Base Metals Market Update

National Australia Bank

- **The improvement in metals prices seen over the second half of 2012 has been completely unwound, largely due to a lack of physical demand and market concerns over the outlook for demand. In aggregate, base metal prices were 5% lower over March and down more than 10% over the year. Annual price movements vary across the metals complex but all metals have recorded declines.**
- **Growth in both China and the US economies disappointed in the first quarter of this year. While this has weighed on metals prices, losses have been partially restrained reflecting expectations for continued monetary stimulus. Nevertheless, Chinese growth is expected to remain solid this year and the US will continue along its modest growth path – helping to support base metal prices at relatively elevated levels.**
- **Metals markets will be in surplus in 2013, as a result of rising metal supplies and slower demand growth. Looser market conditions will make metal prices even more susceptible to any negative shifts in expectations over the demand outlook.**
- **The NAB Base Metals Index (BMI) is expected to decline by almost 8% in the June quarter. Prices will recover gradually later in the year.**

Monthly Price Movements

Base Metals Prices

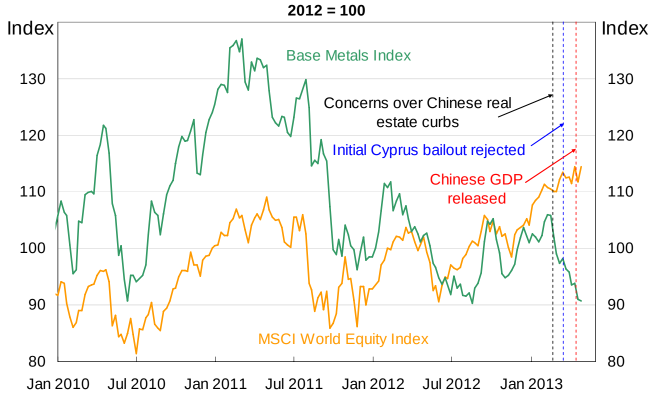
	Avg Price (US$/tonne) Apr-13	Monthly % change Apr-13	Apr-12 - Apr-13 % change
Aluminium	1862	-3	-9
Copper	7234	-5	-13
Lead	2027	-7	-2
Nickel	15673	-6	-13
Zinc	1856	-4	-7
Base Metals Index		-5	-11

* Prices on an LME cash basis.

Sources: LME; NAB

A lot has happened since our last in depth base metals update , released in November 2012. The Cyprus bank bailout reignited fears of a Euro crisis, which had lessened in late 2012 and earlier this year. Nevertheless, financial markets have remained surprisingly resilient and equities have continued to strengthen, despite a run of more disappointing economic data in recent months. In contrast, signs of deterioration in physical demand have put downwards pressure on commodity prices, largely unwinding the most recent rally and returning to the lows of mid-2012. Although expectations of additional monetary stimulus measures – particularly out of Japan – are helping to maintain financial demand for commodities, this has been more than offset by disappointing economic indicators and a renewed campaign by Chinese authorities to clamp down on the bubbling real estate sector. Even the anticipated recovery of the US economy, which was expected to provide an additional source of physical commodity demand this year, has started to look a little less assured; US GDP improved in the March quarter, but still came in softer than expected, while recent partial indicators suggest momentum slowed late in the quarter. However, the implications for quantitative easing could help to limit additional price declines.

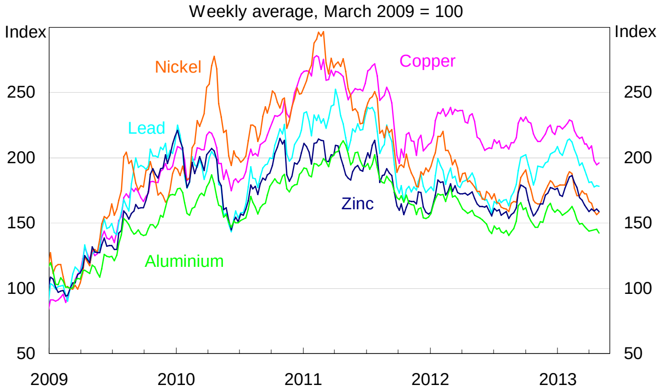
Metals vs equity prices



Sources: LME; Thomson Reuters; MSCI; NAB

In aggregate, base metals prices on the London Metal Exchange (LME) eased by 5% over April, following a 6% rise over March, to be almost 11% lower over the year. It appears that demand-side factors are back in the drivers seat, with growing surpluses pushing metals prices towards their lowest levels since the global financial crisis. Falls were recorded for all of the base metals over April, although the magnitude of the declines varied across the complex. Average prices of lead and nickel for the month were both around 6% below their March averages, while copper and zinc prices were down 5% and 4% respectively. Aluminium prices were slightly more resilient (down 3%), with declines limited by capacity closures and elevated production costs. In annual terms, prices were also lower. Copper and nickel prices recorded the largest declines (down 13%), and aluminium prices were also notably lower (down 9%). Zinc prices were 7% lower over the year, while lead prices have fallen by only 2%, having recorded a strong rally in late 2012 in line with an improvement in seasonal demand and robust auto sales in China and the US.

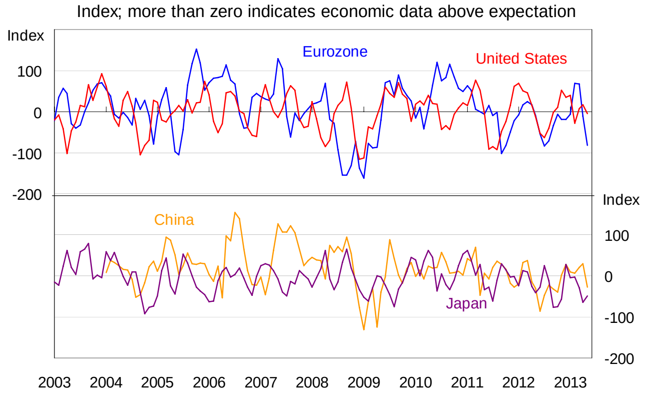
Base Metals Prices



Sources: Thomson Reuters; NAB

Metal Demand

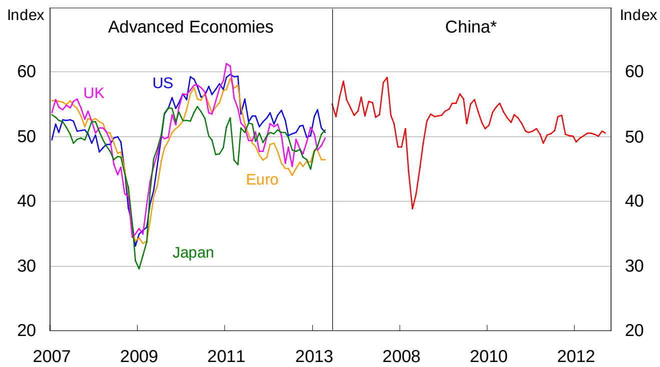
Economic Surprise Index – indicators surprising on the downside



Sources: Citigroup; Thomson Reuters

Expectations for demand in the March quarter generally missed the mark, contributing to a surplus in metals markets. GDP outcomes for both the US and China came in below expectations, while Europe probably contracted again in the quarter. In response to the disappointing run of economic data, we have revised down our growth forecasts for some regions, although some countries have managed to surprise on the upside. Nevertheless, many forecasters are revising down their expectations for growth, despite recognising some improvement in tail risks since last year. In their most recent World Economic Outlook, the IMF revised down its global growth forecasts by around a quarter of a per cent. Forecasts for most advanced economies were revised lower – with Japan a notable exception – while forecasts for emerging economies (including China and India) were revised lower. Nevertheless, the global economy is expected to experience a recovery this year, just not quite as robust as previously anticipated.

PMI Surveys



* Official PMI published by China's NBS.
Sources: Markit Economics; NAB; NBS

Most significant to the metals complex has been the apparent weakening of the industrial sector. Manufacturing PMI's in major economies have been lower than expected recently and are signalling soft final demand and an inventory overhang. Conditions is emerging markets – a major driver of commodity demand in recent years – also look mixed, as opposed to the clear-cut acceleration in demand that was expected to materialise this year. However, the upside to the disappointing economic data has been the impact on expectations for policy stimulus – cushioning some of the impact from concerns over the outlook. The Bank of Japan has already announced a significant monetary injection over the next two years, while further signs of economic contraction in Europe – including a sharp turn down in German surveys – have put pressure on the ECB to employ monetary stimulus. At its recent meeting the ECB cut the main refinancing rate by 25bp, but much more will probably be needed to jumpstart growth and improve the transmission mechanism (fiscal support may also be necessary).

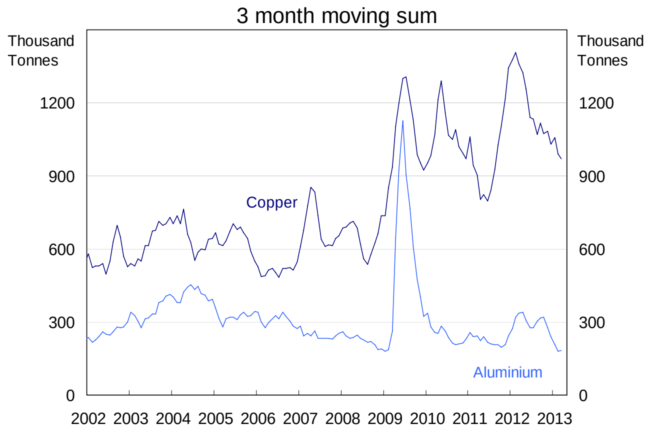
In the US, improving economic data at the start of the year had bolstered expectations that an end to quantitative easing was in sight – weighing on investor demand for commodities. However, the strong data releases early in the March quarter that gave rise to higher expectations have been matched more recently by weaker data (including non-farm employment and retail sales for example). Consequently, the advance estimate for Q1 GDP came in below market expectations and may have rekindled some hope of a more extended QE program – the recent Fed minutes gave no firm indication for when the program would come to an end. However, our interpretation of recent data is that they do not warrant significant reconsideration of the outlook. We expect a drawn out recovery to continue, prompting a gradual winding down of monetary stimulus around the end of the year, potentially impacting investor demand for metals.

As for Asia, demand conditions have been relatively mixed. Indicators out of Japan suggest that the economy may be bottoming and expectations for future growth have improved in response to announced stimulus measures by the Bank of Japan. The Yen has already depreciated significantly improving the prospects for exports and the manufacturing sector; Japan's PMI has moved back into expansionary territory in recent months, and business sentiment indicators have shown some improving trends. However, a weaker Yen may have negative impacts on competing economies within Asia (particularly Korea, Taiwan, and to a lesser extent China), some of which have already exhibited softer activity in recent months. Taiwan's export orders – considered a bellwether of trade activity in the region – has been weaker of late, although this is in part a result of seasonal influences from Lunar New Year. Consequently, Taiwan's industrial production disappointed in March, while manufacturing inventories have been building – the PMI is pointing to relatively weak growth in manufacturing. In contrast, Korean activity picked up in the March quarter driven by exports and investment – manufacturing output was stronger in the quarter and PMIs have also improved.

But it is the recent string of disappointing data out of China that is potentially most significant to the outlook for base metal demand. March quarter GDP was well below expectations and a string of softer partial indicators prompted us to revise our own outlook lower for the Chinese economy. We may have now entered a period of more moderate economic growth (relative to recent years) as authorities appear content to sacrifice near-term growth for a more balanced (consumption led) economy. This, in conjunction with policies to clamp down on domestic real estate markets and rapid growth in Chinese shadow banking, is likely to support Chinese investment growth, and by extension, Chinese demand for commodities. How quickly these adjustments will occur remains uncertain, but we continue to expect reasonably solid growth in the Chinese economy for this year and next (around 8%). Nevertheless, industrial production growth has slowed and PMI indicators (although still at positive levels) have eased as well (the NBS manufacturing PMI dipped to 50.6 in April from 50.9 in March).

Softer industrial activity has been reflected in weaker demand for commodity imports. March commodity imports generally picked up from February, largely due to the greater number of trading days and favourable arbitrage windows for some commodities. In trend terms, however, import volumes of major commodities were either lower or broadly unchanged from the levels seen in late 2012 when GDP growth accelerated noticeably. Monthly copper imports jumped by 7¼% in March, but were 30% below imports in March last year, and 6¾% down on the December quarter average. Similarly, aluminium imports surged by more than 50% in March, but are 42% below levels last year, and 12½% below the December quarter average. In contrast, China's imports of nickel ore are booming again after disruptions to the flow last year caused by Indonesia's clamp-down on exports of unprocessed raw materials. Although China has been stocking up on primary nickel in preparation for the commencement of a number of new nickel projects and the ramp up of existing projects expected to yield production this year – including nickel pig iron production in China - recent purchases likely reflect pre-emptive buying ahead of Indonesia's proposed blanket ban on exports next year.

Chinese import volumes

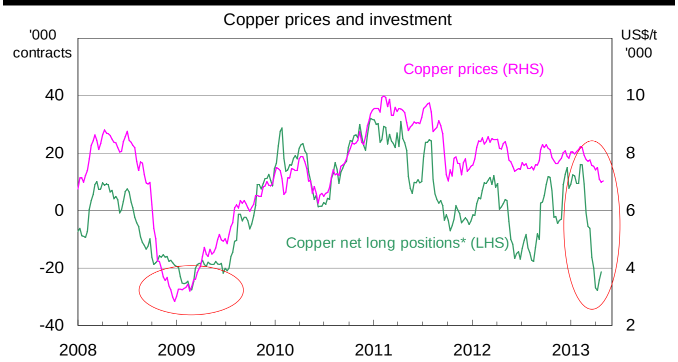


Source: CEIC Database, NAB Group Economics

Investment Flows

Since early 2008, a reasonably strong relationship has existed between the LME cash price for copper and the number of net long positions by non-commercial traders in US commodity markets (see Graph). While there has been some disconnect between the two series over the past year or so, the divergence has become especially large this month following a very sharp decline in copper (non-commercial) net long positions; copper prices have also fallen but less severely. The withdrawal of speculative demand for copper occurred from mid-February following renewed concerns over a government crack down on Chinese real estate and shadow banking, which has been exacerbated by the Cyprus bank bailout and softer than expected economic data. Copper's strong link to Chinese construction makes the metal particularly sensitive to these events, although investor reactions may have been over done and short covering may create some upside for prices. Reduced expectations for US QE in previous months may have also weighed on investor appetite. However, expectations of additional monetary easing in Europe and Japan as well as a slower than previously expected recovery in the US may rekindle interest.

Investment Flows



* Combined futures and derivatives net long positions for non-commercial traders
Sources: CFTC; NAB

Metal Supply

Copper supply

Copper supplies have surprised heavily on the upside which, in conjunction with only moderate demand, has contributed to a surge in copper stocks at LME warehouses. Stocks in bonded warehouses in Shanghai hit a record high of around 1 million tonnes in late January, but appear to have eased back to a seven month low of around 650 thousand tonnes. Most analysts expect the copper market to shift into surplus over the next year or so but the run up in inventories may indicate that the market surplus has come about sooner than previously expected. The run up in supply reflects fewer supply disruptions in the first quarter relative to recent years. However, the market is still susceptible to the usual types of supply shocks as demonstrated by ongoing industrial disputes at Codelco and strikes at Chilean ports (albeit not impacting production per se). In April, Rio Tinto's Bingham Canyon mine in Utah experienced a major wall collapse. Operations integrated with the mine produced 163,000 tonnes of contained copper in concentrates last year and the impact from the incident is expected to be 'significant'.

Mining production is expected to rise this year, helping supply to outpace demand. In 2012, copper mine production rose 4% according to the International Copper Study Group (ICSG), while the refined copper market recorded a production deficit of 340 thousand tonnes. However, the market recorded rising surpluses over the December quarter (reaching 169 thousand tonnes in the month of December) and the ICSG project an annual oversupply this year of 417 thousand tonnes. Some miners have reported higher production for the first quarter of 2013. BHP production rose 4% in the March quarter, while Anglo American production beat expectations for a decline, reporting a 1% increase.

Aluminium supply

A glut of global aluminium supply, coupled with persistently low prices has caused a number of aluminium producers to scale back production and reduce capacity. According to AME, the announced cuts to capacity reached 1.6Mt in 2012 -- this represents a significant proportion of overall production. Overcapacity concerns have been particularly prevalent in China's aluminium industry, where high costs and low prices have continued to encourage the closure of small producers. AME estimates that in the early months of 2013, around 165kt of production and capacity cuts were made in China. Statistics from the International Aluminium Institute showed that daily aluminium production fell by 9½% in March to it lowest rate since November.

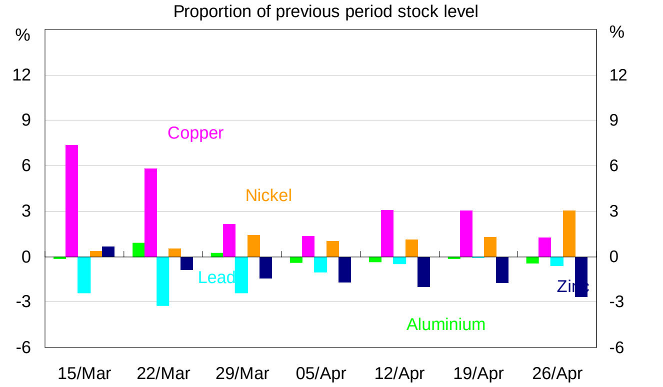
Aside from soft end-user demand, financing deals and warehouse incentives have largely underpinned the stocking of metals – namely aluminium and zinc (although the effects appear to be spreading to other metals). Financing deals typically involve a financier buying aluminium from a producer, agreeing to sell it at a future date for a profit and securing a warehouse deal to store it cheaply for an extended period of time. In response to concerns that logjams were distorting prices and affecting metals other than aluminium and zinc, LME introduced new rules in April that storage sheds with big queues of one metal waiting to be delivered out must start loading out other ("non-dominant") metals separately at a rate of 500 tonnes per day. The move is meant to help cut queues for metal stuck behind aluminium. However, market participants have questioned the effectiveness of the rule change, suggesting that it may simply create a reshuffling of stocks among warehouses. There is also concern that the rule is encouraging greater use of other metals (such as copper) in financing deals at rival facilities.

Nickel supply

The International Nickel Study Group (INSG) recently reported that the global primary nickel market is expected to record a surplus of 90,000 tonnes in 2013, down slightly from a 110,000 tonne surplus in 2012 – improving demand is expected to offset additions to supply (production to be up around 5½%). Nickel stocks surged in 2012 and into 2013, reducing availability in the spot market and limiting price declines. INSG suggests that a major reason for the increase in stocks relates to the number of new nickel projects due to begin, and the ramp up of existing production – including nickel pig iron production in China.

LME Stocks

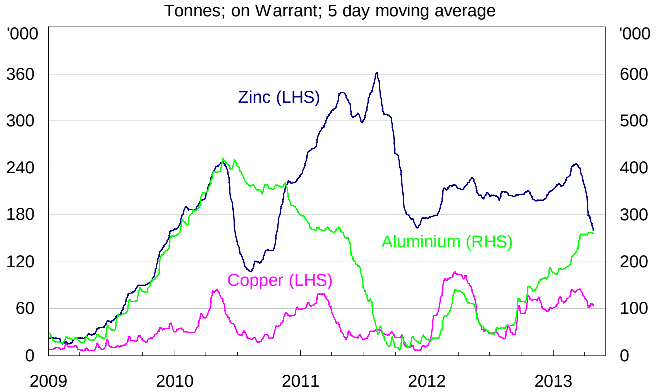
Weekly Change in LME Base Metal Stocks



Sources: LME; NAB

Weekly data show that copper and nickel stocks at LME warehouses have continued to build over the past month, although the pace of new copper additions have slowed from the rapid pace seen in March. LME stocks of lead have gradually been drawn down from their elevated levels, while stocks of zinc have stopped rising but remain at high levels. Overall, Chinese aluminium stocks have continuously risen since the middle of last year, while copper stocks have remained elevated. Zinc stocks, while elevated, have been drawn down to around their lowest levels since 2010.

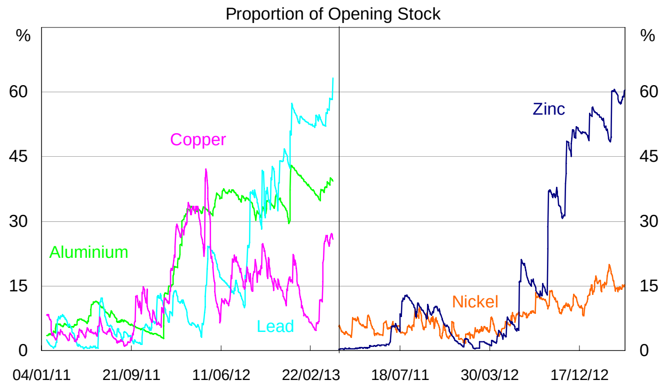
Shanghai Futures Exchange Stocks



Sources: Bloomberg; NAB

The rising surplus of metal in the market has driven stocks higher and has weighed on metal prices. However, a surge of cancelled warrants for some metals may suggest some improvement in physical demand – although temporary supply disruptions will also contribute to cancellations. The resulting backlog of orders has also raised delivery premiums. Data for LME cancelled warrants (which indicate future stock withdrawals) show that cancellations for copper have risen sharply in recent weeks, which could in effect reduce the supply of metal available to consumers and provide some support to prices. Cancelled warrants for aluminium, lead and zinc all remain at very elevated levels, although this partly reflects the use of aluminium and zinc in financing deals.

LME Cancelled Warrants

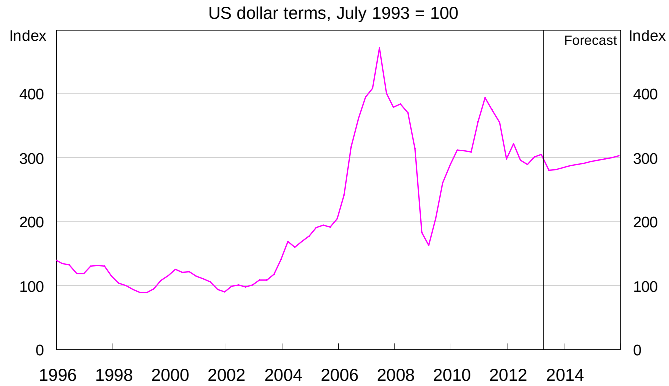


Sources: LME; NAB

Outlook

Supply and demand fundamentals vary across the base metals, but soft demand and increasing supply suggests that metals markets will be in surplus this year. Copper is losing its long standing benefit from tight fundamentals, with the market expected to record its first surplus since 2009 – when prices dipped below US$4000 per tonne. However, despite some soft patches in recent months, global economic activity is still expected to improve later in the year – partly supported by accommodative policy measures – sustaining base metal prices at relatively elevated levels. Nevertheless, surging stockpiles of metals – particularly those held in Chinese warehouses – are signalling weakness in end-user demand in the near term and are likely to cushion metals markets and prevent an abrupt recovery in prices once demand improves. However, ongoing issues with warehouse incentives and financing deals (tying up metals) are introducing market frictions that could lead to additional volatility, particularly once the end to cheap finance comes into play. In response to greater than expected declines in metal prices recently and downward revisions to our growth forecasts for some countries (notably China), we have revised our near-term price forecasts lower. However, we expect to see market conditions tighten later in the year, pushing prices higher.

Base Metals Index



Sources: Datastream; NAB Group Economics

In aggregate, the NAB Base Metals Price Index rose by 1.4% over March quarter 2013 but is expected to fall by almost 8% over the June quarter 2013, reflecting sharp falls in the quarter to date and a slightly more subdued economic outlook. Longer term demand prospects still look relatively favourable, sustaining elevated prices at the end of the forecast horizon. Base metals are forecast to decline by around 4¾% over 2013, but are expected to rise by 1% over 2014 (see Graph).

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Quarterly Price Profile

Base Metal Forecasts - Quarterly Average Terms

	Actual	Forecasts							
US$/MT	Mar-13	*Jun-13*	*Sep-13*	*Dec-13*	*Mar-14*	*Jun-14*	*Sep-14*	*Dec-14*	*Mar-15*
Aluminium	2000	1880	1908	1937	1966	1996	2026	2056	2097
Copper	7918	7205	7205	7277	7387	7423	7461	7498	7498
Lead	2290	2129	2140	2151	2167	2183	2199	2216	2233
Nickel	17296	15912	15992	16112	16192	16233	16395	16559	16725
Zinc	2029	1897	1897	1907	1921	1935	1955	1974	1994
Base Metals Index	304	280	282	284	287	289	291	294	296

Sources: Thomson Reuters; NAB Economics

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Important Notices