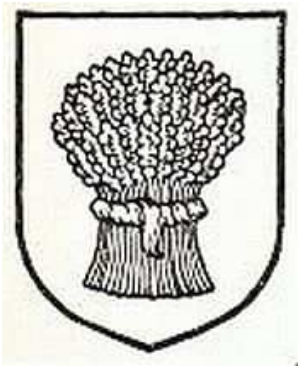
Thursday, September 22, 2011



# HALLGARTEN & COMPANY

**Sector Strategy**

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# Zinc & Lead:
## Awaiting their "Day in the Sun"

# Zinc & Lead

## Awaiting Their Day in the Sun?

- ✘ Zinc and lead prices have retreated in recent weeks. The US and eurozone's travails have now sent both metals down from their recent highs
- \+ In recent months projects have been dusted off as the "Rise of the Trading Houses" brings in a new funding dynamic for a sub-space traditionally at the mercy of portfolio investors
- \+ The pain of this downfall has, curiously enough, been mitigated the most for European producers who found their terms of trade on the production side less damaged than those miners in countries with a closer relationship to the US dollar, while European smelters/refiners and end-users found that they had suddenly become more competitive.
- ✘ The two metals' retreat after a brief flirtation with $1.20 per lb has made financing tough in the public markets until the Zn and Pb lead prices establish some consistency above the $1.20 level.
- ✘ This augurs ill for long term supply (but good for longer term prices) looking 3-4 years out

**Just can't keep a good metal down..**

Just when you thought it was safe to go back in the water, something nasty comes along and snaps at you beneath the waist. Both Lead and Zinc had re-established themselves above the $1 per lb mark and Lead was looking rather firm around $1.20 for quite a long stretch of months.

Zinc and lead are joined at hip because of their usual occurrence together in mining. Zinc had a worse time of it though during the post-2008 slump as demand went off a cliff due to its linkage to galvanized steel. Lead however maintained its demand much better due to the seemingly undaunted rise of the Chinese auto production numbers which required increasing amounts of lead for batteries just as China was reining in lead refineries (both legal and illegal) that were creating an environmental disaster. Despite the stronger real end-user demand for lead, its recovery pretty much paralleled that of zinc due to Chinese stockpiling of zinc, of which more later.

On to the recent travails with the chart that follows showing the relationship between the Zinc component of the GSCI Index and the S&P500. The goal here is to show that zinc's woes began well before the Euro-wobbles of recent months. The S&P could act as a proxy for economic sentiment. Thus a rising S&P500 and a falling zinc price would be anomalous.

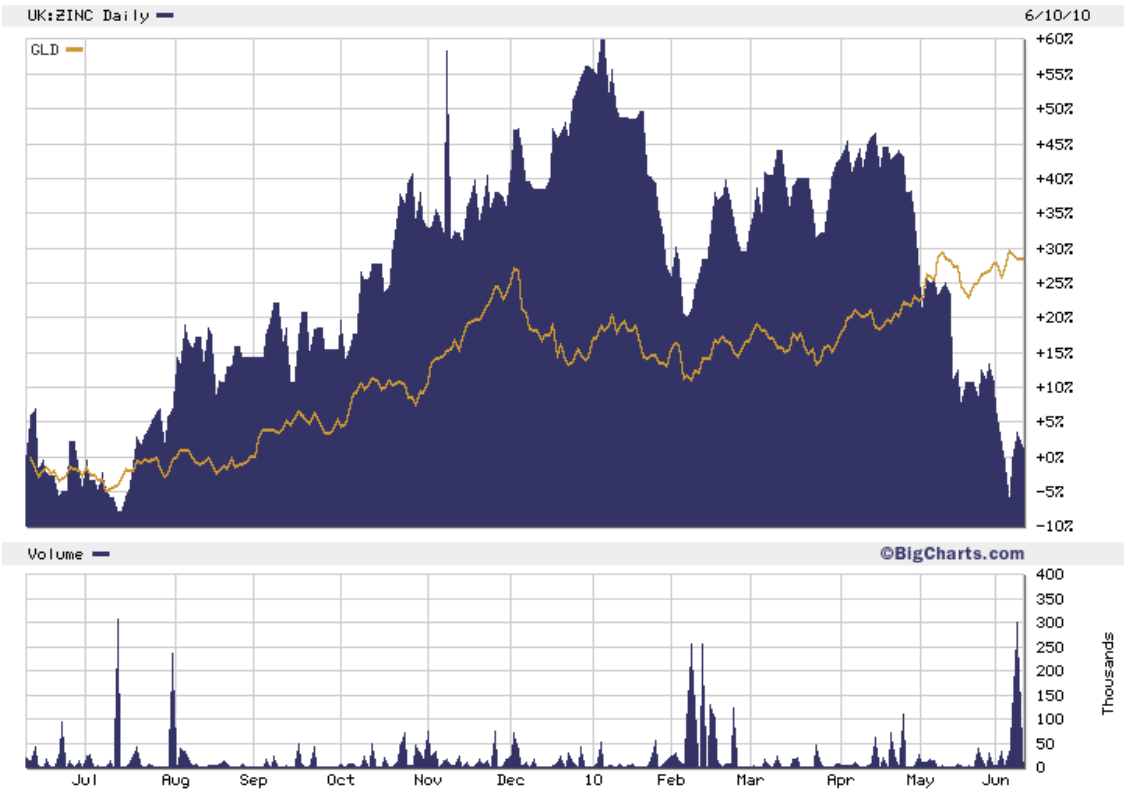
Zinc's recent high was in December 2009 (when gold touched $1,200 previously on "inflation fears"). That moment was the high tide of the dollar carry-trade with the Euro also reaching its apogee at that time. The S&P 500 powered on to new highs and zinc tried several rallies and failed, never getting even vaguely close to its previous high at year end.


The Zinc ETF (ZINC.L) is a relatively recent discovery for us. It is no surprise that it passed under our radar, and that of many investors, as it trades on the London Stock Exchange with relatively minor daily volumes. It represents a very interesting means to get some pure exposure for investors that do not want the event risks associate with the big zinc miners (very few of which are pure plays in any case).

**Gold and zinc – diametrically opposed?**

Curiously, there seems to be more relationship between the S&P and zinc than between gold and zinc. The inflation school of thought that supports unbridled gold buying would hold that rising commodity prices is a sign of inflationary outbreak and thus a reason to buy gold as zinc and others rise. However the gold bugs changed their tune when Europe started to go to the dogs with inflation being put on the backburner and "flight from risk" being the new mantra. This allowed gold to rise when there was decreasing inflation risk, particularly from commodities.

The following chart shows the Zinc ETF versus the Gold ETF. Gold, as we know, has been uptrending after it doodled around for months after its initial retreat from $1,200.




**Zinc – potential unappreciated**

At the risk of sounding eternally optimistic we reiterate our enthusiasm for zinc. The zinc equation is rather simple. At a price per pound of under 70 cts most producers of zinc are losing money. Some were sustained, when went zinc first turned turtle in the 2008 rout, by their by-product credits from silver or lead but then those too slipped beneath the waves and some of the classic Ag-Pb-Zn mines were losing money on all three product lines. Some others, most particularly the Australians, got some brief relief by the Australian dollar plunging in late 2008 from 92cts to the USD to a nearly 60 cts in the space of a month. However, not to be outdone, the zinc price lost 40% in the same time, largely negating the currency move. The net result was a swathe of mine closures and mothballing across the globe. Some have reopened, some have gone for good.

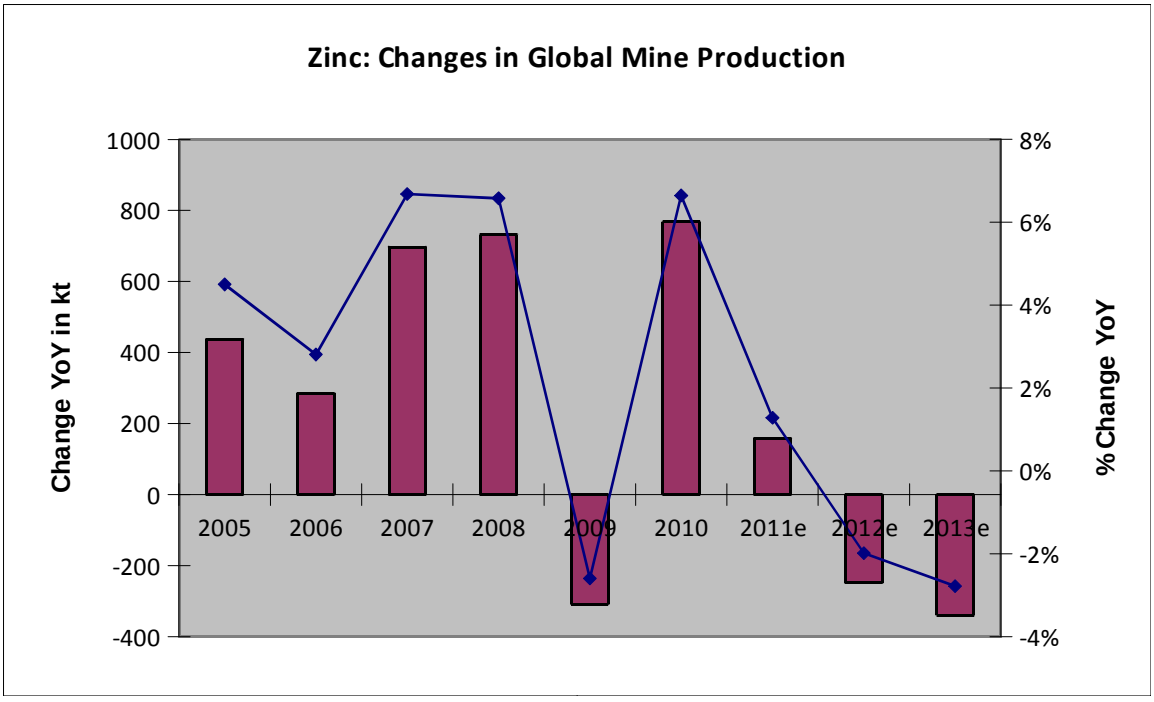
Steel production rebounded, at least in China, during 2010 and with it lifted the iron ore price making for a fevered market again in that metal. Zinc responded in a more muted fashion largely because Western demand was still way off the boil and Chinese consumption was insufficient to make up for the broader weakness. In 2009, sharp falls in zinc demand of 25% in Europe, 10.5% in the United States, 23% in Japan and 22% in the Republic of Korea were partially balanced by an increase in Chinese apparent usage of 17.8% resulting in an overall reduction in global demand of 5.3%.

| World Refined Zinc Supply and Usage 2006 - 2011 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 000 tonnes | 2006 | 2007 | 2008 | 2009 | 2010 | 2010 | 2011 | | 2011 | | |
| | | | | | | Jan-Jun | Jan-Jun | Mar | Apr | May | Jun |
| Mine Production | 10,431 | 11,128 | 11,860 | 11,552 | 12,320 | 6,005 | 6,212 | 1,029.7 | 1,056.2 | 1,116.1 | 1,140.8 |
| Metal Production | 10,629 | 11,345 | 11,766 | 11,281 | 12,860 | 6,266 | 6,451 | 1,104.2 | 1,055.6 | 1,079.2 | 1,105.0 |
| Metal Usage | 11,000 | 11,276 | 11,559 | 10,845 | 12,571 | 6,081 | 6,228 | 1,073.5 | 1,017.9 | 1,037.0 | 1,103.6 |

*Source: ILZSG*

The table above shows mine production crawling upwards over the last six years before a small retreat in 2009. Both metal usage and production turned down in 2009 and production of refined zinc exceeded usage by 445,000 tonnes, the largest surplus since 1993. This should have been enough to send zinc even lower but the Chinese surged into the marketplace and vacuumed up the surplus, clearly stashing it away for a rainy day.

Below can be seen our projections for the YoY change in production over the next few years. Production continued to rise in both Zn/Pb output due to the strong silver price and new production in the Ag/Zn/Pb polymetallic category. However, under this frothy layer primary base metal sources of Zn/Pb will be heading down as mines expire and no new production appears. This is where the real crisis is brewing. The production falls in 2012 and 2013 are due to mine closures not demand issues.




Source:Hallgarten

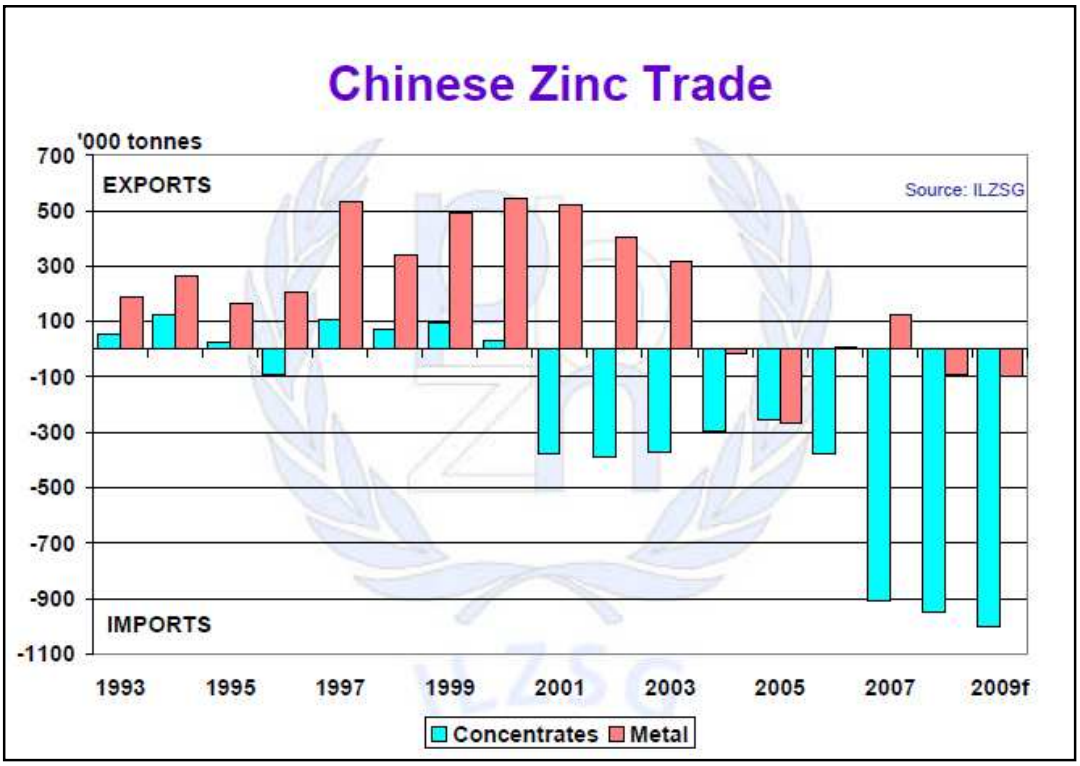
**China – the "market-maker" in Zinc**

The reason that China was able to regain the pricing initiative in the zinc space was its strength during 2008-9 when everyone else was in retreat. Chinese net imports of refined zinc metal in 2009, according to the International Lead and Zinc Study Group, rose to a record 641kt of which more than 70% was imported during the first half of the year. At 1.9 million tonnes, imports into China of zinc contained in

zinc concentrates were also at the highest level so far recorded.

For a long time, until the middle of last decade, China was not only a source of large-scale exports but also a price spoiler due to its own low internal costs combined with an innate disinterest in "commercial" considerations (as we have noted elsewhere in the Rare Earths space).

The chart that follows shows that Chinese metal exports evaporated early last decade and then it became a massive net importer.




We are permanent bulls on the zinc space for the long term and found it hard to stomach in 2009 that those with a negative opinion on zinc were citing the Chinese demand issue as the reason to not like zinc. With China's growth for 2009 having been in the order of 8-10% in most opinions and a similar forecast for 2010 it was exceedingly hard to see how this massive net importer was likely to return to its old exporter status. Our thoughts were proven to be right.

We would also note that China was firstly (from 2001 on) an importer of concentrates and an almost equal exporter of metals. As energy costs rose in China, the trade became almost one way and particularly so in more recent years as the more marginal and dangerous coal mines were shut down and competition for scarce energy resources between sectors in China became more ferocious. Thus it became an exporter of processed metal rather than mere concentrates. There are no reports to indicate that China is anywhere near resolving its energy dilemma so there could even be the paradox of them importing more finished metal rather than less.

In any case such a trend is not a requirement for sustained zinc concentrate demand with China as the

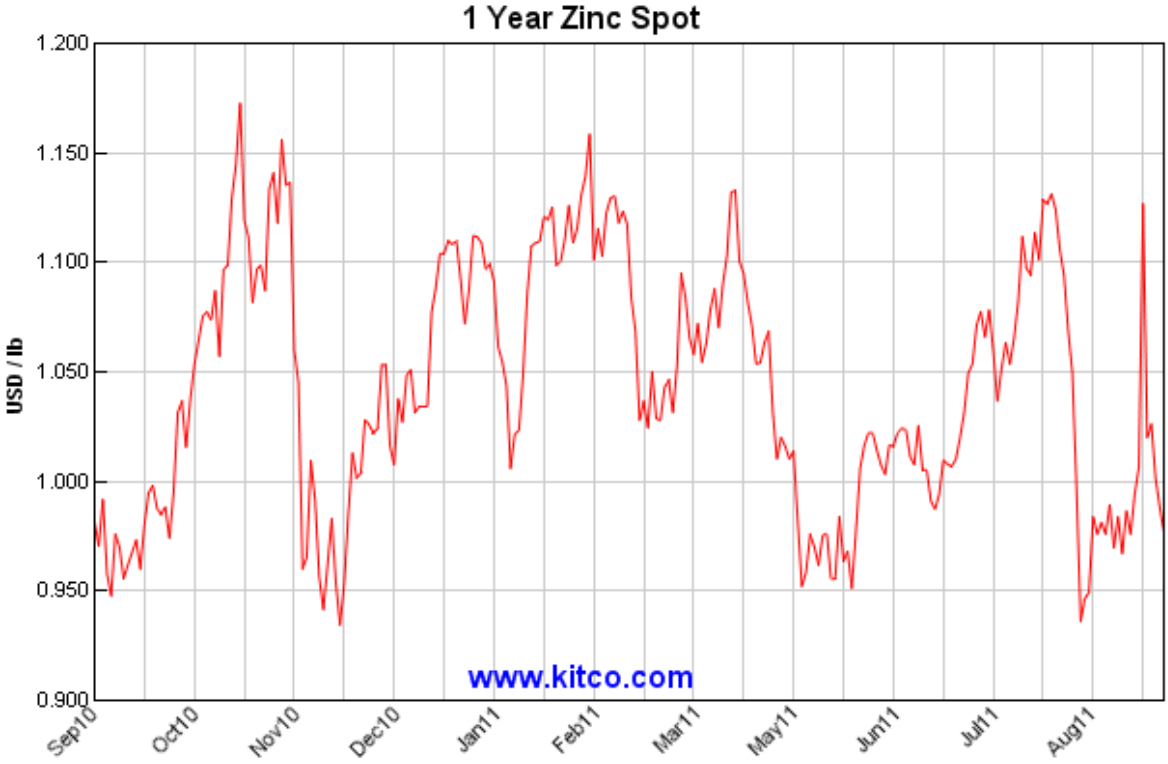
end user. Merely the ongoing growth in China will continue to increase its share of global zinc consumption and its zinc output is clearly inadequate for its own needs. These issues were compounded by chronic low grades in zinc mining in China and inefficiencies that resulted in a general perception amongst informed zinc-watchers that while the major Western producers had a breakeven price of around US 80 cents per lb, the Chinese had a breakeven that was often speculated to be around US$1.20. This is reason enough for the Chinese to have been massive zinc stockpile buyers during 2009, lifting the price from a low around 46 cents to nearly their breakeven price. Is it no surprise that the zinc price should have been walloped once it finally got over $1.20 per lb in a brief flurry early in 2010?


The zinc price like so many other key metals is now subject to “market-making” by the Chinese. This is not necessarily a bad thing as speculators (largely hedge funds) serially distorted via “pump and dumps” the nickel, zinc and uranium markets in the run-up to the slump of 2008. It seems the Chinese are more interested in orderly markets where Western producers get a fair though not outrageous return on their production than Western end-users that beggared a whole swathe of the base metals industry (leading to the annihilation of virtually all the US and Canadian majors) between 1973 and 2003. “Better the tender mercies of the Chinese than the gouging of Western industrialists” should be the mantra of the surviving and up-and-coming base metals miners as they head into a new decade.

**Recent Prices**

Zinc looks like a metal that just doesn’t want to go down. The one-year chart on the following page shows a very interesting trend. Technical analysts would call it range-bound, but we prefer, as we have noted, to regard the highs and lows as a band of Chinese choosing. The bottoms are even more

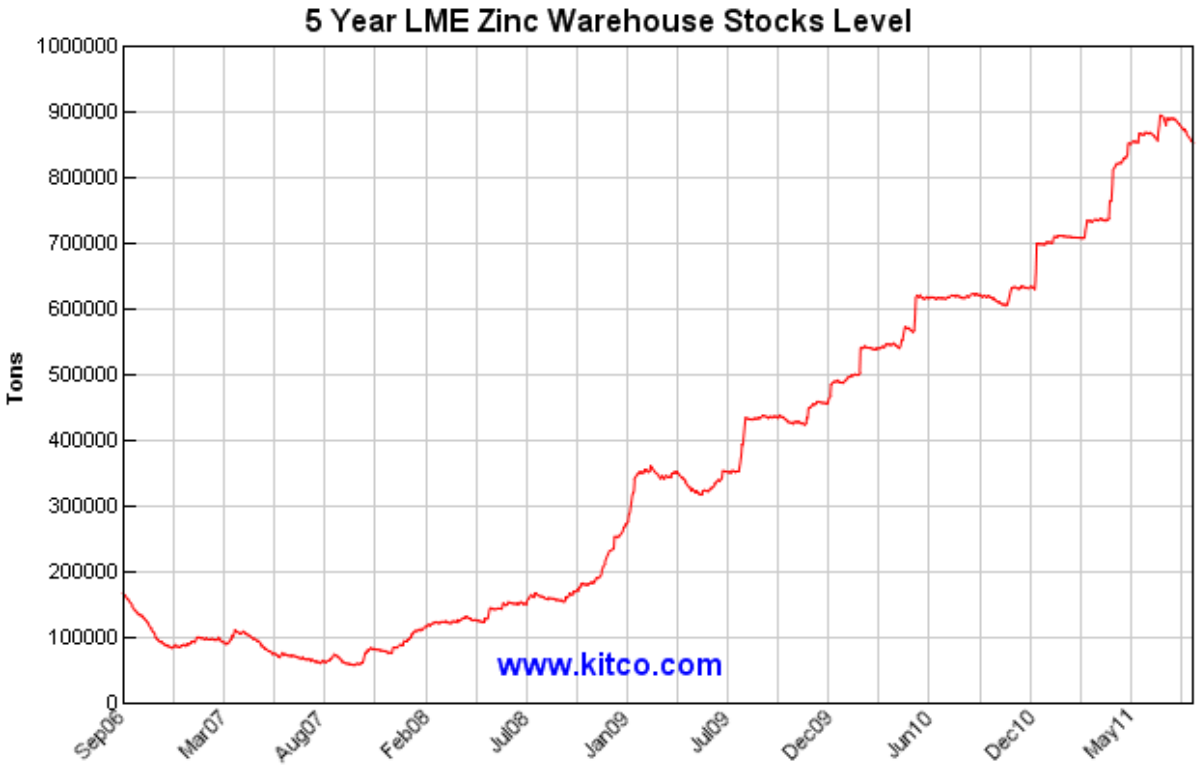
surprising than the tops. Either the users are diving in uniformly at the 94 cts level or the producers start withholding product to get prices moving again but we can see a distinct floor at this level.




Likewise the top of the zinc market has been in the band between $1.10 and $1.17 per lb. As can be noted the price has forged back into this territory eight times (by our count) over the last 12-months. This is some small comfort to producers that the metal seems to be able to resist the buffeting of its price as even though London Metal Exchange-traded zinc contract has roughly doubled from its 2008 low point to trade at around US$2,180 a tonne, this is still well below a peak of over $4,000 per tonne in early 2007.

**Warehouse levels**

How many hedge fund managers do you know who have space in the basements of their Midtown Manhattan or Mayfair offices for 15,000 tonnes of Zinc? If the answer to that is “none” then you have a fairly good explanation of why the old LME adage “high stocks, lower prices” and vice versa has gone the way of the dodo. To speculate in the physical Zn space you need to have somewhere to store the physical metal that one buys. Once the market was miners on one side and industrialists on the other with some low capitalization intermediaries who held minimal long positions. Despite the well-publicized eruption of hedge funds in the LME trading sphere many observers don’t seem to have absorbed the implications of this sea-change when looking at warehouse stocks.




A further overlay to add to the confusion is the smoke and mirrors of the Chinese players who, having "basements" where they can stash stocks, specialise in shunting said stocks into and out of the official warehouses. Or rather we should say that they "did" do this because since their dalliance pre-2008 in the copper market (where they tried this one on with the market veterans and failed) we suspect this shell-game is no longer in the Chinese repertoire nor needs to be. In any case the only ones they were fooling were the hedge funds!

In truth the whole subject of warehouse stocks is now somewhat irrelevant. No one would say that a gold repository holding record stocks was a negative for gold. It would be read as a sign of panic buying and removal of stock from the marketplace. The same could now be said when reading the tea leaves for all metals and all warehouse stocks.

**Forex effects**

It is always important to consider the local currency of the zinc/lead producer before making sweeping statements about the effects of a price fall on the sector and major players. When zinc was $1.20 per lb in late November 2009, the Australian dollar was heading towards parity with the US dollar and the Canadian dollar was even closer to that goal. The euro back then was as high as US$1.55.

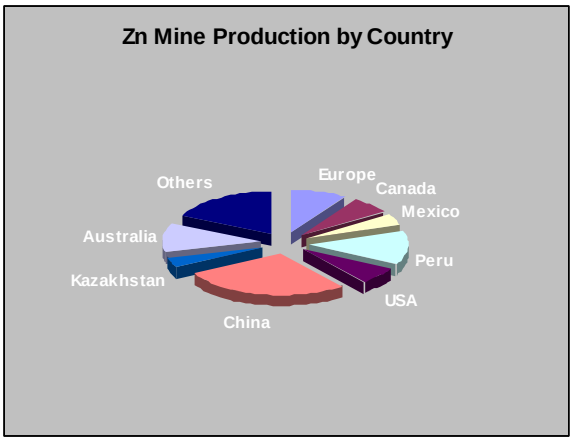
In May 2010 Zinc retreated to 71cts and the euro was flirting with US$1.20, the Australian dollar had retreated to US 82 cts while the Canadian dollar has lost its brief supremacy over the US dollar.

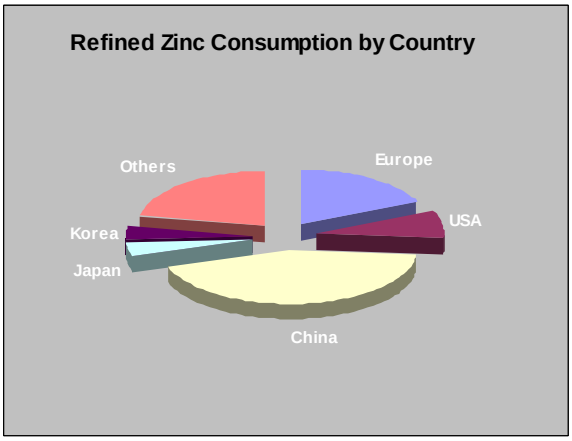
Now we have the Canadian and Australian dollars back at a premium to the US dollar and the Euro in the

US1.35 range. Zinc and Lead are holding up well.

Over and above this the largest customer is the Chinese and now with the Yuan appreciating Zinc and Lead and all other metals are destined to get cheaper over time.

Most relevant for production is the viability of producers denominated in the Australian dollar. Very important for consumption and some production (Finland, Portugal and Ireland) is the level of the euro. The Australians (and Canadians) have seen their margins eroded by losing ground against the US dollar. The European buyers of zinc are benefiting from the dollar being the denomination of Lead and Zinc sales. The prolonged euro strength over the last decade has been a great boon in providing European manufacturers and processors with neutral zinc from their own sources and cheaper zinc from dollar zone sources.




*Source: ILZSG*

The pie charts above show that Europe is not an insignificant zinc production source (being bigger than Canada and Mexico combined) while on the consumption front Europe consumes twice as much as it produces implying that low Zinc prices are good for its reconversion industry and end-users.

The European miners of zinc are actually advantaged by the current Euro slump and the ideal situation for them would be to see zinc back over a dollar per pound while the Euro stays less than US$1.30.

**Price Outlook**

While the current economic wobbles have sent zinc and lead back under $1 per lb the first wave of Euro grief in May 2010 was substantially less important economically but had a more bruising effect on the prices of both metals. Thus Zinc fell to 71 cts at that time and Lead bottomed around the same level. Though we can only say this in retrospect as there is no logical argument that can be contrived that would substantiate US 71 ct Zinc equating to a US $1.19 rate to the Euro. The real culprit back then was a flight to safety that prompted non-trade players to ditch “inventory”. The “inside-money” in the base metals space got out of the way and stood to benefit from seeing how far this knife would fall rather than leaping forward to catch it in their teeth. Thus hedge funds and other neophytes were once again cleaned out, literally and figuratively.

Meanwhile the Chinese quite clearly sat on their hands waiting for the whole situation to pan out. Indeed, it could even have been the case that they may have released stock in the $1.20 to $1 first leg of the fall just to punish the speculators. Beyond $1 we feel that the Chinese must not have been happy campers because they too could see the effect an excessive fall would have on future mine plans. The $1 to 71 cts phase was thus sheer distressed selling. We feel that the Chinese are always buyers at these dips to snap up some more stock which gives them more inventory for the future to discipline the market should it get overheated.

This time around we have another more serious Euro crisis and yet the Euro is not at US$1.19 but rather at US$1.36 and Zinc and Lead have not crossed the 90 cts mark to the downside.

The problem for Zinc users going forward is going to be mine closures. The capacity departing is much more substantial than the volume coming on stream. For example, in Australia the Century zinc mine owned by Minmetals has historical production in excess of 500,000 tonnes per year of metal but is currently expected to close in 2015. Minmetals has suggested it could remain active for another year before being exhausted. The company is studying development of a second Australian mine, called Dugald River, for which a feasibility study completed in 2008 confirmed a resource of 53 million tonnes at 12.5% zinc, 1.9% lead and 36 g/t silver. This project might be capable of producing approximately 200,000 tonnes of zinc, 25,000 tonnes of lead and 900,000 ounces of silver for a period of 23 years. Thus one large mine is being replaced by another

In Canada, the Xstrata-owned Brunswick and Perseverance mines are destined to close in 2013. This is after Brunswick has already been stretched beyond its original LOM. A shutdown of the two mines would remove a combined 350,000 tonnes of annualised metal capacity.

To counter these closures we have new mines like Glencore's Perkoa in Burkina Faso (90,000 tpa) and Talivivaara in Finland at slightly over 25,000 tpa. Thus mega-mines that lasted for decades are being replaced by much smaller mines with more limited mine lives.

Thus we feel that Zinc and Lead should be trading soon back above the above $1 per lb consistently. Our twelve month outlook is for Zn to again reach $1.10 or slightly higher. Our two to three year view is for Zinc to breach the $1.50 per lb mark. Thus the aforementioned Zinc ETF looks a great way to play this potential move. Even better there is a leveraged ETF, from the same originator, that gives double effect to any up (or down) move.

**Some comments on Lead**

Lead has been more resilient than its sister metal in recent years, falling less on market retreats and bouncing back faster. This trend though has not resulted in the metal breaking free from zinc's price just tending to parallel it at a higher level.

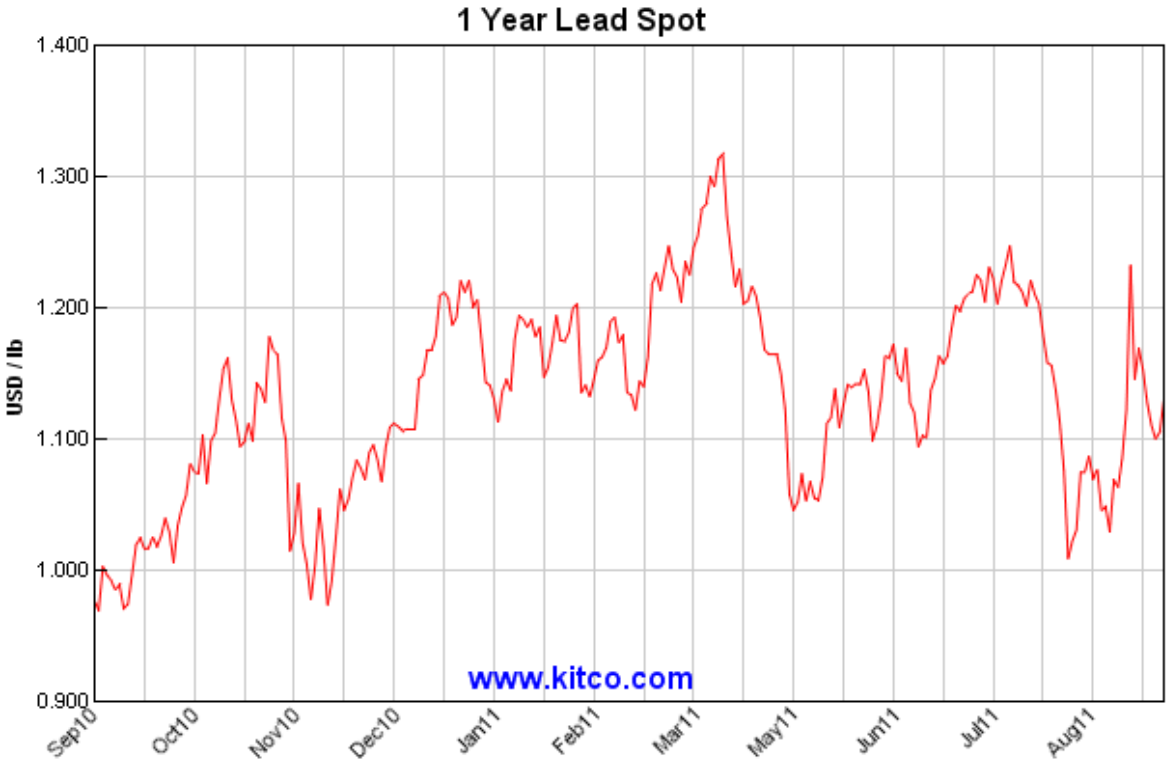
The secret to Lead's dynamic is fairly simple. Its main use is in car batteries (now that it is being widely phased out of use in solders). The West has largely been a zero-sun game in Lead demand for a long while now with recycling of old batteries tending to provide the supply the next batteries being produced with some small attrition in the recycling process and some incremental demand. The swing

factor in providing new Lead demand is the automobile buildout in emerging markets, most prominent of which is China. This net new demand cannot obviously be met from salvaged batteries so requires feeding from new mine production.

| World Refined Lead Supply and Usage 2006 - 2011 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 000 tonnes | 2006 | 2007 | 2008 | 2009 | 2010 | 2010 | 2011 | | 2011 | | |
| | | | | | | Jan-Jun | Jan-Jun | Mar | Apr | May | Jun |
| Mine Production | 3,528 | 3,649 | 3,773 | 3,841 | 4,140 | 1,931 | 2,145 | 361.5 | 366.8 | 405.4 | 420.9 |
| Metal Production | 8,108 | 8,322 | 9,060 | 8,989 | 9,602 | 4,494 | 4,975 | 834.3 | 857.3 | 802.1 | 864.3 |
| Metal Usage | 8,233 | 8,374 | 9,047 | 8,932 | 9,563 | 4,425 | 4,875 | 833.7 | 803.3 | 786.5 | 846.9 |

Source: ILZSG

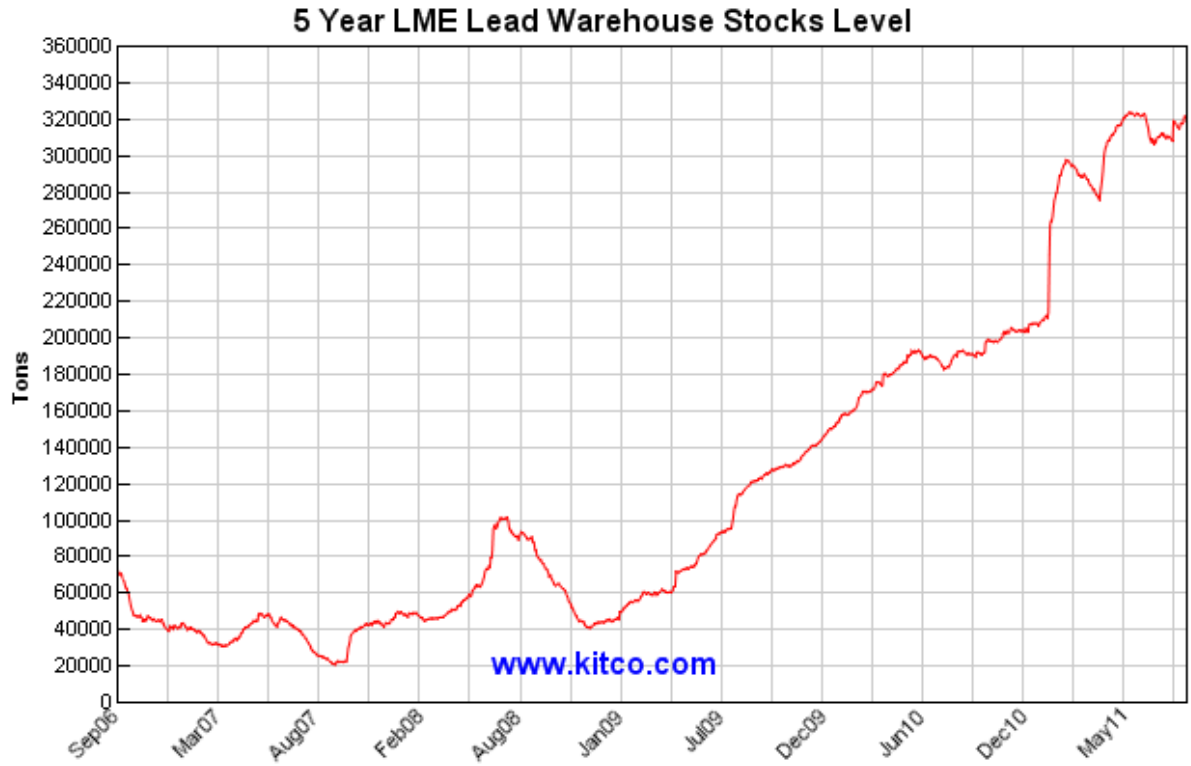
The table above shows mine production (representing around 40% of metal production, the rest being recycled material) and finally the metal usage. Rollicking demand in China has meant that metal production and usage have been doing fairly well, even in the “down” year of 2009. Lead production is largely a by-product of Zinc production and thus is not all that elastic unless a wide premium for Lead opens up, which has not happened.




The price trend for Lead show less of a clear floor than Zinc does however Lead has shown more resilience and its move between its high and low extremes has exceeded 30% over the last year while Zinc only managed a 20% move between its lows and high. While zinc keeps trying to make new highs after each beating we can see that Lead did very well in March 2011 and hasnt appeared inclined to match those previous levels.

Meanwhile, the chart below shows the LME warehouse trend over five years. Interestingly the build in

stocks began a year later in Lead than in Zinc and while Zinc's rise has been rather consistently smooth, Lead has shown some steeper short term accumulations. Having said this though the old truisms about rising LME stocks implying impending weakeness have been upended as financial and Chinese players are happy to leave stocks lying around in the warehouses rather than moving them to their own locations. This means that warehouse stocks might indicate strong hoarding demand rather than weak end-user demand.




Our view on prices is that Lead's lead over Zinc may get whittled away as expansion in Zinc demand could come from a number of sources while Lead's price motivators are fewer. Thus we suspect that Zinc might breach $1.50 per lb before Lead which would be an upset after recent trends but only rfelect a return to a more normalised state of things.

One caveat that we would posit is that any move by China though to leapfrog over the combustion engine phase of growth to and advance adoption of hybrids (possibly a reason for their hoarding of lanthanum these days) could prove deleterious to growth model scenarios for Lead demand.

**Conclusion**

Since its depths in 2008 zinc has rebounded to over $1 per pound only to slip back in May 2010 on the first wave of Euro travails and then again on the recent global market weakness. However the metal seems to have found a band between 90 cts and $1.10 per lb over the last year. This relative stability is good but not much consolation to anyone in the space. This includes end-users. The zinc complex has needed a sustained recovery in prices to tease projects off the drawing boards and into the financing phase. While some transactions went through during the recovery phase most of these were on existing

producing assets. The zinc end users need to feel that there is some new production coming on three or more years out. Short of silver mines with strong zinc/lead by-product credits there is very little between here and the horizon in terms of new production. This then implies that a shortage bubble is coming along and prices will spike again as they did in 2006/2007.

While producers or prospective producers were rightly wary when Zinc and Lead first shot up to the $1.20 per lb level in December 2009 (suspecting they might be being led into a bear trap by the Chinese or hedge funds or whoever) the fact that both metals were able to hold themselves above the $1 mark for a sustained period of time since then (except in the recent turbulence) has emboldened hard-core Lead and Zinc fans to dare to consider that some projects on the drawing boards may actually be moved forward. The rise of the Trading Houses are a s source of financing through offtakes has partly negated the generalised disinterest of the equities markets in the sub-space.

Thus the perspective for stocks in the space to firm up again as zinc and lead crawl back into the daylight looks good. To this end we have reorganised our Model Portfolio's layout to include a “Lead/Zinc” category. Our favorite exposure remains Nyrstar (NYR:BT), the vertically integrated player in the space for the lesser damage that the Euro move will inflict and the advantages that will accrue from lower prices, at least if only temporarily. We have ZincOx (ZOX.L) and Tamerlane Ventures (TMS.v) in the Model Mining Portfolio as pure plays, while Capstone (CS.to), also has substantial zinc/lead production. For the most direct leverage though, the Zinc ETF (ZINC.L) would look to be the way to play the bounce from recent lows.

## Important disclosures

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