

Understanding LME warrants and Inventory

The LME warrant is a:

- Bearer document of title, of a specified brand, of a specified lot of metal in a specified location and warehouse
- Declaration of conformity with the LME rules

LME daily stock report:

The reporting period, for a day's stock movement in and out of LME registered warehouses is from 16.30 the previous day until 16.30 on the day to which the stock report refers. The stock report is then published to the market daily at 9.00 the following day. E.g. the LME stock position for 13th November is reported at 9.00 on the 14th November, and so on.

LME daily stock report contains the following column:

LME Warehouse Stocks as on 13/11/2009 (in tonnes)								
Metal	Opening stock	Delivered in	Delivered out	Closing stock	Open tonnage	Cancelled tonnage	Change	Cancelled Ratio
Copper	402125	1700	200	403625	401900	1725	1500	0.004
Lead	132075	175	0.73	132250	131450	800	1.57	0.006
Zinc	424250	1500	550	425200	414925	10275	950	0.024
Nickel	131730	174	156	131748	130500	1248	18	0.009
Aluminum	4539925	0	2725	4537200	4411550	125650	-2725	0.028

The explanation of the columns is as follows:

Opening stock: The opening stock is the closing stock from the previous days report.

Delivered in: The delivered in column shows the quantity of metal, for which LME warrants have been issued during the reporting period. Delivered in consists of metal that has arrived at the warehouse sometime previously, but that has not previously been on warrant.

Delivered out: The delivered out column is the amount of metal that has physically been removed from the warehouse company environment/location during the reporting period. A movement of metal corresponding to 50% of any warrant is considered a full delivery for reporting purposes.

Closing stock: The closing stock is simply the opening stock, *plus* the delivered in, *minus* the delivered out. In turn, today's closing stock becomes the following days opening stock.

Open tonnage & cancelled tonnage: These two columns represent a sub division of the closing stock. The open tonnage represents warrants in free circulation, i.e. tradable, not cancelled. The cancelled tonnage represents tonnage waiting for the owner's instructions to the warehouse company for removal from the warehouse, or possibly re-issue of warrants. These warrants are no longer freely available for trading. The metal referred to in open and cancelled tonnage remains within the warehouse environment. When a warrant is cancelled the open tonnage is *reduced* and the cancelled tonnage is *increased*. There is however no overall effect on the closing stock.

Where metal, the subject of a cancelled warrant, is returned to the market (see delivery in above) by creation of a new warrant, the only affect is on the make up of the closing stock. The impact of such an event is to *reduce* cancelled tonnage column and *increase* the open tonnage. There is no effect on the closing stock.

Change: It is the difference between the closing stock and the opening stock.

Cancelled warrants ratio: It represents the percentage of cancelled tonnage from the total closing stock, suggesting the amount of inventory actually marked for delivery on daily basis.

How to read the data flashed during the day:

LME Warehouse Data as on 16th Nov

Copper UP 2825

Zinc UP 9300

Lead DOWN -25

Nickel UP 132

Aluminum DOWN -175

LME Warehouse data: It means the amount of inventory added to warehouse on the previous day, thus increase the total stock. So for copper its 2,825 tonnes added to the existing stock of 406,450 tonnes as on 17th November.

Cancelled warrant ratio as on 16th Nov

Copper DOWN (0.03)

Zinc DOWN (0.24)

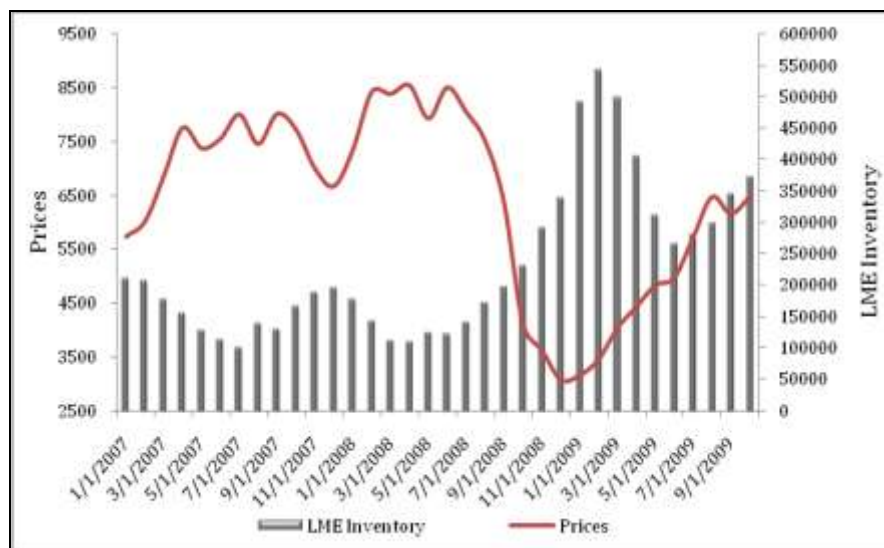
Lead DOWN (0.02)

Nickel DOWN (0.03)

LME cancelled warrants: It represents the material earmarked for delivery. However, the figures mentioned show the rise or fall from the previous day. For e.g. if the cancelled warrants ratio for copper is shown as (0.03), then it means that today's ratio fell by 0.03 from the prior day and thus the outflow has reduced.

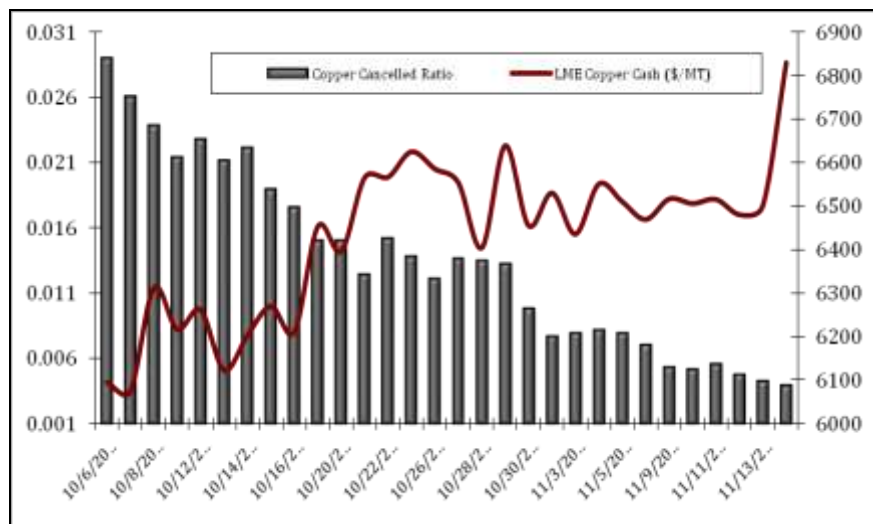
Combining the above two information we could relate that rise in warehouse inventory and fall in cancelled warrants ratio suggests negative trend for prices, while fall in inventory and rise in cancelled warrants ratio is supplementing for price rise. The other possible combinations left untouched could not be identified as any trend.

Now lets understand the usage of this data, taking the king metal, copper into consideration.



The above chart shows LME inventory of copper on monthly basis vis-à-vis prices. When inventories were at record lows of 110,525 tonnes in April 2008, the prices sky-rocketed to \$8,549 per tonnes, and then continued to fell drastically with inventories rising, as the economic bubble burst. Later on when the inventory levels were at lifetime highs of 542,300 tonnes in Jan 09, the prices bottomed out at \$3,070 per tonnes level in Dec 08 and \$3,155 per tonnes in Jan 09. However, soon after this the inventory reduced to 50% at 265,950 tonnes in June -09 as the Chinese SRB and provincial buying programme took place, to arbitrage at lower price levels.

Thus we could say that there exists a negative correlation between prices and inventory. Statistically as well, we find a negative correlation of 84.7% in LME inventory and LME 3 month copper forwards, for the period of Jan 2007- Oct. 2009.



Giving a broader look into the data we see that, in the last one month the cancelled warrants ratio, representing the material earmarked for delivery has fell substantially, while the prices have risen continuously. Here the correlation is defiant because the price rise is governed by the global factors like dwindling dollar and not the inherent supply demand fundamentals. Moreover we find that it has added close to 48,600 tonnes of inventory in the last one month from 16th October to 16th November. Moreover it has added 34,250 tonnes in November till date, with a continuous fall in cancelled warrants ratio.

This suggests that by and large, the inventory rising suggests lower prices to follow and vice versa, reiterating the basic demand supply concept. However short term varied fluctuations could be owing to other market factors to rule over.

Conclusively, LME inventory is one way among many others, to identify the trend in usage of material and thus required outflow accordingly. It is no where directly related to price movement on intraday basis.

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