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Base Metals Outlook

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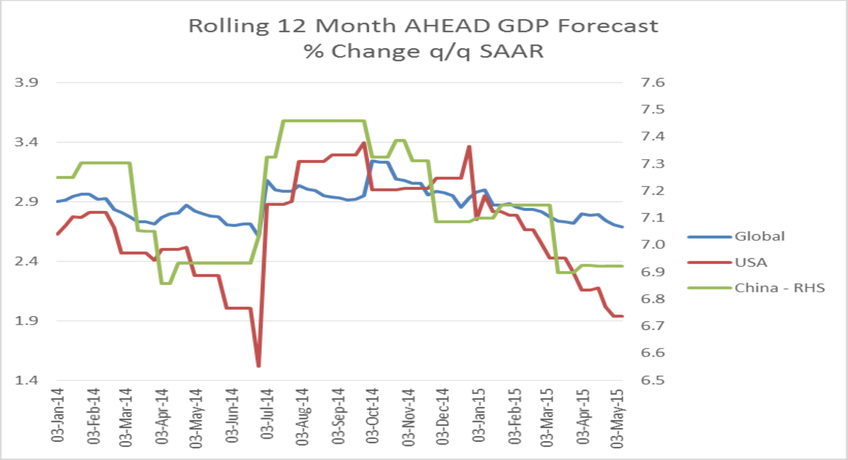
Macro: Weak in Q1, but forecasts are optimistic for a recovery

- Global GDP was weak in Q1
  - Growth in Q1 likely to be between 1% and 1.5% qoq, SAAR, the weakest quarter in 20 years (outside of the global financial crisis).
  - Significant negative weather events in North America were a “one-off” although transpiring for the 2nd year in a row.
  - More pronounced cyclicality in Chinese demand is also becoming evident.
  - Economic activity undermined by significant increase in volatility in oil and other commodity prices.
  - Economists hope for a GDP recovery, towards 2.5% - 3.0% in Q2, with government stimulus, QE and household spending the main drivers.
  - Geopolitical risks do however remain elevated.
- Macro headwinds to commodity prices
  - Fed still the only major central bank with a plan to tighten monetary policy; the USD has strong upside risks (still).
  - The Q2+ GDP recovery is hampered by adverse productivity trends and signs of excess inventories globally. Indeed, PMI measures are suggesting that the global growth improvement will take place largely in the service sector. Manufacturing to lag, most likely.
  - Fundamentally, supply for most commodities is positioned for a stronger demand environment. Excess inventory is evident in energy, agriculture and metals.
  - While monetary policy is lax globally, interbank and private sector credit extension is far from lax. Policy rates less linked to private sector rates after 6 years of QE.

Macro: Weak in Q1, but forecasts are optimistic for a recovery

World growth has been revised down



Euro staged an unexpected recovery

Source: JPMorgan, HFZ Capital Estimates

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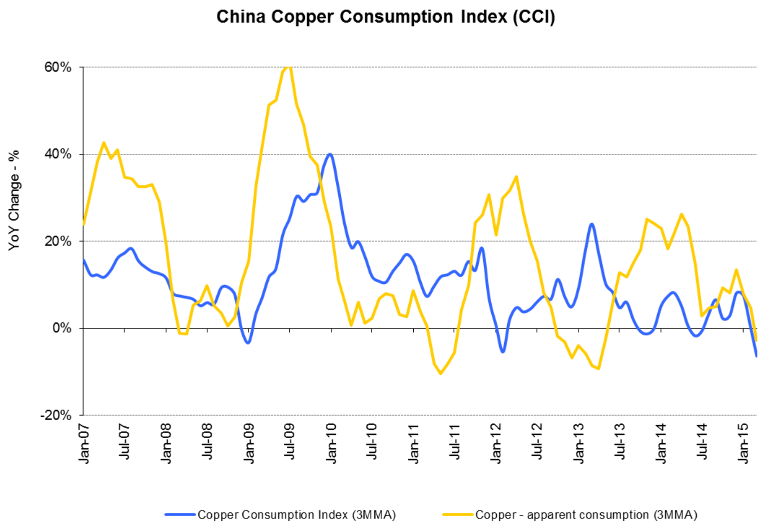
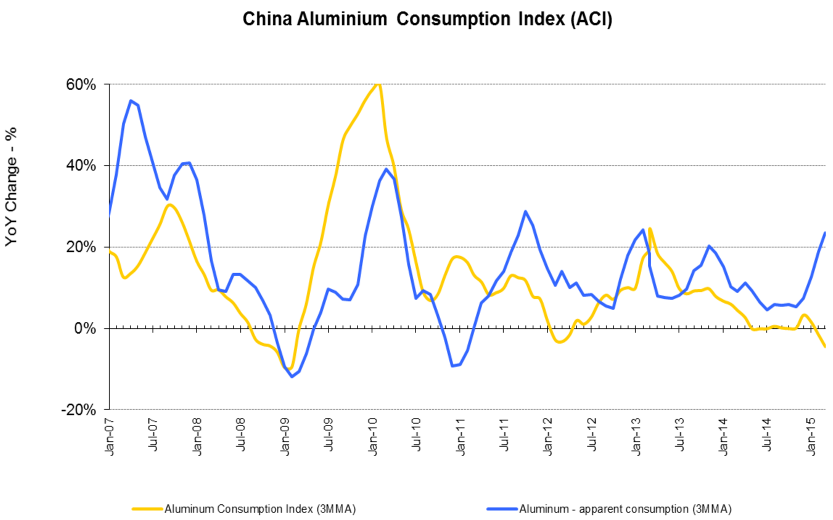
China metal demand: down and out?

- Year to March apparent consumption growth for China copper was ~***zero***. Real consumption was likely negative.
  - *Copper demand has been poor.*
  - *The same applies for zinc, aluminium, nickel and lead.*
- Seasonal uptick for base metals arrived in April, but it lost momentum in May.
- Chinese economic data for April was weak; further core softness in IP, FAI, retail sales, but fiscal spending was very strong.
- The weakness in consumption indicators and actual consumption raises the prospect that this cyclical credit induced weakness is structural, and permanent.
  - *Many analysts highlight the visible peak in residential housing sales and starts as the key reason to expect weaker, structural, base metals consumption.*
- We believe that the weakness in H1 will be ***partially*** reversed in H2. Chinese consumption will show + Y/Y comparison in H2.
- For base metals, consumption growth will be supported by stimulus combined with an improved global GDP environment
  - *Non-residential property construction (~50-60% of total construction is doing relative better than the weak residential housing market)*
  - *Consumer goods; autos, white goods supported by the "consumer" economy.*
  - *Broad infrastructure spending – with renewed focus on trade and supply chain infrastructure – such as the "One Road, One Belt" initiatives.*
  - *Exports of semi fabricated and fabricated products, like aluminium semis and galvanized steel, will provide some support to metal demand.*

China metal demand: down and out?





Source: Morgan Stanley

Morgan Stanley indicators of consumption point to very weak dynamics in Q1!

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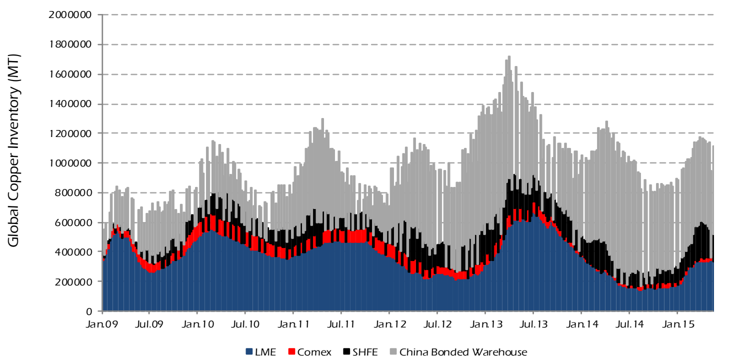
Copper: The China story is not so rosy, …

- Key driver of consumption (State Grid), shows spending negative year to date
    - forecast is for an improvement, but when?
- Negative growth in residential housing starts and sales will drag on consumption growth going forward
- Scrap market is surprisingly loose in spite of a prolonged decline in scrap imports into China; not only is China producing more domestic scrap (+20%yoy in 2014) but direct scrap use is becoming less important
- Net imports of refined cathode remain robust, but nil growth in year on year terms is possible
    - Chinese smelters remain active in exporting to bond
- Concentrate market remains oversupplied, although tightening currently due to weaker than expected mine production in H1 (rains in Chile, price-induced production cuts, disruptions)
- Qingdao has significantly affected the ability of the supply chain to finance itself. With less asset-backed credit available for industry, the number of traders and the resulting import volumes have dropped significantly
- Q2 demand season appears to have been softer than usual
- Current price environment hard to sustain unless global demand improves but prices will be supported by ongoing supply adjustments.

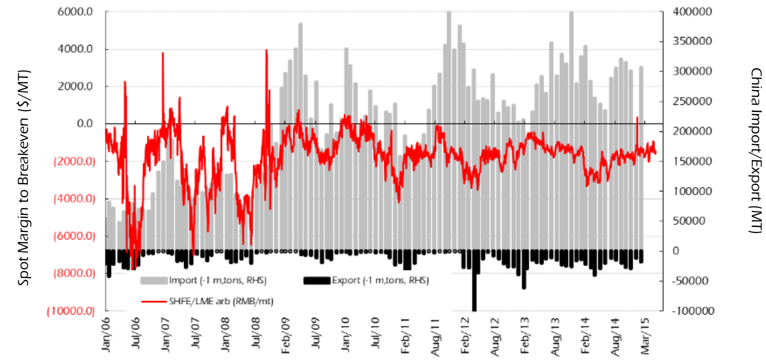
Copper: The China story is not so rosy, BUT…

Global Copper Inventory (MT)



Source: HFZ Capital Management Limited Estimates, LME, SHFE, Bloomberg

Despite copper price weakness, spot import margins remain negative

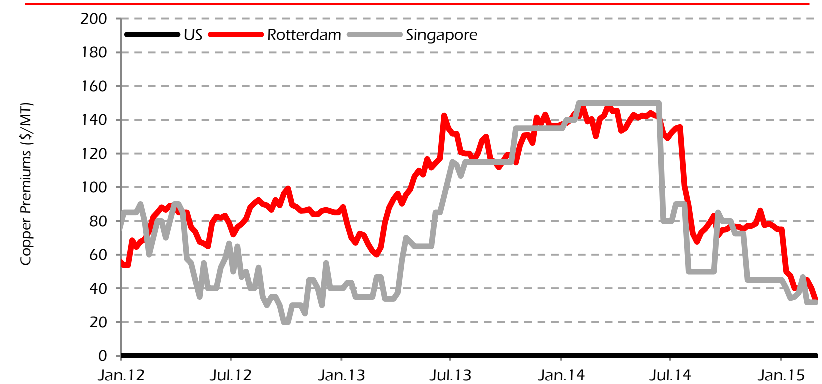


Source: HFZ Capital Management Limited Estimates, LME, SHFE

China Housing Data continues to show tangible signs of slowing

Source: HFZ Capital Management Limited Estimates, Bloomberg

Global Copper Premiums ($/MT)



Source: HFZ Capital Management Limited Estimates, Bloomberg

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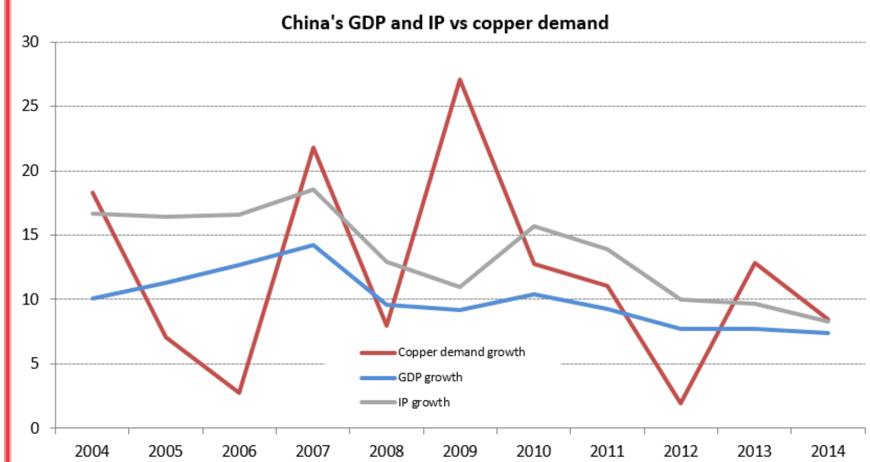
Copper: Actual demand was much better than expected in 2014, Why?



Source: HFZ Capital Management Limited estimates, Wood Mackenzie

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- Copper is a late stage application in the construction cycle.
    - Completions were still in positive territory in 2014
- Direct use of scrap has been declining. **A reverse substitution into Cathode**.

- Possible negatives in 2015:
    - *Housing completion is in negative territory now;*
    - *Scrap supply looks adequate;*
    - *Aluminum-alloy cable is being accepted.*

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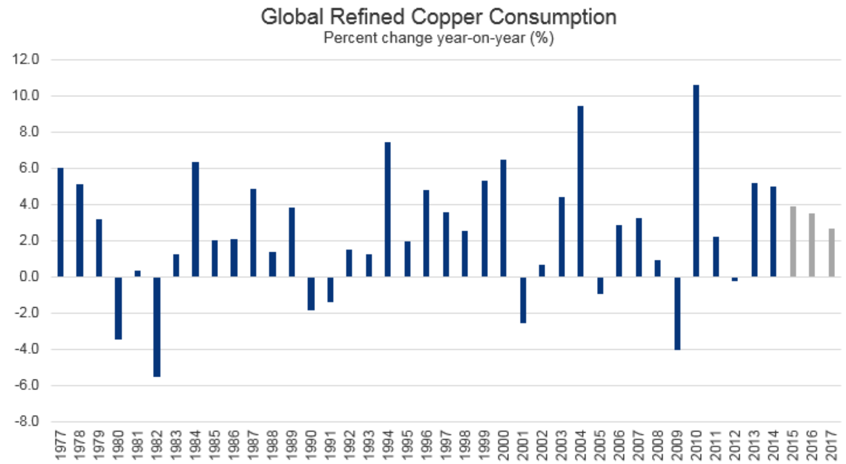
Copper: A demand story or a supply story?

- For most of the time, market attention has been focused on the demand side: from macro economic data to industry-specific data points or information like final product production, inventory and premium.
  - *But on annual basis, global refined consumption growth has been relatively stable; 2.8% per year from 1986-2014.*

- Occasional economic/financial crises did affect demand, but subsequent economic recovery usually made up the losses in demand.

- Global mine supply is more uneven:
  - **1.2%** for the 1986-1994 period,
  - **5.4%** for the 1995-2001 period
  - **1.7%** for the 2002-2011 period
  - **5.1%** for the 2012-17 period.



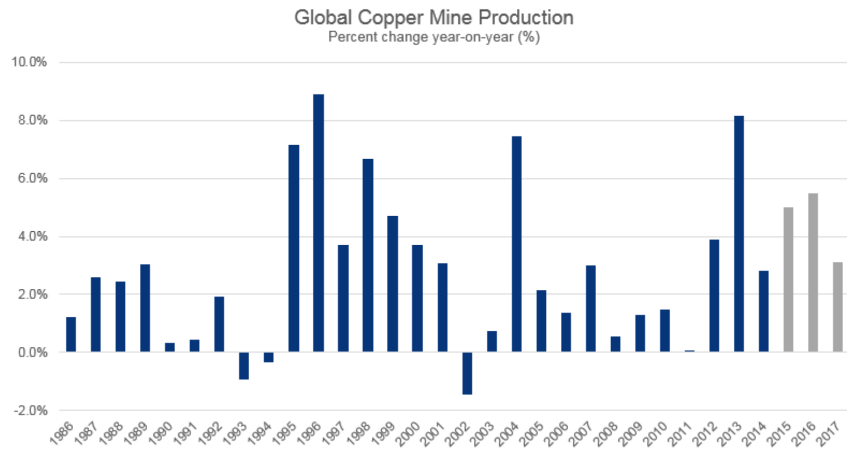


Chart Sources: HFZ Capital Management Limited estimates, Wood Mackenzie

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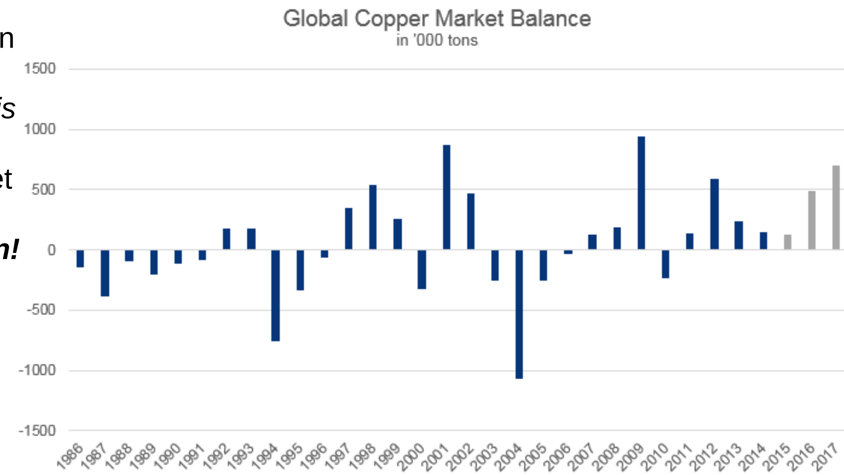
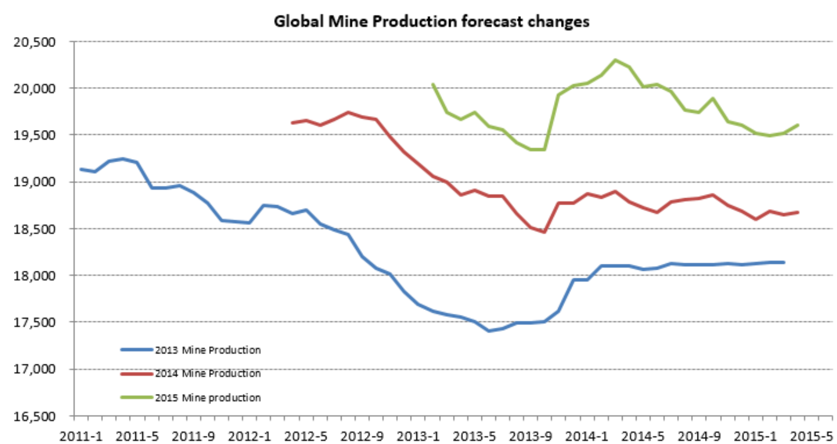
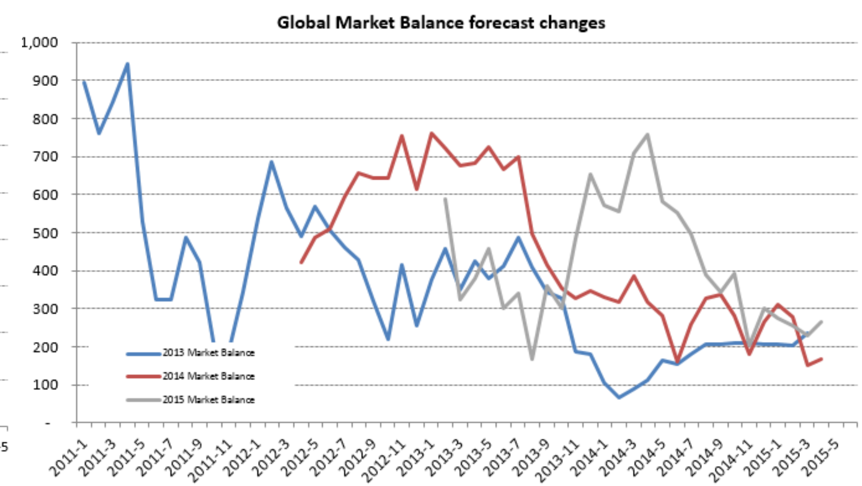
Copper: A demand story or a supply story?

- We are now in the period of relatively high mine production growth (2012-2017).
  - *According to Wood Mackenzie mine supply over this period (before disruptions) should increase 30%.*
- However, we are now half way through this period, and yet the market surplus is insignificant:
  - ***Global surplus less than 1% of world production!***
- "Big surplus is coming", but that has been postponed for the past three years!
- Research institutions consistently downgrade their mine output forecast, hence their global refined metal surplus forecast.







Charts Sources: Wood Mackenzie, HFZ Capital Estimates

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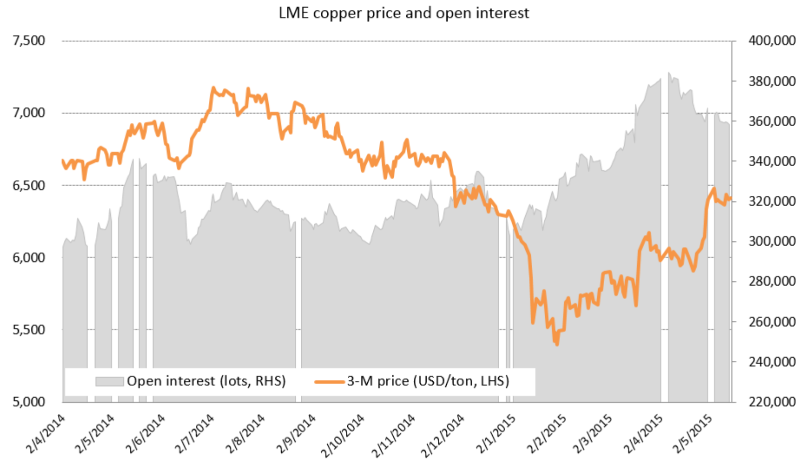
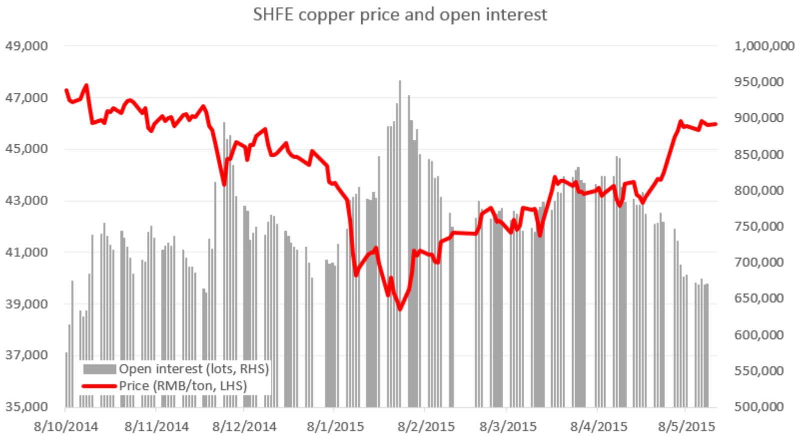
Copper: What has changed since May 1st?

Capitulation of short sellers





Charts Sources: HFZ Capital Estimates, Bloomberg, LME, SHFE

Non-commercial players even went long!

What's going forward?

- Financing-related import remains robust, but can Chinese imports be stronger than expected?
- Can Chinese physical market provide further support?
- Will mine supply shoot on the downside?
- Can the physical market tighten further?
- Can Chinese economy rebound meaningfully? Will expectation turn into disappointment?
- Sentiment can reverse quite easily and quickly!

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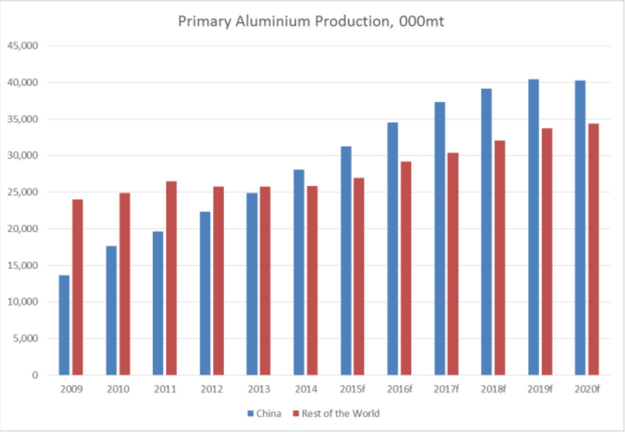
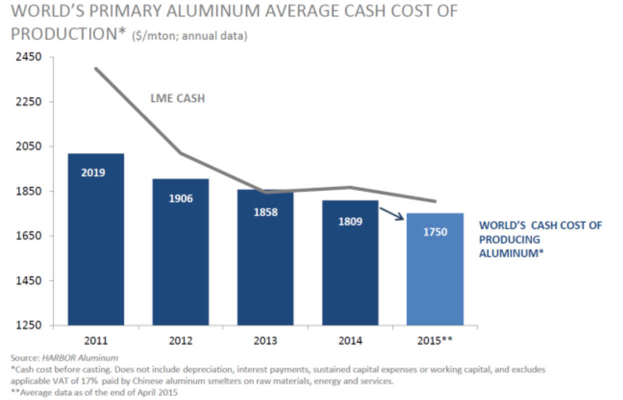
Aluminium: Excess supply in perpetuity?

- Excess inventory continues to undermine premia in the west and undermine prices in China.
    - *Total global aluminium inventory >12 million metric tonnes*
- The deficit in global supply and demand in 2013-2014 is rapidly coming to an end.
    - *Both China and the Rest of the World are expected to be in balance / surplus in 2015 and 2016.*
- Rest of World aluminium production expected to show its strongest period of capacity growth in almost 20 years, over the next 2 years.
    - *From 2004-2014 the Rest of the World added 2.7mio metric tonnes of productive capacity.*
    - *According to Harbor, from 2014 to 2016 the RoW will add 3.3mio mt of productive capacity.*
- Aluminium premia have collapsed. The rout is likely not yet over. Consumers have been running hand-to-mouth in light of the doubling/tripling in premia over the last 2-3 years. Now the collapse is taking place they are not in a hurry to cover.
- Aluminium production costs have collapsed. From a level of ~$2000/mt the average cost of production has declined to <$1800.
    - *The USD and the subsequent energy price collapse, along with alternative energy supply in Europe/USA responsible.*
- Bauxite and alumina shortage arguments have proven largely to be over-hyped. China has significant internal inventory, while new mines opening in SE Asia and West Africa will likely step up to replace the losses from Indonesia.



Sources: Harbor Aluminum, HFZ Estimates



Source: Harbor Aluminum

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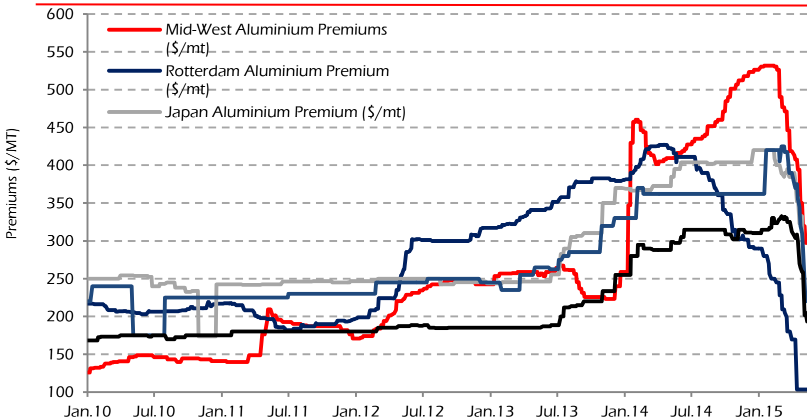
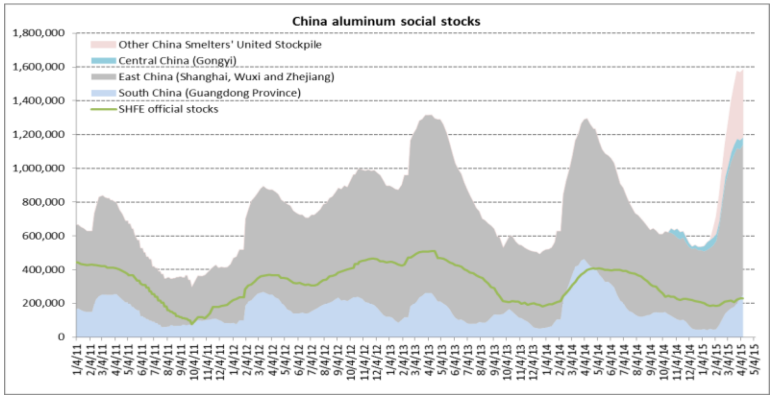
Aluminum: Excess supply in perpetuity?

Global Aluminum Premiums ($/MT)



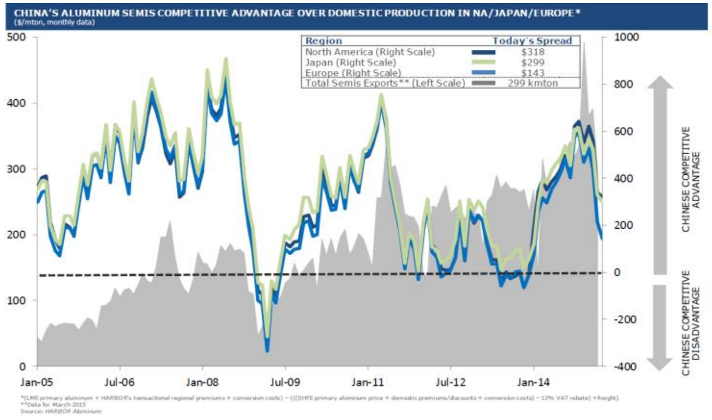
Source: HFZ Limited Estimates, Bloomberg

Chinese Aluminum Inventories (MT)



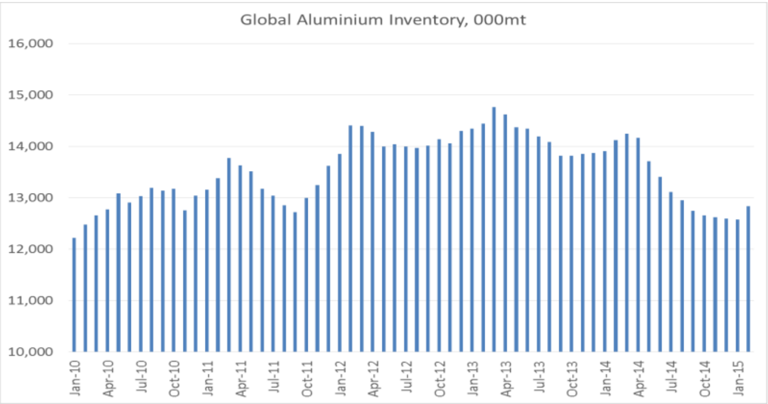
Source: HFZ Limited Estimates, SMM

China's Semis Advantage ranges from +$143 to +$318 (May 11, 2015)



Source: Harbor Aluminum

Global Inventories remain High....>12 million metric tonnes



Source: HFZ Limited Estimates, Harbor Research

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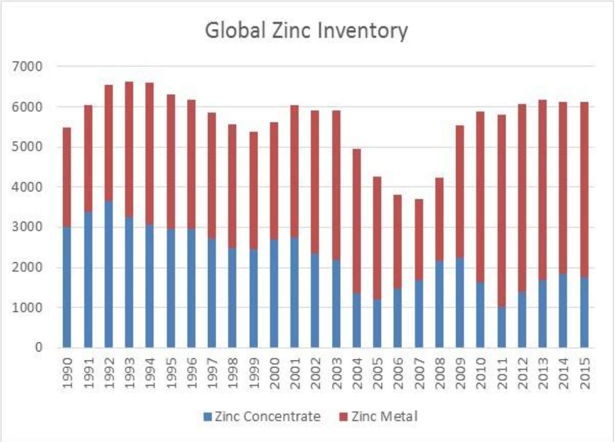
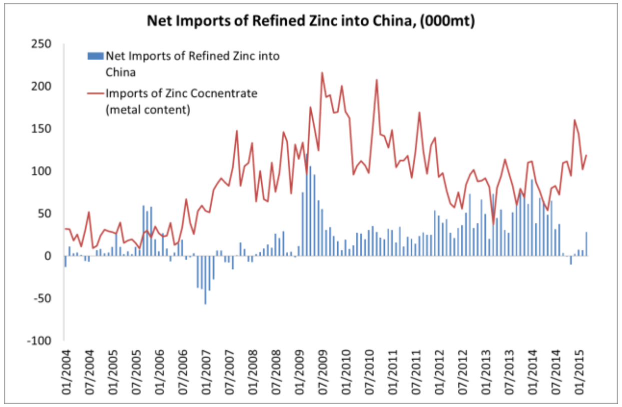
Zinc: Well stocked with improving S&D

- The zinc market remains opaque, with the fall in exchange inventories (down 63% since the end of 2012, for a total decline of 800kmt) leading the market to assume that there is a shortage, and/or, the market is structurally in deficit.
- However, the reality is that the vast majority of LME load out material has been moved off exchange and remains in financing deals, throughout Europe and the US.
- Mine supply is expected to decline in 2015 (-0.5%) after a flat year of production in 2014. However there is likely to be considerable under-reporting of mine supply, especially in Latin America, which is reflected in a weak treatment charge market.
- TCs have pushed through to multi year highs in recent weeks/months. Meanwhile the positive spin on zinc is that the closures of Century and Lisheen in Q3 will force the zinc concentrate market into deficit.
    - *Any zinc concentrate surplus is unlikely to be large nor long lasting given the ability of Chinese and Latin American mines to fill the gap*
- The import arb for material into China remains deeply negative and when taken in conjunction with weak physical premia suggest that the underlying market dynamic is weak demand.
- Zinc's consumer base (galvanised and diecasting) is being hard-hit by weak domestic demand (autos/construction) and push back on Chinese exports of galvanized steel



Source: HFZ Estimates, CHR Metals



Source: HFZ Estimates, CHR Metals, Bloomberg

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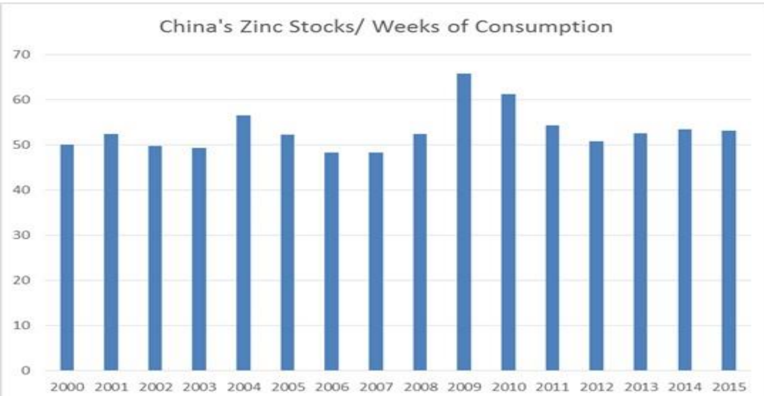
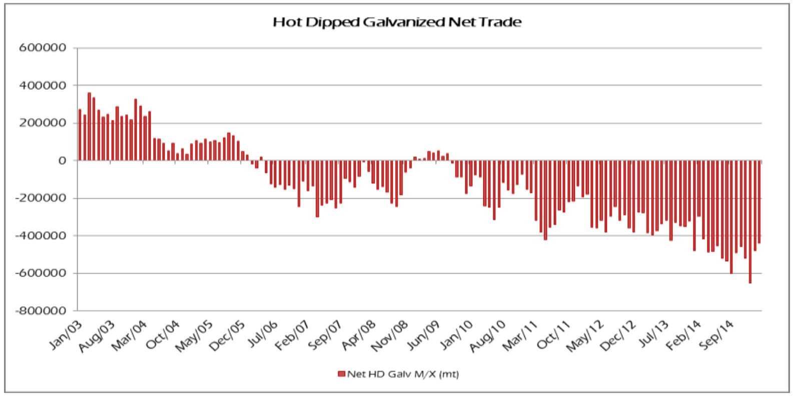
Zinc: Well stocked with improving S&D

Chinese Zinc Stocks



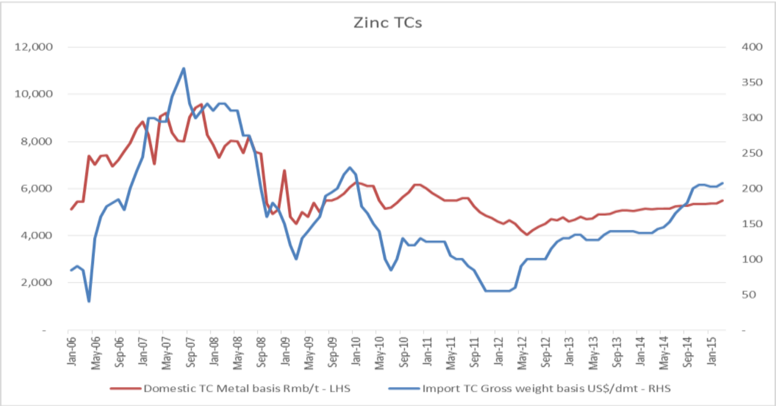
Source: HFZ Limited Estimates, CHR

China's demand for Zinc has largely been exported in HDG form



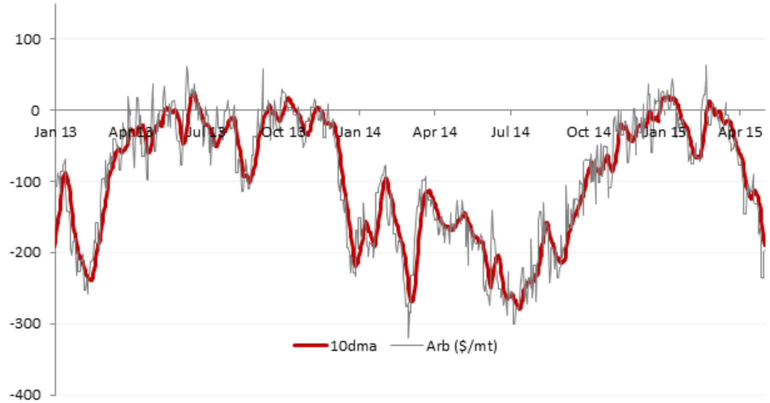
Source: HFZ Limited Estimates, NBS

Treatment Charges Suggest Mine Supply is Performing Well



Source: HFZ Limited Estimates, SMM

Zinc Import Arb Strongly Implies Weak Domestic Environment



Source: HFZ Limited Estimates

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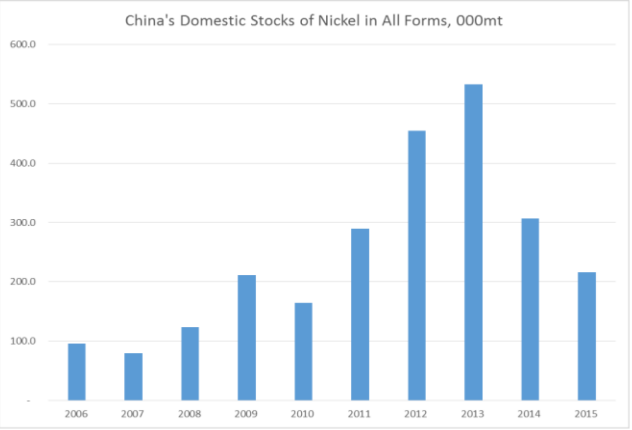
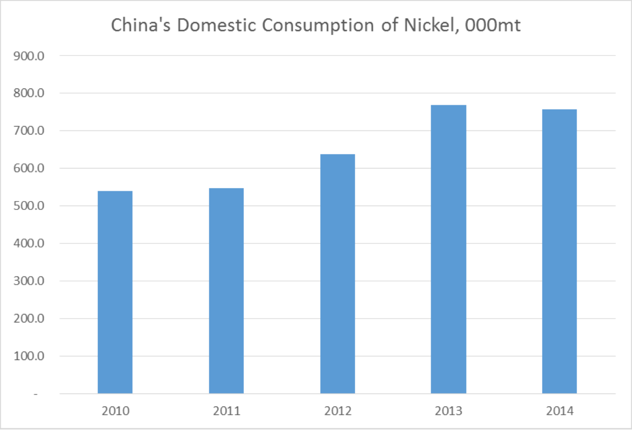
Nickel: Supply side bullish, demand side bearish

- Chinese NPI production the base metal market's main theme for the past 15-18 months; shrinking but not as quickly as original expectations. The expected demand for refined nickel (LME deliverable nickel) has improved marginally, with the balance of 2015 seeing also only further slight improvement.
- The key constraint to a tighter refined nickel market is stainless steel production (i.e. nickel demand). Stainless steel production in Q1 in Europe was down 7%yoy, in China was down ~3%yoy and in the US was up strongly on new capacity, although this fed primarily into record levels of inventory at service centres.
- The main headwind for Chinese nickel is that last year China exported ~200kmt of nickel in the form of stainless steel. With anti-dumping duties in place in Europe this flow has stopped. While exports to other destinations, such as the US will help, it is unlikely that Chinese stainless steel production in 2015 will grow. Chinese stainless production will fall 0% to 5% in 2015.
- Destocking is the key global theme for nickel and stainless. The record levels of LME inventory will easily meet the expected increase in demand for refined nickel in China that results from NPI displacement.
- Nickel premia have lifted marginally in recent weeks, but only for CIF China parcels, following likely temporary tightness in the SHFE deliverable contract. Demand for physical ex-China remains soft.



Source: HFZ Estimates, Bloomberg



Source: HFZ Estimates, Bloomberg

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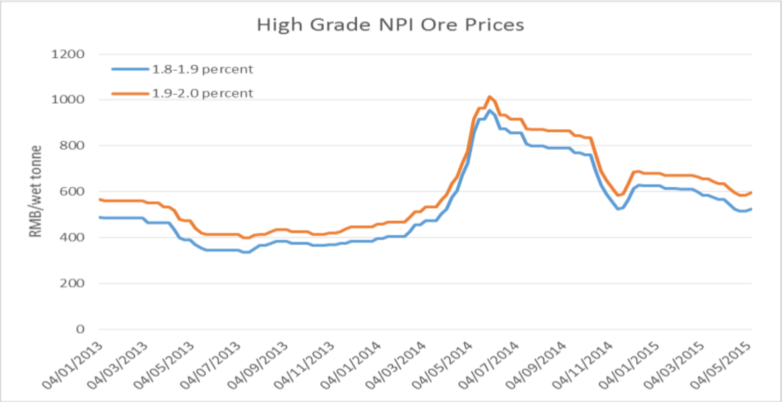
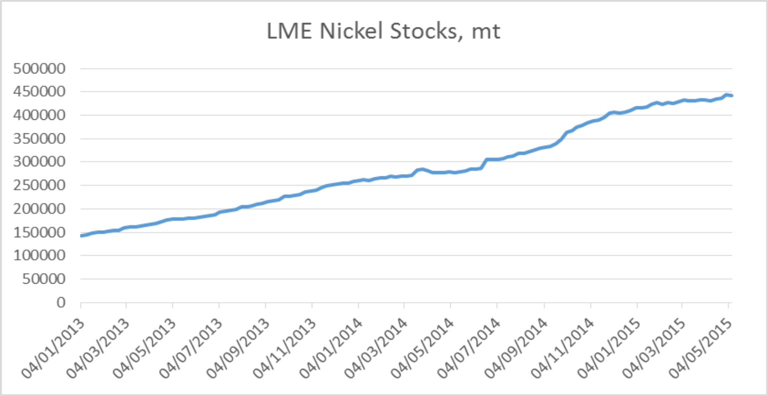
Nickel: Supply side bullish, demand side bearish

NPI ore prices suggest that NPI destocking is still continuing



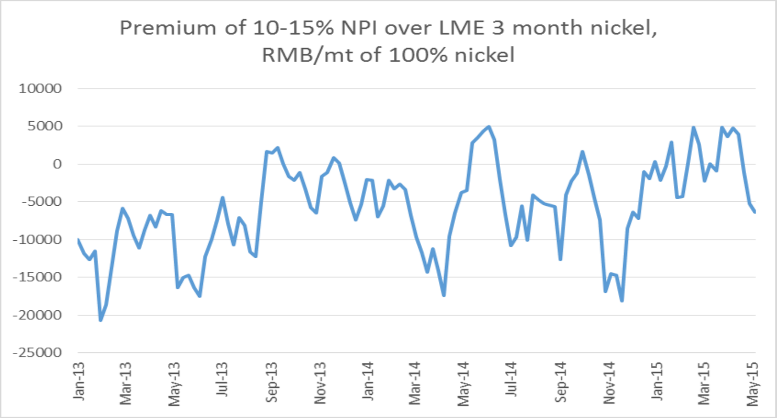
Source: Bloomberg

LME Nickel Stocks are at a Record Level



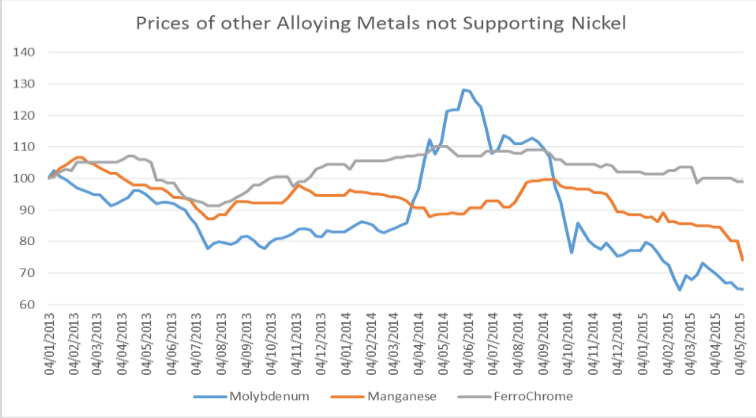
Source: LME

NPI premiums to LME prices still not in place



Source: HFZ Capital Management Limited Estimates

Other Stainless Steel inputs remain weak



Source: HFZ Capital Management Limited Estimates, Metal Bulletin

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Conclusions

- Macro: US economy has lost some of its momentum, EU is doing better than expected, and China continues to shoot on the downside, but expectation of global and Chinese growth bottoming out remains high.
- Copper: Small surplus but market can easily move into balance or even deficit. Price will be more dictated by market sentiment or macro perception than underlying supply and demand *per se*.
- Aluminum: Supply is not an issue. Can demand be strong enough
- Zinc: Mine supply deficit is coming, but when?
- Nickel: There is simply too much metal out there.

Thank You.