 157,500t at the end of January. Inventories have climbed further in early March, standing at a seven-year high of more than 170,000t. But in terms of weeks of consumption of refined lead (using 2008 consumption figures), LME lead stocks stand at almost two weeks, well behind aluminium and nickel. Rising Chinese supply means that, barring a speedy recovery in OECD demand, there appears little to hinder LME inventories rising further, since we expect China's net exports of lead to increase this year. Moreover, producer and consumer stocks are sufficient to meet demand recovery, indicating that there is unlikely to be much in the way of restocking. With the northern hemisphere winter drawing to a close, demand for lead-acid batteries will also dip.

- **North American car sales are expected to increase on 2009 levels,** with new car sales at a seasonally adjusted 12.5m in the first week of March. Should that be sustained throughout the month then it would beat sales that took place during the 'cash for clunkers' scheme in August 2009. EU car sales also grew in February, rising 3% year-on-year, to 974,346 units, following January's 13% rise. However, compared with car sales in February 2008, sales are still down by 15%, highlighting that there is plenty of room for improvement.

- **China is crucial to the year-end balance.** We are confident that Chinese demand for lead will rise by as much as 15% in 2010, to more than 3.7 Mt, due partly to soaring car and e-bike sales. Monetary tightening is a concern, as it would curb car sales, but we doubt Beijing will dare to be too aggressive in its attempts to rein-in liquidity in case it derails its ambition to increase domestic demand.

- **Supply to rise, as Doe Run moves closer to restart and Chinese output soars.** The potential restart of Doe Run's La Oroya smelter in Peru, following an agreement with Glencore International for financing, could add to the supply surplus. No firm date has been set for the restart, as the miner first has to complete its environmental cleanup programme, but more than 100,000t/year of lead will enter the market when it does start production. In China, the Dongling Group is set to restart its lead and zinc smelter in Fengxiang in March, which has a capacity to produce 33,000t/year of lead. It has been closed since August 2009 due to lead poisoning fears. Meanwhile, Yuguang Gold and Lead plans to commence production from its new 100,000t/year lead plant in April, bringing its total capacity to 330,000t/year.

Short term outlook

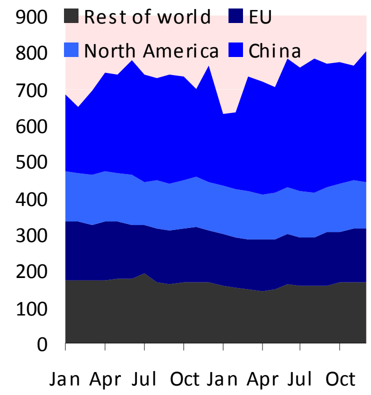
China has lined up a slew of new lead smelters to start-up in the next 18 months and some of the previously closed smelters are beginning to restart. Lead's short-term outlook has therefore deteriorated considerably, since we doubt demand outside of China will be sufficient to plug the gap created by rising supply. Short-term LME three-month price: $2,050-$2,380/t.

Chinese lead prices, yuan/t, unless otherwise stated

17 March 2010	Current	YoY %chg	Last mth	YoY %chg
Lead ingot (>99.99%)	15,700	27%	15,500	33%
Lead concentrate (60% min)	13,250	46%	13,050	48%
Lead concentrate TC (cif) China ($/t)	130	189%	160	256%

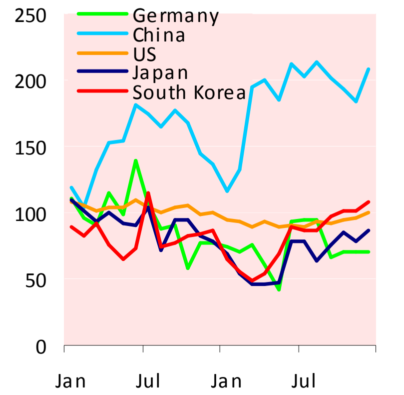
Lead data

World refined lead output, 000t



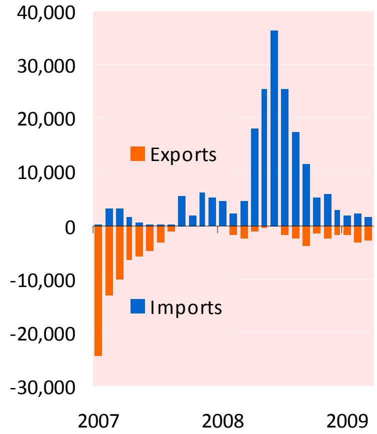
Source: ILZSG, WBMS, VM Group

Refined lead consumption, 100=-Aug 2005



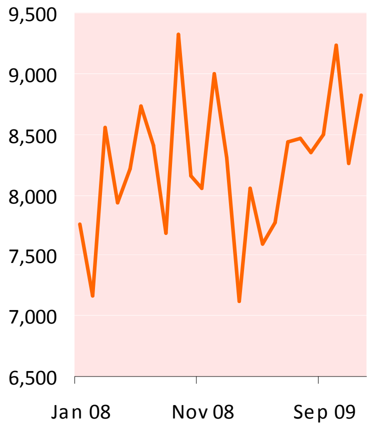
Source: ILZSG, WBMS, VM Group

Chinese lead trade, past two years, tonnes



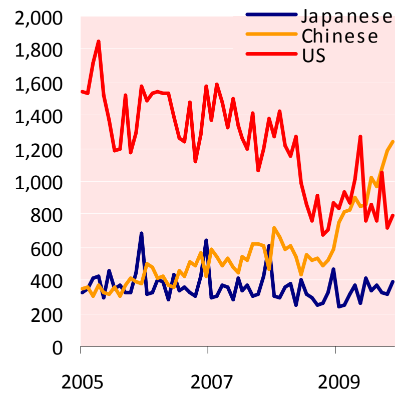
Source: China Customs

North American battery shipments, monthly, 000 units



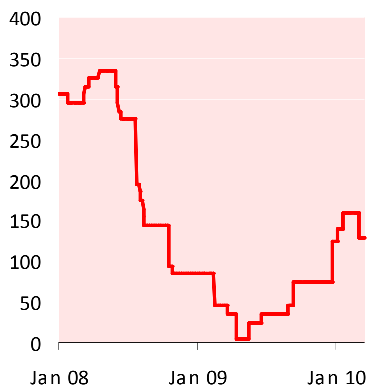
Source: Battery Council International

Passenger cars sold, monthly, 000 units



Source: JAMA, NBS, BEA

Lead TC, cif China, $/t



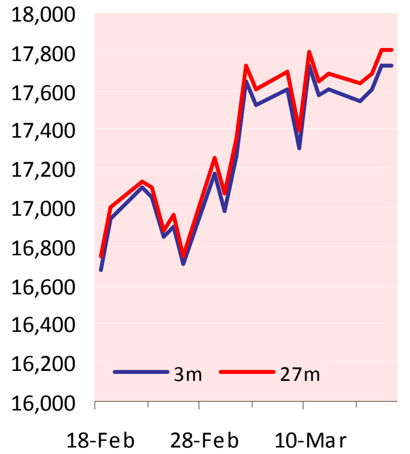
Source: VM Group

Lead supply & demand balance, 000t

	2006	2007	2008	2009f	2010	2011
Supply						
Total mine production	**3,573**	**3,690**	**3,985**	**3,864**	**4,065**	**4,260**
% chg y-o-y	3.5%	3.3%	8.0%	(3.0%)	5.2%	4.8%
China	2,715	2,788	3,121	3,605	4,002	4,198
US	1,313	1,303	1,282	1,276	1,295	1,299
Europe	1,625	1,745	1,780	1,702	1,695	1,739
Rest of world	2,328	2,341	2,365	2,135	2,271	2,426
Total refined production	**7,981**	**8,177**	**8,548**	**8,805**	**9,263**	**9,662**
% chg y-o-y	4.8%	2.5%	4.5%	3.0%	5.2%	4.3%
Demand						
Total refined consumption	**8,054**	**8,357**	**8,481**	**8,583**	**9,179**	**9,652**
% chg y-o-y	3.7%	3.8%	1.5%	1.2%	6.9%	5.2%
Implied balance	**(72)**	**(179)**	**67**	**222**	**84**	**10**
Total stocks	284	234	301	521	605	614
3-month LME price ($/t)	**1,282**	**2,558**	**2,089**	**1,738**	**2,161**	**2,463**

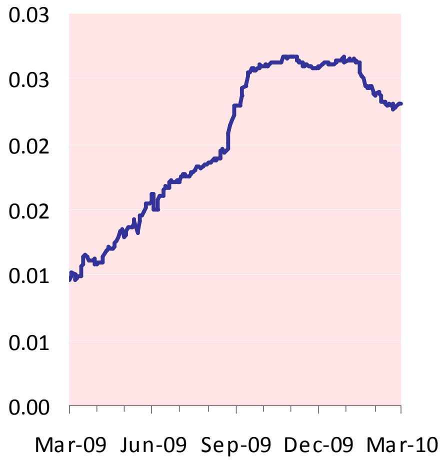
Source: WBMS, ILZSG, VM Group

Tin price, $/tonne



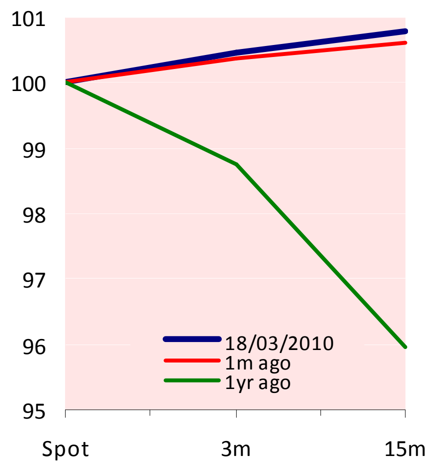
Source: VM Group

Tin stocks, LME, Mt



Source: VM Group

Tin forward curve, LME, various dates, spot = 100



Source: VM Group

Tin

Key events & analysis

- **Indonesia's new mining law threatens** the government's production target of 105,000t in 2010 and could widen our estimated deficit for 2010. We currently estimate that the global tin market will be in deficit by ~2,000t in 2010, due to rising demand and capped supply. But the introduction of a new mining law, aimed at increasing government revenues, threatens to place many small tin smelters in the red. According to PT Bangka-Belitung Timah Sejahtera, a consortium of seven smelters, the new law could cut Indonesia's tin production by half. We shall wait and see if the situation is resolved quickly, since it makes little sense to curtail tin output and therefore tax revenues.

- **Indonesian exports fall 18% year-on-year, to 6,994t, in February.** Jakarta's fight against illegal tin ore mining is already having an adverse affect on exports, with tin exports markedly down month-on-month in the first two months of this year. Poor weather conditions and civil unrest have also affected supply; we are becoming increasingly sceptical that Indonesia will reach its production target in 2010.

- **However, Chinese tin production grew 115%** year-on-year, to 9,729t, in February, although this was down 8% on January. The year-on-year rise was due to several tin smelters returning to production, while the monthly fall was due to the New Year festivities. We estimate that Chinese tin production will rise by 6% this year, to 150,000t – still 17% down on 2008 levels but indicative of a strong recovery in demand from the tinplate and electronics sectors. We also expect China to remain a net importer this year, as domestic prices continue trade at a premium to LME tin.

- **LME tin stocks** inched down throughout February and in March, standing at 23,730t as at 16 March, or about 3 ½ weeks of consumption. We estimate merchant, producer and consumer stocks at no more than 20,300t, which is more or less on par with historical norms. With LME cancelled warrants fluctuating between 900t-1,400t in March, further drawdowns are likely well into the second quarter.

Short term outlook

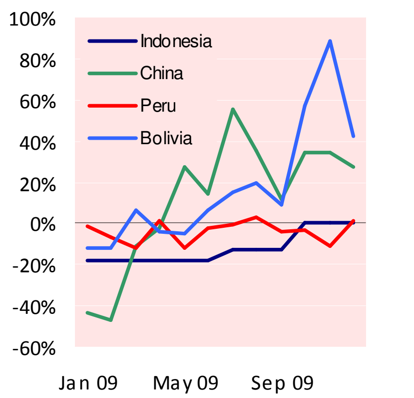
The latest scare out of Indonesia concerning tin production, rising demand and falling LME stocks all suggest that the tin market could tighten significantly in 2010. We are currently keeping our estimate of a slight market deficit this year, but will watch to see how the situation unfolds in Indonesia. Should production be impaired due to the country's new mining law, then the deficit will widen. Short-term LME three-month price: $16,500/t-$18,950/t.

Chinese tin prices, yuan/t, unless otherwise stated

17 March 2010	Current	YoY %chg	Last mth	YoY %chg
Chinese tin ingot (99.9%)	140,500	43%	133,500	38%
Chinese tin concentrate (60% min)	124,500	57%	116,000	58%

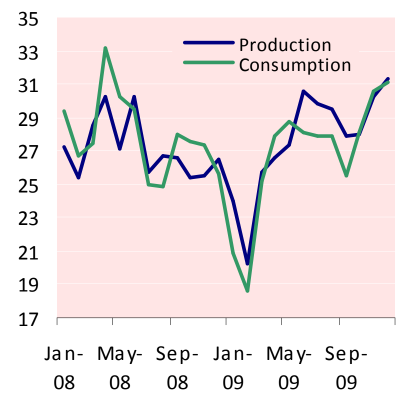
Tin data

Tin mine production, year-on-year % change



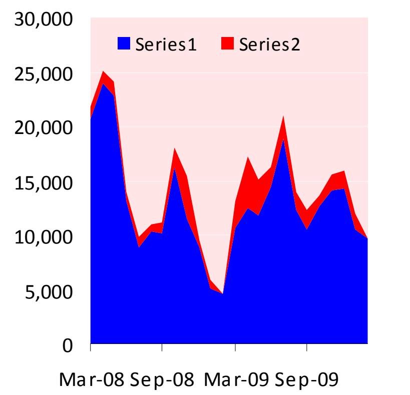
Source: WBM, VM Group

World refined tin production and consumption, 000t



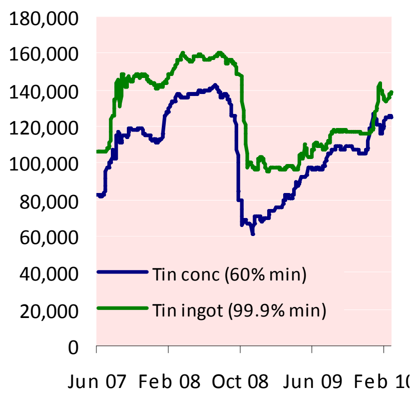
Source: WBMS, VM Group

China tin output and imports, tonnes



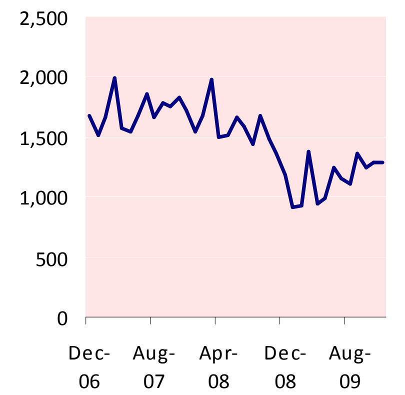
Source: China Customs, NBS

China tin concentrate and ingot prices, yuan/t



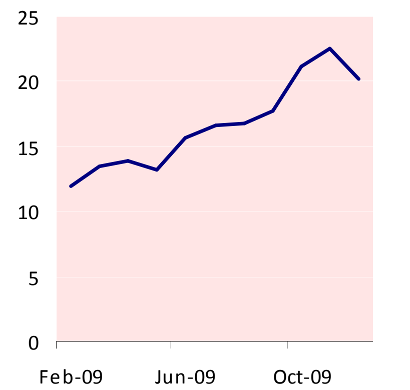
Source: Asian Metal

Japan electronics production, yen bn



Source: JEITA

China computer production, million units



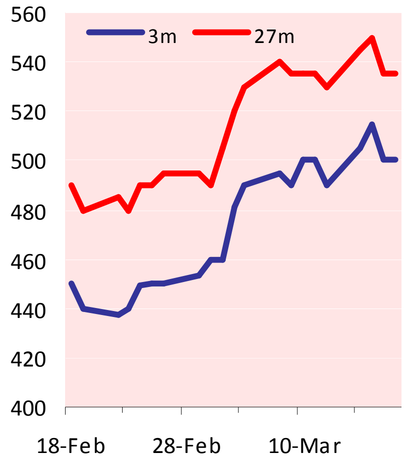
Source: NBS

Tin supply & demand balance, 000t

	2006	2007	2008	2009f	2010	2011
Supply						
Total mine production	**334**	**353**	**314**	**306**	**313**	**329**
% chg y-o-y	(4.4%)	5.7%	(11.0%)	(2.7%)	2.3%	5.2%
China	132	147	129	136	135	141
Indonesia	77	78	70	62	65	73
Malaysia	23	25	32	35	36	35
South America	65	58	61	58	57	60
Rest of world	54	40	43	40	41	42
Total refined production	**351**	**348**	**334**	**331**	**334**	**351**
% chg y-o-y	0.5%	(0.9%)	(4.1%)	(0.8%)	0.8%	5.1%
Demand						
Total refined consumption	**363**	**354**	**341**	**311**	**336**	**355**
% chg y-o-y	6.1%	(2.5%)	(3.5%)	(9.0%)	8.1%	5.7%
Implied balance	**(12)**	**(6)**	**(7)**	**21**	**(2)**	**(4)**
Total stocks	34	32	31	52	44	37
3-month LME price ($/t)	**8,758**	**14,532**	**18,442**	**13,382**	**17,078**	**19,521**

Source: WBMS, VM Group

Steel price, LME, Med, $/tonne

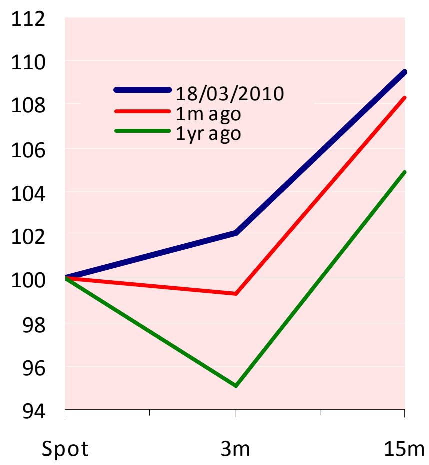


Source: VM Group

Steel stocks, LME, Med, 000 tonnes

Source: VM Group

Steel forward curve, LME, Med, various dates, spot = 100



Source: VM Group

Steel

Key events & analysis

- **Chinese steel output on an annualised basis rose** to more than 650 Mt in February, from 527 Mt in February 2009, while its imports of iron ore and concentrate rose almost 6% month-on-month and 5.5% year-on-year, to 49.4 Mt, increasing China's iron ore stockpiles at major ports to 70.82 Mt in early March, up 5% from the beginning of February. China's net exports of steel products rose by 189% year-on-year in February, to 1.35 Mt. Although this was down on the previous month and December 2009, February is a shorter month and included a week's break for the Chinese New Year festivities, and emphasises the growing strength in Chinese trade.

- **Chinese demand strength risks higher iron ore prices.** Vale has now joined BHP and Rio in pushing for shorter-term iron ore contract pricing mechanisms, to reflect more accurately prevalent market prices. Spot market prices are currently double that of the benchmark annual iron ore price reached with a number of Asian steel mills in the contract-year starting April 2009 – highlighting the fact that the iron ore producers are losing considerable extra profits through the annual pricing mechanism. The miners are now pushing for an 80%-90% rise in this year's annual contract price – and have adopted a 'take-it-or-leave it' attitude. If China's steel producers leave it they will have no choice but to buy directly from the spot market – and risk paying even higher prices. The steel producers are clearly worried about their inability to exercise any leverage in the price negotiations, but iron ore miners right now hold all the cards. Unfortunately for steel mills outside China**,** the recovery in demand is likely to be sluggish in 2010, and higher raw material and power costs will be that much harder to pass onto customers.

Short-term outlook

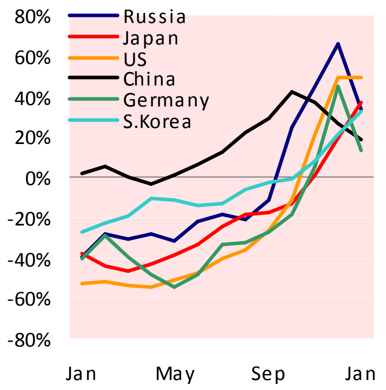
Demand for steel is beginning to recover in key markets outside of China, including the US and EU, but we doubt it will return to pre-economic crisis levels until at least 2012. We forecast crude steel production in the EU27 to rise to 160 Mt in 2010, up 17% from 2009 but down 19% from 2008, and US crude steel output to grow by a larger 22% year-on-year, to 71 Mt. Chinese output will rise to 610 Mt, from almost 570 Mt, pushing world output above 1.3 billion tonnes – close to a record. The danger is that steel mills will overshoot demand, as demonstrated by China's steel sector in 2009, which will see inventories rise and prices come under pressure, especially in 2H 2010 when we expect recovery to slow. Short-term price: Short-term Steel Med LME three-month price: $450/t-$525/t.

Chinese steel prices, yuan/t, unless otherwise stated

17 March 2010	Current	YoY %chg	Last mth	YoY %chg
SHFE spot rebar	4,216	-	3,974	-
SHFE 3m rebar	4,421	-	4,276	-
SHFE 6m rebar	4,651	-	4,417	-
SHFE 12m rebar	4,892	-	4,538	-
16mm Med plate (Q235b) China ($/t)	620	22%	547	(9%)
Iron ore (Indian 61%, cnf China), ($/dt)	129	120%	115.5	91%

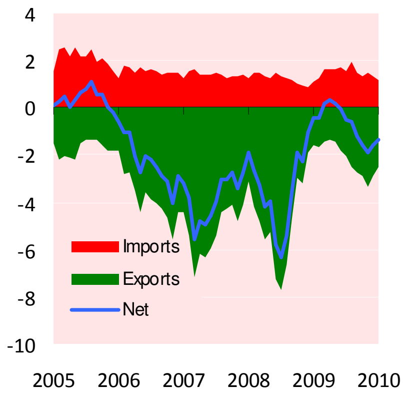
Steel data

Crude steel production, yoy %chg



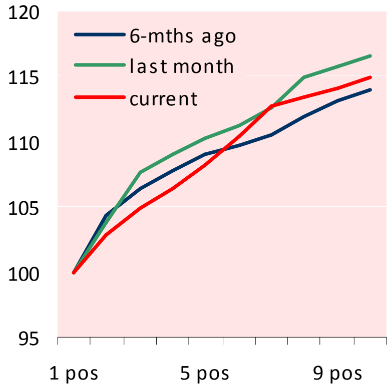
Source: WSA, VM Group

Chinese export/imports, steel products, Mt



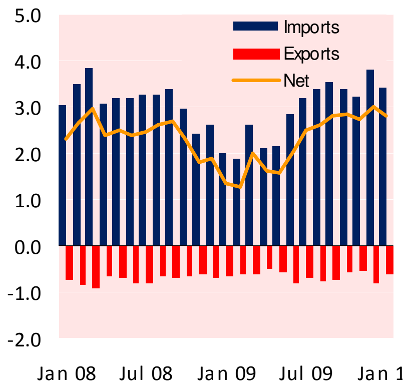
Source: China Customs

SHFE steel rebar price curve, 100=spot



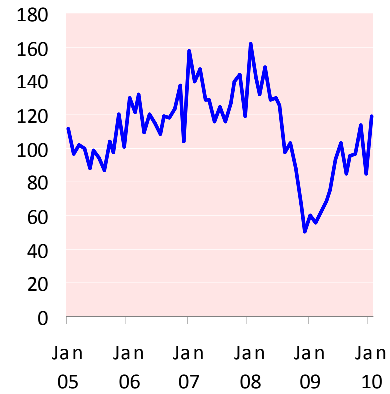
Source: SHFE, VM Group

Japan steel products trade, Mt



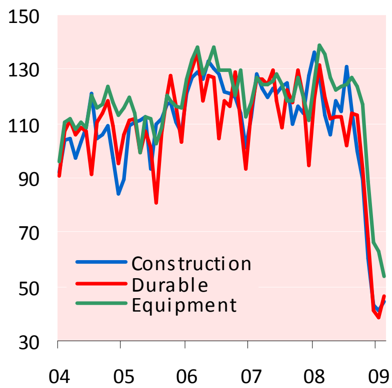
Source: Japan Customs

Germany, new orders of first processing of steel, constant prices, euro, 2005=100



Source: German Federal Statistical Office

US construction, consumer durable and equipment steel output, 100=2002 ($)



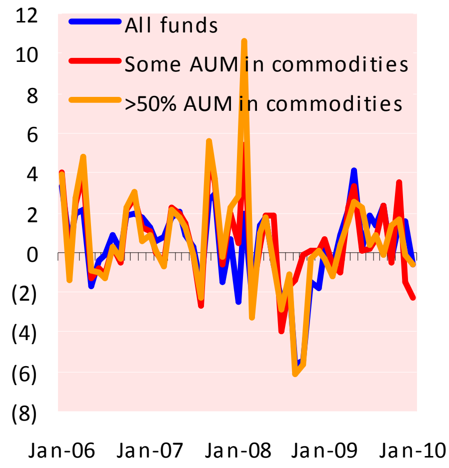
Source: Federal Reserve

Crude steel production, Mt	H1 07	H2 07	H1 08	H2 08	Q1 09	Q2 09	Q3 09	Oct	Nov	Dec	Jan
China	**239.5**	**252.1**	**262.4**	**236.1**	**126.7**	**139.3**	**153.7**	**51.7**	**47.3**	**47.7**	**48.7**
Year-on-year % change	19.4%	13.1%	9.5%	(6.3%)	1.9%	0.9%	20.8%	44.1%	34.3%	26.1%	18.2%
US	**48.5**	**49.7**	**50.9**	**40.4**	**12.0**	**12.5**	**15.6**	**6.0**	**5.7**	**5.9**	**6.1**
Year-on-year % change	(4.3%)	3.8%	5.1%	(18.7%)	(52.9%)	(51.1%)	(37.9%)	(11.36%)	21.5%	49.6%	48.8%
Russia	**36.6**	**35.8**	**38.4**	**30.1**	**12.9**	**13.9**	**14.9**	**5.6**	**5.4**	**5.5**	**5.2**
Year-on-year % change	4.8%	(0.1%)	4.8%	(15.8%)	(32.9%)	(27.3%)	(19.9%)	24.2%	44.6%	66.3%	33.0%
Germany	**24.5**	**24.0**	**24.4**	**21.4**	**7.3**	**6.6**	**8.8**	**3.5**	**3.5**	**3.0**	**3.4**
Year-on-year % change	5.2%	0.4%	(0.5%)	(10.8%)	(39.7%)	(46.9%)	(25.4%)	(11.03%)	8.1%	23.6%	27.8%
India	**26.1**	**27.0**	**27.2**	**27.9**	**13.4**	**13.9**	**14.1**	**4.9**	**4.8**	**5.4**	**5.4**
Year-on-year % change	20.9%	7.5%	4.2%	3.3%	(6.2%)	7.7%	1.2%	2.6%	3.2%	20.3%	14.8%
South Korea	**25.7**	**25.9**	**27.6**	**26.1**	**10.5**	**12.3**	**12.7**	**4.6**	**4.3**	**4.5**	**4.5**
Year-on-year % change	7.4%	5.6%	7.4%	0.8%	(22.4%)	(12.2%)	(8.4%)	(0.13%)	10.3%	21.5%	32.4%
Japan	**59.4**	**60.8**	**61.9**	**56.8**	**17.6**	**19.1**	**24.2**	**8.8**	**8.9**	**9.0**	**8.7**
Year-on-year % change	4.3%	2.6%	4.2%	(6.5%)	(42.9%)	(38.5%)	(20.4%)	(12.84%)	0.5%	19.5%	36.8%
Ukraine	**21.4**	**21.5**	**22.2**	**14.9**	**6.8**	**6.8**	**7.9**	**2.7**	**2.7**	**2.7**	**2.7**
Year-on-year % change	8.1%	2.2%	4.2%	(30.9%)	(38.0%)	(39.6%)	(15.7%)	42.9%	67.1%	35.4%	28.4%
Brazil	**16.3**	**17.5**	**17.5**	**16.3**	**5.0**	**5.6**	**7.8**	**2.8**	**2.7**	**2.6**	**2.7**
Year-on-year % change	12.8%	6.3%	6.9%	(6.9%)	(42.1%)	(36.8%)	(17.2%)	(3.45%)	15.1%	56.7%	66.6%
Rest of world	**159.6**	**153.3**	**164.7**	**136.7**	**51.0**	**54.6**	**57.7**	**22.8**	**21.9**	**20.7**	**21.8**
Year-on-year % change	3.6%	1.6%	3.2%	(10.8%)	(36.9%)	(34.8%)	(25.9%)	(4.61%)	11.3%	36.1%	30.5%

Source: World Steel Association

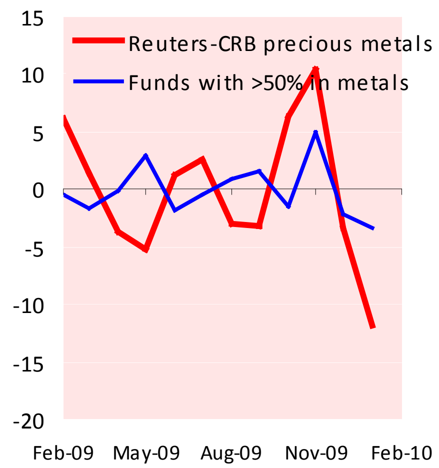
Fund activity

Hedge fund returns by commodity weighting, % monthly



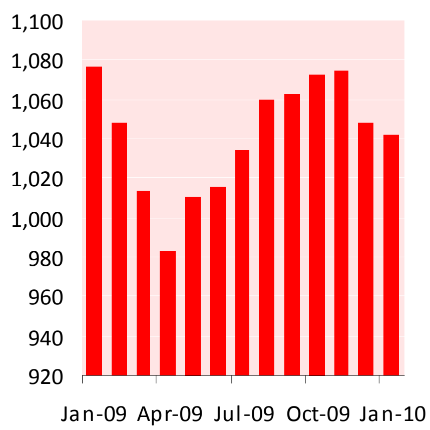
Source: VM Group, Barclay Database

Hedge fund returns in metals, % monthly



Source: VM Group, Barclay Database

Hedge funds AUM, $bn



Source: VM Group, Barclay Database

Key events

- **Mar 17:** The ECOFIN gathering of EU-27 finance ministers will not debate the much-maligned EU Alternative Investment Managers Directive, after intervention from the UK Prime Minister, Gordon Brown. Instead the Directive will be discussed at the G20 summit in April. In the interim there will be some tough talking as Britain seeks greater concessions for the alternative investment industry from other EU member states, who are more in favour of the proposal. There has been particularly intense debate surrounding the "third-country issue" – essentially whether funds outside the EU can lobby investors within its borders. It is proposed that outside funds would be able to canvas within the EU but only if subject to EU-equivalent regulations. US Treasury Secretary Tim Geithner has expressed concern that the proposal as it stands will damage US funds.

- **Mar 16:** European calls to effectively ban trading in credit default swaps have met with objections across the Atlantic with top US regulators doubtful of the wisdom and practicality of such a suggestion. "I'm not sure how an outright ban would work mechanically," CFTC Chairman Gary Gensler told the European Parliament. The global derivatives market remains a $450 trillion black hole as far as regulation goes but an outright ban on CDS trading would be difficult to put in practice and maintain. End user exemptions are more likely to be a feature of the eventual regulatory scheme in the US than in the EU.

- **Mar 3:** The CFTC is looking to the Securities Exchange Commission for tougher legislation on insider trading in commodities, referring to its proposed insider trading ban as "The Eddie Murphy Rule" after the FCOJ insider trading scheme in the film *Trading Places*. In the film Murphy's character manages to get hold of an Agriculture Department report on the orange crop and uses the information to trade; under current legislation "using such misappropriated government information actually is not illegal" according to CFTC Chairman Gary Gensler. The CFTC wants to close this loophole and any others with new securities-style firewalls within commodity trading firms and insider trading bans for commodities.

2010: difficult start

Final data shows that January was a difficult month for hedge funds, with average returns slipping into the red by 0.49%. Commodity funds were worse hit than the rest, down 2.30% on average, while those with selective commodity-specific strategies fared even more poorly, all down by more than 3%. Energy funds were down 3.05%, metals funds were down 3.41% and softs funds fell 3.47%. February returns are expected to offer a mixed bag but should show some recovery in the broader sector, if not for commodity funds. Assets under management dipped in January to $1.042 trillion, from $1.047 trillion previously.

About VM Group

VM Group is a commodities research consultancy that covers not just base and precious metals but also energy and renewable energy, carbon trading, and agricommodities. The VM Group comprises a uniquely skilled team that is highly experienced in the analysis of the fundamentals of commodities and their geopolitical impact and contexts.

VM Group work excels in macro-economic analysis, the generation of supply and demand scenarios, costs analysis, derivative research and price forecasting. Confidentiality, experience and independence are key elements in this advisory capacity. We deliver excellence to those in need of external expertise, as well as those who wish to supplement their own in-house resources. Our extensive international contacts mean we are able to span the globe.

To see further how we can meet your research and consulting requirements, please email: info@vmgroup.co.uk

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