


**Economic &  
Commodity Research**

# Commodity Spotlight

Base metals - A glance in the warehouses  
(part 2)

Energy*	current	1 day	1 week	1 month	1 year
Brent Blend	44.9	-0.9%	-1.9%	9.8%	-52%
WTI	42.2	-0.7%	-4.1%	4.6%	-54%
Gasoline RBOB	389.0	3.1%	1.5%	46.9%	-49%
Gasoil	438.3	0.6%	4.8%	8.4%	-46%
Diesel	463.0	2.1%	8.7%	9.9%	-43%
Jet fuel	473.0	0.4%	-2.5%	6.2%	-46%
Natural gas	4.4	0.0%	-5.5%	-27.9%	-45%

Industrial metals**					
Aluminum	1366	-0.8%	1.9%	-10.3%	-49%
Copper	3330	-1.3%	6.4%	13.2%	-55%
Lead	1145	0.0%	7.0%	24.6%	-59%
Nickel	11750	-0.9%	5.9%	20.1%	-58%
Tin	11445	-2.1%	-1.7%	14.6%	-34%
Zinc	1145	-0.6%	1.7%	0.2%	-52%

Precious metals***					
Gold	887.6	-0.4%	3.1%	0.4%	-4%
Silver	12.0	-0.8%	4.4%	9.3%	-29%
Platinum	956.5	-0.5%	2.5%	3.6%	-45%
Palladium	190.5	-0.7%	2.2%	0.7%	-51%

Agriculturals*					
Wheat	595.3	-0.8%	4.2%	-0.2%	-37%
Corn	384.5	-0.9%	-1.7%	-3.2%	-24%
Soybeans	982.5	-0.6%	-3.5%	4.0%	-23%
Sugar	12.9	0.0%	4.0%	15.7%	5%
Coffee	122.5	-0.3%	2.3%	14.5%	-8.6%
Cocoa	2745.0	1.7%	7.3%	6.3%	26%
Live Cattle	81.2	0.0%	-1.4%	-5.6%	-11%

Price changes in %

\* 1-month futures \*\* 3-month future,\*\*\* spot

**Commerzbank Forecasts**

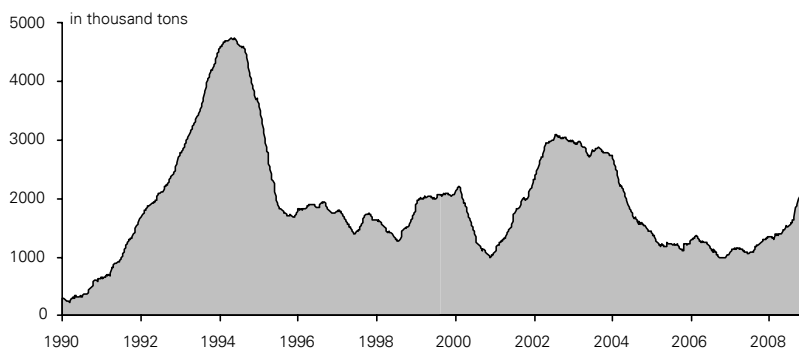
	Q1 09	Q2 09	Q3 09	2009	2010
<b>Base metals</b>					
Aluminium	1400	1600	1750	1650	2100
Copper	3200	3400	4100	3800	4850
Nickel	11000	12000	13700	13100	17400
Zinc	1300	1350	1450	1400	1600
Lead	950	1050	1100	1100	1400
Tin	10900	12100	13500	12900	17150

**Even tough times produce winners: While LME inventories, which have been rapidly increasing for some months now, have put a tremendous amount of pressure on the prices of base metals, this increase also means that the demand for warehouse space is on the rise. Warehousing companies are benefiting from this trend. Among them is the logistics company C. Steinweg operating worldwide. At the end of last year, we paid them a visit to get a clearer, firsthand picture of the phenomenon of warehousing after we have done a "theoretical" analysis, which we conducted based on figures. What was the most important thing we learned? The LME warehouse and other warehouse space are located in close proximity to each other, which makes the data on daily movement of LME inventories of rather less value.**

LME inventories are considered to be one of the most important indicators of scarcity on the market. However, in our last brief study on this issue we already pointed out that LME inventory generally comprises less than half of total inventory. Nonetheless, LME inventory is an important indicator because it is consistently updated. The dramatic recent increase in LME inventories has accordingly placed intense pressure on the prices of base metals. The question, however, is to what extent we are talking about "new" stock, or whether it is instead the fact that inventory already in existence at other locations is just now becoming visible?

To find out more, we paid a visit to one of the most important LME warehouse operators at the end of 2008. Contrary to what you might expect, stock is not stored right at the LME in London, but in one of 400 warehouses scattered throughout the world. The LME does not run these warehouses itself. Instead, warehouses are approved by the LME. One of these warehouse operators is the Netherlands-based company C. Steinweg Handelsveem B.V., which is located in Rotterdam. C. Steinweg is active worldwide as a warehouse operator, terminal operator and provider of logistics services. The company's 52 branches in 26 countries make Steinweg one of the world's largest providers of storage for non-ferrous metals, soft commodities and chemicals. The significance of the Asian market has increased for the company over the years. Steinweg opened its first Asian office in Singapore in 1984. Now the company has 14 branches in China alone. Of particular interest to us is the significance of C. Steinweg when it comes to LME inventory. According to its own data, the company has the largest capacity worldwide in this area: more than half of global LME inventories is stored in Steinweg's LME-licensed warehouses.

**CHART 1 Warehouse operators pleased by rapid rise in LME inventories**



Source: Bloomberg, Commerzbank Corporates & Markets

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**For important disclosure information see back pages.**

**Interesting facts about how LME warehouses run**

1. **To become a LME-approved warehouse**, operators must have appropriate fiscal and regulatory systems and be able to demonstrate a certain minimum turnover. Warehouses must also be well situated in terms of road, train and waterway networks and comply with specific security requirements.
2. **Tasks:** The warehouse operator checks the heat number and weighs the goods when they are delivered to the warehouse. The goods are then entered into the LME's software system (SWORD). The warehouse company, acting through their agents in London, issues the warrants. One warrant comprises mostly 25 tons except nickel (6 tons) and tin (5 tons). The goods are coded on-site so that they cannot be readily identified according to owner. Goods registered with the LME (on warrant) may not be moved.
3. In addition to the inventory items that are on warrant, or registered, there are also **cancelled warrants** at the LME warehouses. A decision must then be made within one to two weeks whether the goods should be removed from inventory or put back. The LME controls this process as well.
4. Warrant owners are generally trading companies, producers or financial institutions. Warrants often change owners upon delivery to the warehouse. **Example:** The warehouse company sends a confirmation to the trading company that an item has been delivered by the producer. After the producer's bank confirms that the trading company (buyer) has paid the amount due, the warehouse company releases the goods to the buyer. In this case, the storage company is acting "in a fiduciary capacity."

**The advantages of higher liquidity in LME inventory come at a price**

Warehouse companies mostly offer it all: storage at the LME warehouse and warehousing outside the LME system. Both of the company's types of storage are located right next to each other, but the separation between the two is clear. Under no circumstances are goods allowed to be stored in the same building. Storage costs are generally calculated per ton. What really matters here is the amount of space required for each ton, and the metal's value. The warehouse operators report their rental expenses to the LME. These can be viewed on the LME's website. Rental costs range on average from US\$ 0.30 per ton for lead to US\$ 0.40 for nickel. There are additional charges for checking goods in and out of the warehouse. According to C. Steinweg, storage costs at the LME warehouse fall at around 20% more than at other facilities. As a general rule of thumb, it is recommended that goods should be stored for at least three months for it to pay off.

So why do businesses still warehouse their goods with the LME? The advantage is that banks will accept warrants issued by the LME as security. Warrants are also used by storage companies in the case of documentary letters of credit in the import/export business. LME warrants are also "more liquid" than other warehouse slips, something that, in times of difficult financing, serves as a decisive motivator to register with the LME. And last, but not least by trading at the LME the counterparty risk is less and the liquidity at the LME is higher.

CHART 2: Warehouse facilities (Botlek Terminal) ...



Source: C.Steinweg

CHART 3: .. from distance



Source: C.Steinweg

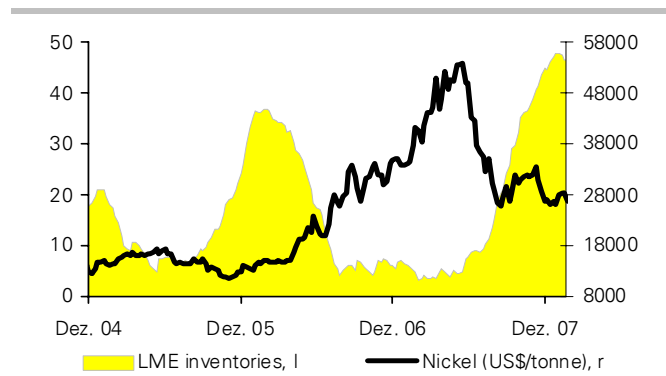
### Stock becomes visible (or invisible)

Another advantage (or disadvantage) of depositing metals in LME warehouses is that stock levels are transparent for all market players, as they are reported straight to the market. Since the data indicate what is available and whether there is a surplus or a deficit on the market, prices can be influenced. Registration on the LME requires no more than physical deposits in an LME warehouse. Therefore, it is easy to move stocks stored elsewhere into the warehouse in order to declare them as LME stocks and vice versa (chart 2 and 3). We suspect that the major movements in LME inventory data are not always based entirely on supply and demand, but often also on attempts to influence LME prices by concealing or suddenly depositing metals. As LME data are generally seen as reliable and accurate, this could well be a successful strategy. We suspect, for example, that that massive depletion of LME nickel stocks in 2006 may well have concealed interests of this kind (chart 4). As a result, the nickel price rose to over \$50,000 a ton and more than tripled within a year. At its peak, one sole market player controlled more than 90% of all warrants. This prompted the LME, on the advice for the FSA, to modify its lending rules. A player holding more than 90% of all warrants had to lend a large percentage of his holdings free of charge, which soon put an end to the extreme market concentration. The price of nickel ultimately took a tumble, and visible LME stocks rose substantially. This bears out our theory that the prior depletion was based on speculation.

### Could the abrupt increase in LME aluminium inventory be the result of "old" surplus?

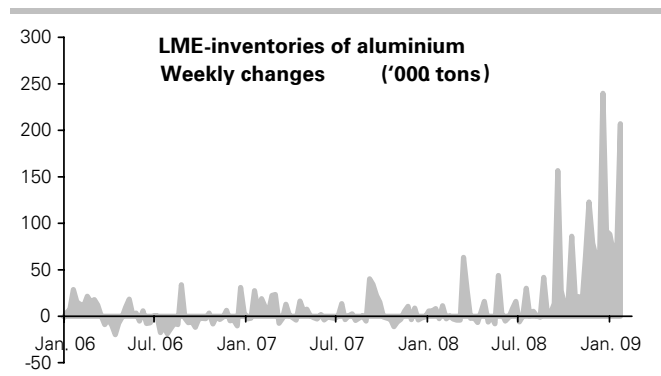
What is the significance of these options for the latest trends in warehouse development? Take aluminium for example. We have our doubts that the sudden increase in LME inventories of aluminium by 1.5 million tons since the beginning of September is solely the result of a sudden drop in demand. One reason for our skepticism is the fact that, according to data from the World Bureau of Metal Statistics, there was a surplus of only 770 thousand tons of aluminium in the first 11 months of the year. Also cause for doubt is the fact that, since September in particular, there have been certain days on which extreme influx was reported (chart 5). In this case it can be assumed that inventory that was already present was made visible in order to make better use of it for financing purposes. Increased awareness of counterparty risk might also have caused goods to be stored in the LME warehouse system. Of course, C. Steinweg cannot and is not permitted to give us any perspective regarding this matter. They were only able to confirm that the demand for LME storage space had increased strongly at their company as well and that they were currently preparing to register more warehouses with the LME. The LME just approved an additional seven warehouses in mid-December to handle the increasing demand for storage space.

**CHART 4: Nickel : Shrinking stocks may mean shortage, but not necessarily**



Source: LME, Bloomberg, Commerzbank Corporates & Markets

**CHART 5: Sudden rise in LME aluminium stocks in recent months**

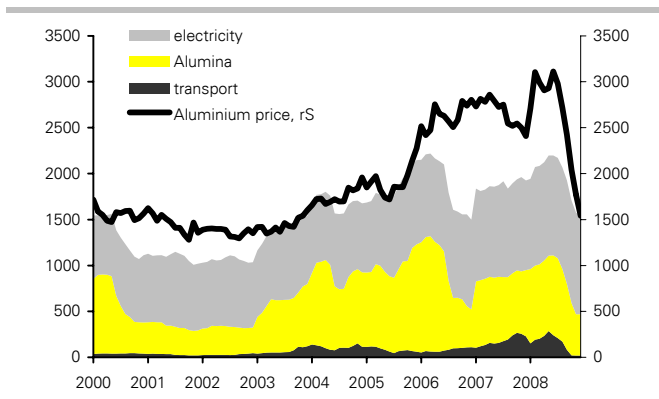


Source: LME, Bloomberg, Commerzbank Corporates & Markets

**Aluminum:** The price of aluminium fell to USD 1,316 per ton in January, the lowest it has been in six years. The trigger for this was the increase of LME inventory to over 2.7 million tons, beating the record high set in June of 1994. LME inventory has more than doubled since the intensification of the financial crisis in mid-September. In reaction, producers of aluminium have significantly decreased their production capacities. According to the data of the International Aluminium Institute (IAI), in December, global production of aluminium was at 7% less than the previous year. In China, which produces one-third of the world's aluminum, production even fell by 17.5% in December as compared to the previous year. Production cuts were apparently not enough to restore balance to the market. This was especially true of production outside of China, which in December was only down 1.7% from the previous year. At the same time, there is tremendous pressure on demand due to the recession in industrialized nations, setbacks in growth in emerging markets and the crisis in the most important customer industry, the automotive industry. Since the price of aluminum has already fallen below the level of production costs, the potential of a downward trend should be limited. However, there is also little potential for a short-term recovery. The sharp drop in energy prices also provides some relief in production costs. This reduces the pressure on producers to shut down further production capacities. Accordingly, the reaction of suppliers may turn out to be less dramatic than necessary in order to create a balance between supply and demand on the market and stop the accumulation of inventory. We expect aluminum to go for USD 1400 per ton this quarter. Thanks to a slight recovery in demand in the second half of the year, the price of aluminum may increase to USD 1900 by the end of the year. However, the high inventory may limit the scope of this increase.

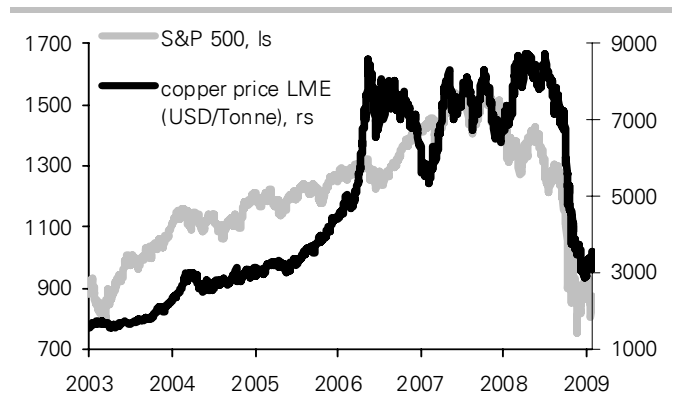
**Copper:** The price of copper has increased by almost 20% since the beginning of the year and reached a two-month high this week at USD 3,600 per ton. In the short term the potential for an upward trend may be limited. LME inventory has increased by 30%, to 439 thousand tons, since the beginning of this year, the highest it has been in the last five years. While producers of other non-ferrous metals have already initiated significant production cuts, announcements of this type for copper remain few and far between. A fall in production such as those at the world's largest copper mine, Escondida in Chile, and the Grasberg mine in Indonesia are rather the result of lower ore grades. However, mining companies such as BHP Billiton and Freeport McMoRan have had to accept a significant increase in processing fees during current price negotiations with their Asian buyers. The prices currently fall at USD 75 per ton, 70% higher than previously. The reason for this is a significant decrease in demand for refined copper as a result of the global economic crisis. It is thus only a matter of time before mining companies react with more extensive production cuts. The latest import figures have put quite a damper on speculation regarding China's plans to increase national copper reserves in the upcoming months in order to support domestic producers. According to these figures, Chinese copper imports increased by 89% in December as compared with the previous year. Clearly, China has used the decrease in copper prices already to increase its copper stocks. Accordingly, demand for additional stock purchases will go down in the coming months. We expect copper to go for USD 3,200 per ton this quarter. Benefiting from the billions being invested by governments in infrastructure expansion and copper being a bellwether for the economy, the price of copper can be expected to rise to USD 4,400 per ton by the end of 2009.

**CHART 6: Aluminium: production costs have fallen**



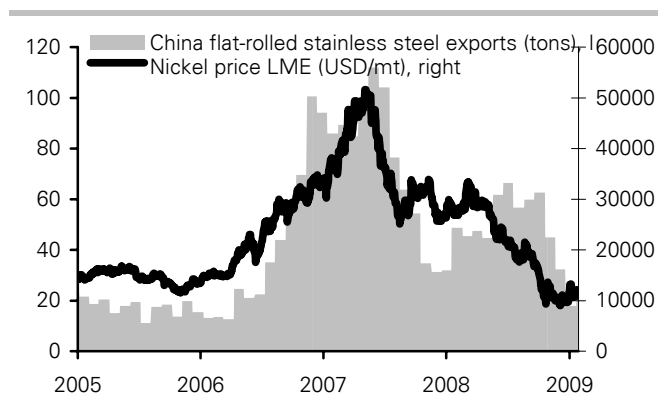
Source: Bloomberg, Commerzbank Corporates & Markets

**CHART 7: Copper: have risks been adequately priced in?**

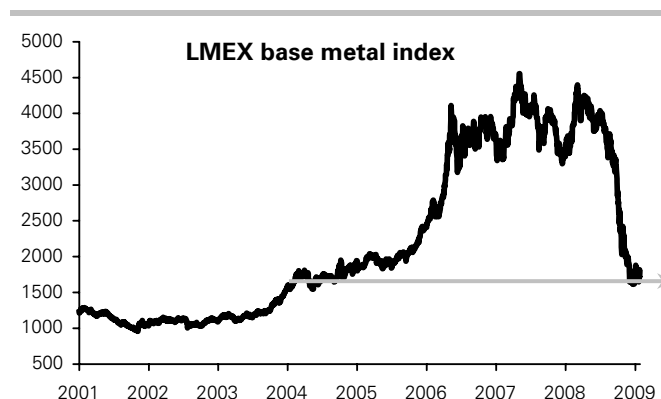


Source: LME, Bloomberg; Commerzbank Corporates & Markets

**Nickel:** Fundamental data do not support an imminent increase in the price of nickel. LME inventory has continued to increase to 82 thousand tons, putting it at the highest it has been in 13 ½ years. According to the World Bureau of Metal Statistics (WBMS), the market surplus of refined nickel amounted to almost 44 thousand tons in the first eleven months of last year. Compared to the same period of the previous year, the supply surplus has decreased by more than half, thanks especially to massive production cuts. However, there is still no end in sight to the adjustments being made to fit demand. The Australian mining company BHP Billiton announced just last week that it would close the Ravensthorpe nickel mine in Western Australia. Because many nickel producers are unable to operate at the current price level and still cover their costs, more mine closures will most likely be unavoidable. Adjustments on the part of suppliers should stabilize the nickel price at over USD 10,000 per ton. Demand needs to rekindle before a sustainable price increase can be realized. Key here is the stainless steel industry, which is responsible for 70% of global nickel consumption. Production capacities in this industry have also been cut drastically due to the drop in demand. In November, production of stainless steel in Japan came in at 26% below figures from the previous year. It is also unrealistic to expect short-term recovery in this sector, which is why demand for nickel should remain weak for the time being. Due to the steady drop in demand in the stainless steel sector, the chances of recovery for nickel are currently slim. We predict that nickel will go for USD 11,000 per ton in the first quarter. However, as stocks on stainless steel have already fallen, a stabilising of demand will lead to an increase of stainless steel production and thereby to an increase of nickel demand. We expect a slight recovery in the second half of the year, putting the price of nickel at USD 15,500 per ton by the end of the year.

**CHART 8: Nickel suffering from poor stainless steel sales**


Source: China Customs Office, Bloomberg, Commerzbank Corporates & Markets

**CHART 9: Base metals appear to be stabilising at 2004 level**


Source: LME, Bloomberg; Commerzbank Corporates & Markets

# At a glance

**TABLE 1: Our forecasts**

	Unit	Current								Yearly average			
		29.1.09	Q1 09	Q2 09	Q3 09	Q4 09	Q1 10	Q2 10	Q3 10	Q4 10	2008	2009	2010
Copper	USD/ ton	3270	3200	3400	4100	4400	4600	4750	4900	5050	6963	3800	4850
	Usd/ pound	148	145	154	186	200	209	215	222	229	316	172	220
Aluminium	USD/ ton	1360	1400	1600	1750	1900	1990	2050	2110	2170	2578	1650	2100
	Usd/ pound	62	64	73	79	86	90	93	96	98	117	75	95
Lead	USD/ ton	1142	950	1050	1100	1250	1300	1360	1420	1480	2093	1100	1400
	Usd/ pound	52	43	48	50	57	59	62	64	67	95	50	64
Tin	USD/ ton	11100	10900	12100	13500	15000	16000	16750	17500	18250	18467	12900	17150
	Usd/ pound	503	494	549	612	680	726	760	794	828	838	585	778
Zinc	USD/ ton	1124	1300	1350	1450	1500	1555	1600	1645	1690	1885	1400	1600
	Usd/ pound	51	59	61	66	68	71	73	75	77	85	64	73
Nickel	USD/ ton	11650	11000	12000	13700	15500	16500	17100	17700	18300	21142	13100	17400
	Usd/ pound	528	499	544	621	703	748	776	803	830	959	594	789

Quarterly averages, 3months contracts (LME) (\*Vortag) Source: Commerzbank Corporates & Markets, Bloomberg

**TABLE 2: Inventories**

	aktuell	1 day	1 week	1 month	1 year	comment
Aluminium LME	2731850	0.5%	3.4%	21.4%	187%	LME inventories at highest level since 1994 due to higher counterpart risks, outside LME moderate development
Aluminium COMEX	10924	0.0%	0.0%	0.0%	-28%	
Aluminium Shanghai	179434	-	-4.4%	-14.5%	78%	
Copper LME	454925	0.7%	9.0%	37.3%	165%	Moving in opposite directions: LME and COMEX versus Shanghai
Copper COMEX	40240	0.8%	5.7%	18.3%	188%	
Copper Shanghai	16567	-	4.4%	-8.9%	-9%	
Lead LME	52175	0.1%	5.1%	17.1%	11%	Still low
Nickel LME	82764	1.0%	3.5%	6.6%	77%	Highest levels since 14 years
Tin LME	9050	-0.1%	5.6%	14.3%	-22%	Still low
Zinc LME	320575	1.8%	11.2%	26.4%	191%	Still low level even though increasing strongly lately
Zinc Shanghai	61742	-	-0.6%	-4.3%	6%	

**TABLE 3: History**

	current		Percentage change				Historical development						
	USD / ton	1 week	1 month	ytd	1 year	Q1 07	Q2 07	Q3 07	Q4 07	Q1 08	Q2 08	Q3 08	Q4 08
Aluminium	1360	2.2	-10.0	-11.7	-48.6	2798	2768	2549	2445	2751	2948	2785	1828
Copper	3270	5.8	12.6	6.5	-55.2	5967	7649	7717	7203	7818	8454	7672	3910
Nickel	11650	5.9	20.1	-0.4	-58.0	41342	47764	30199	29238	28978	25665	19000	10922
Zinc	1124	0.4	-1.1	-7.0	-52.8	3454	3681	3226	2638	2445	2121	1779	1195
Lead	1142	6.7	24.3	14.3	-58.9	1783	2176	3139	3220	2908	2304	1912	1250
Tin	11100	-2.6	13.6	3.7	-34.5	12670	14065	14923	16325	17793	22544	20399	13130

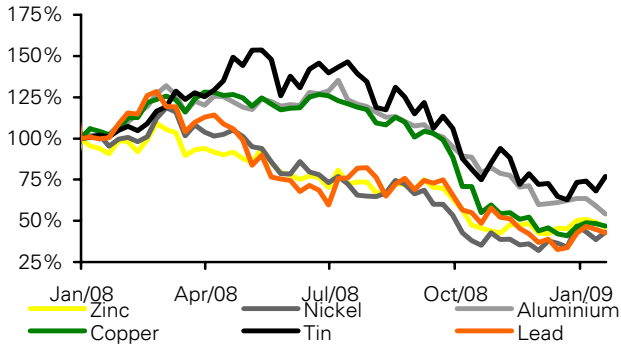
Source: Bloomberg, Commerzbank Corporates & Markets

**TABLE 4: Upcoming events**

29.1.	USA	Durable goods orders production, December
29.1.	USA	New home sales, December
30.1.	USA	GDP growth, 4th quarter 08
2.2.	USA	ISM Index
4.2.	China	Purchasing Managers Index

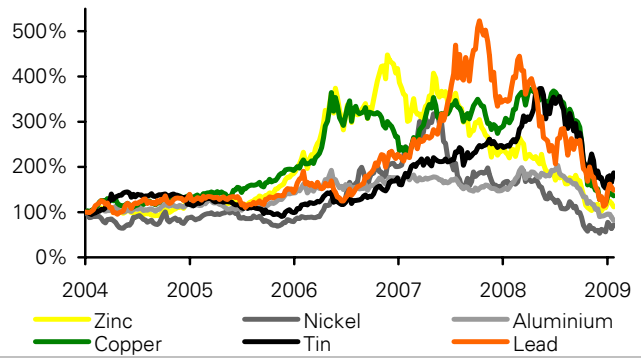
Source: Bloomberg, Commerzbank Corporates & Markets

**CHART 6: Performance industrial metals: Since 2008**



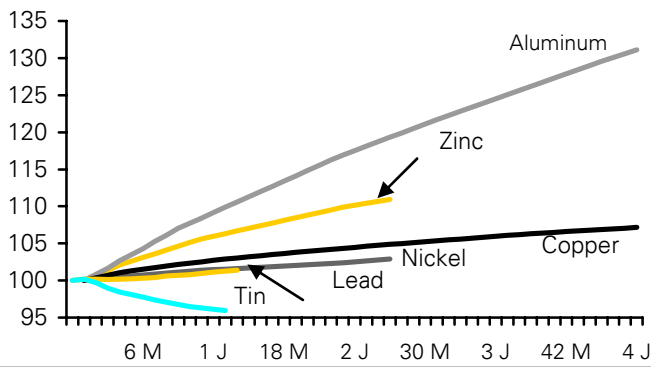
Source: LME, Bloomberg, Commerzbank Corporates & Markets

**CHART 7: Performance industrial metals: Since 2004**



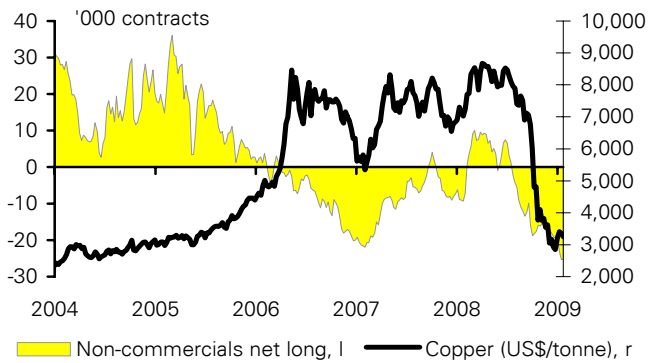
Source: LME, Bloomberg, Commerzbank Corporates & Markets

**CHART 8: Forward curves industrial metals**



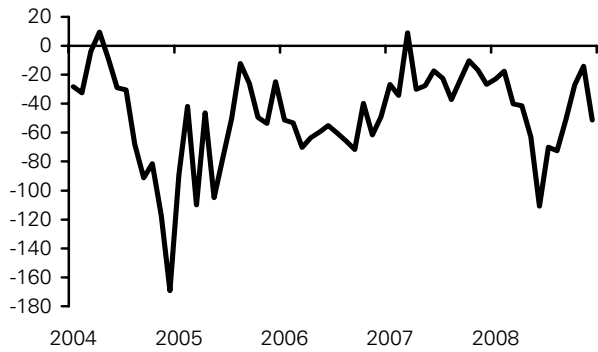
Source: LME, Bloomberg, Commerzbank Corporates & Markets

**CHART 9: Copper: non-commercials (COMEX)**



Source: CFTC, COMEX, Bloomberg, Commerzbank Corporates & Markets

**CHART 10: Aluminium: net imports China**



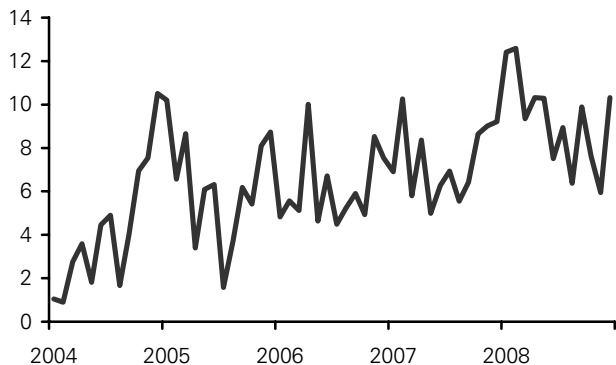
Source: China Customs, Bloomberg, Commerzbank Corporates & Markets

**CHART 11: Copper: net imports China**



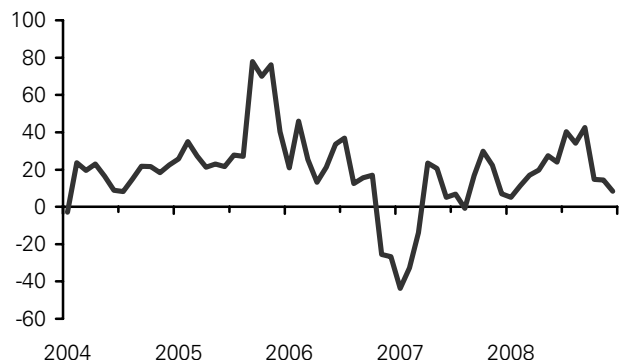
Source: China Customs, Bloomberg, Commerzbank Corporates & Markets

**CHART 12: Nickel: net imports China**



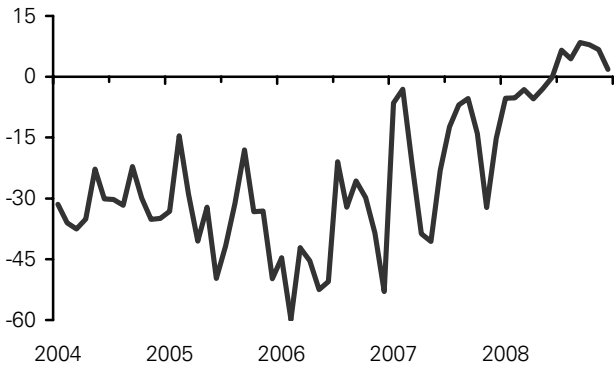
Source: China Customs, Bloomberg, Commerzbank Corporates & Markets

**CHART 13: Zinc: net imports China**



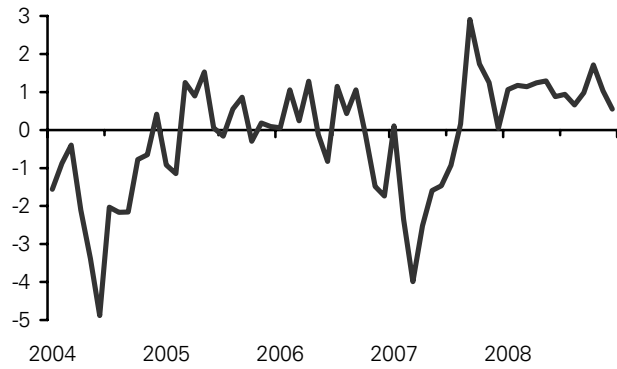
Source: China Customs, Bloomberg, Commerzbank Corporates & Markets

**CHART 14: Lead: net imports China**



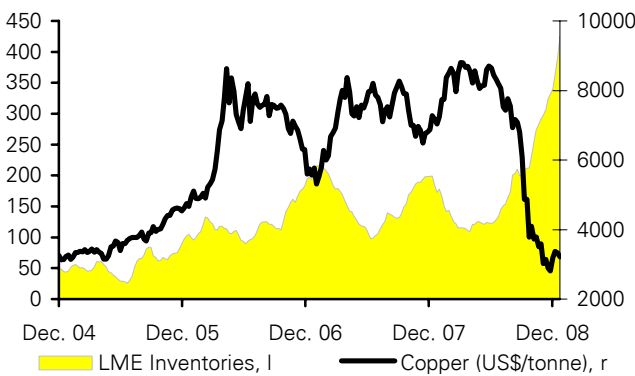
Source: China Customs, Bloomberg, Commerzbank Corporates & Markets

**CHART 15: Tin: net imports China**



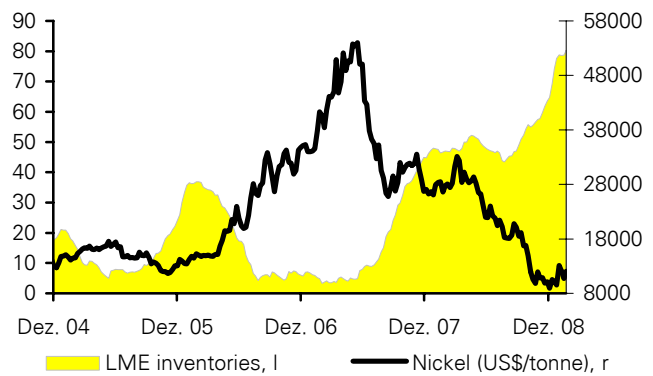
Source: China Customs, Bloomberg, Commerzbank Corporates & Markets

**CHART 16: Copper: LME inventories**



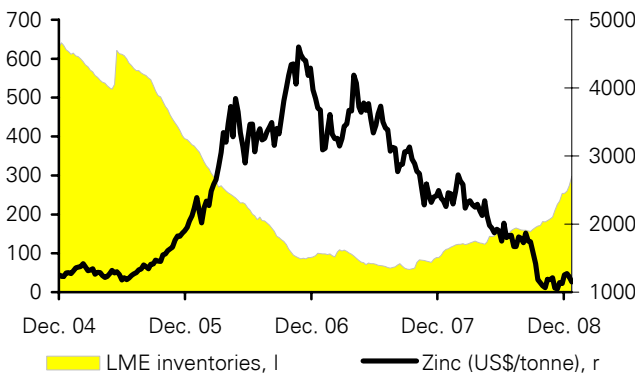
Source: LME, Bloomberg, Commerzbank Corporates & Markets

**CHART 17: Nickel: LME inventories**



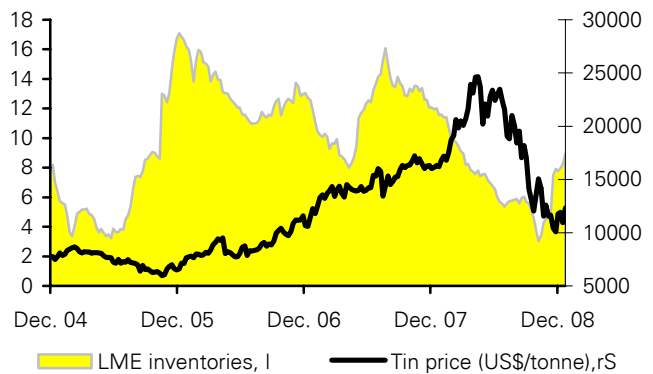
Source: LME, Bloomberg, Commerzbank Corporates & Markets

**CHART 18: Zinc: LME inventories**



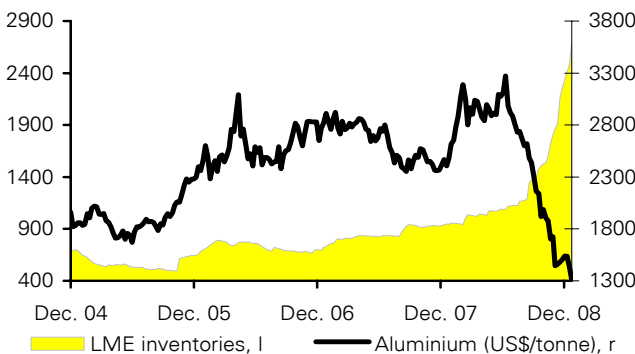
Source: LME, Bloomberg, Commerzbank Corporates & Markets

**CHART 19: Tin: LME inventories**



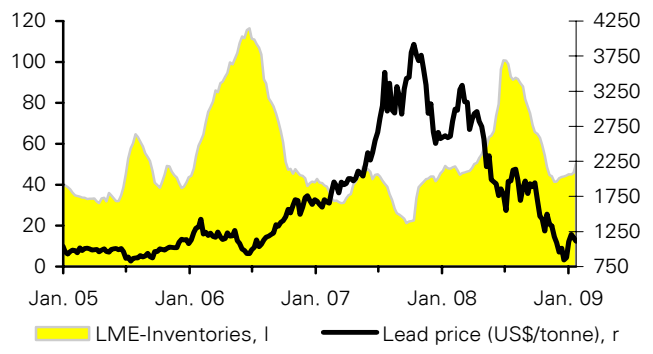
Source: LME, Bloomberg, Commerzbank Corporates & Markets

**CHART 20: Aluminium: LME inventories**



Source: LME, Bloomberg, Commerzbank Corporates & Markets

**CHART 21: Lead: LME inventories**



Source: LME, Bloomberg, Commerzbank Corporates & Markets

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