

Base Metals Market Update



- **Metals prices remain well below peaks recorded earlier in the year but have been relatively range bound, fluctuating with the ebbs and flows of economic news. As usual, news relating to US Fed policy and the Chinese economy has been particularly relevant.**
- **In aggregate, base metal prices are 3% lower in November to date to be around 10% lower over the year. Annual price movements vary across the metals complex, but most have lost significant ground.**
- **Partial indicators for the US economy have been mixed but are generally positive and suggest the start of US Fed tapering is near. This has generated a fair bit of volatility in metals markets as QE has been a major source of support for commodities in recent years during the malaise in physical demand. We expect tapering to commence in March, but the risk is that it will be earlier.**
- **Most metals markets are expected to be in (or close to) surplus in 2013/14, as increasing metal supplies outpace the gradual improvement in demand. These market fundamentals are likely to limit price increases as the global economy improves.**
- **The NAB Base Metals Index (BMI) is expected to be relatively flat in the December quarter. Prices will recover gradually over coming quarters and into 2014.**

Monthly Price Movements

Base Metals Prices*

	Avg Price (US\$/tonne) Oct-13	Monthly % change Oct-13	Oct-12 - Oct-13 % change
Aluminium	1815	3.0	-8
Copper	7203	0.6	-11
Lead	2115	1.5	-1
Nickel	14118	2.3	-18
Zinc	1885	2.1	-1
Base Metals Index		1.6	-10

* Prices on an LME cash basis.

Sources: LME; NAB

Metals markets appear to be in a state of flux as expectations over the future path of US monetary and government debt policies continue to evolve in respect to timing and magnitude. There has also been mixed macroeconomic news over the past month which has left base metal prices lacking any clear direction. The Chinese economy is showing further signs of improvement, although the momentum that has been building in recent months may now be starting to taper as authorities become more confident that growth targets for this year will be comfortably achieved. Promising policy announcements following the 3rd Plenum in China helped to generate optimism over the economic outlook, but the implications for economic rebalancing and infrastructure spending may not be supportive for commodities – the response in commodity markets has been relatively muted.

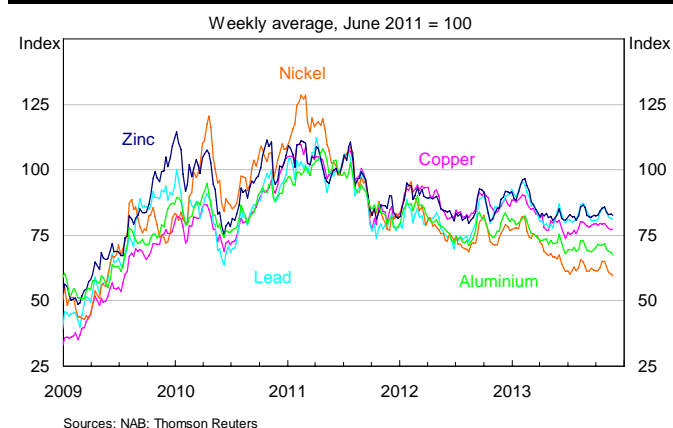
Elsewhere, the business surveys show a ramping up in activity and confidence across all of the big advanced economies since

early 2013. Industrial activity is now growing in all regions with a particularly solid upturn in Japan and the UK.

The flow of relatively positive news on the global economy and expectations that very loose monetary policy in the major advanced economies is going to remain in place, at least for the time being, saw base metals prices rise modestly in October. However, subsequent comments from the Federal Reserve and more positive retail sales numbers have again paired back some of these expectations on the future of quantitative easing. China's renewed focus on economic rebalancing reforms have also had a mixed reception in commodity markets, while hot property prices, tightening monetary conditions and recent property policy announcements are renewing concerns over government headwinds to Chinese real estate construction. On the supply side, announced changes to LME warehousing rules are raising expectations of metal supply in physical markets, contributing to a back-track in base metal prices during November.

In aggregate, base metals prices on the London Metal Exchange (LME) have fallen by nearly 3% in November to date, following a 1½% rise in October, to be almost 10% lower over the year. The performance of metals prices over the year has been consistent with expectations for softening market balances as supply steadily increases in an environment of still relatively tepid demand. While physical demand conditions look set to improve, we can expect to see ongoing policy distortions to market pricing, although these competing factors are likely to be largely offsetting to keep prices relatively range bound in the near term.

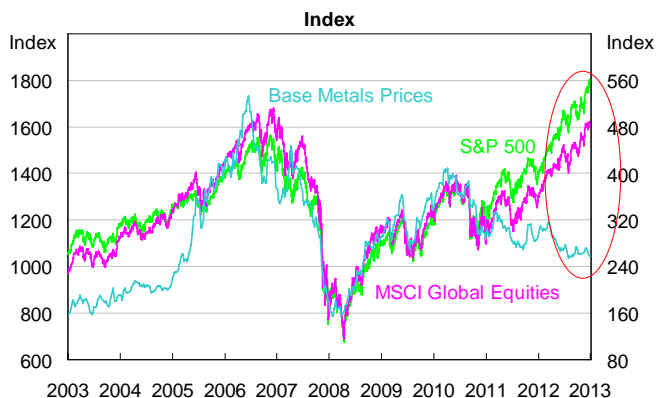
Base Metals Prices



Price declines were recorded for all of the base metals in November to date, although the magnitude of the increases has varied slightly across the complex. Nickel and aluminium prices recorded the largest declines (around 3-3 ½%) following the announced changes to LME warehousing rules, which could see an increase in metal supply in physical markets – although the true impact is still unclear with some market participants expecting falling premiums to be offset by higher prices. Average copper, lead and zinc prices also fell in the month by around 1 to 2%, although fundamentals for lead and zinc in particular remain positive. In annual terms, zinc and lead have been the best performers, falling by 2½% and 4% over the year respectively,

with prices buoyed by robust demand for lead-acid batteries and steel, while additions to supply capacity will be limited. Nickel and aluminium prices recorded the largest declines (down 16% and 10% respectively), while copper prices are 8% lower. Base metals have significantly underperformed relative to equity markets, which is unusual given historical behaviour. Both metal and equity markets historically improve along with economic conditions, but the undershooting of base metals could signal a change in the supply/demand dynamics in metals markets, or could imply some considerable potential upside to prices if economic conditions continue to improve.

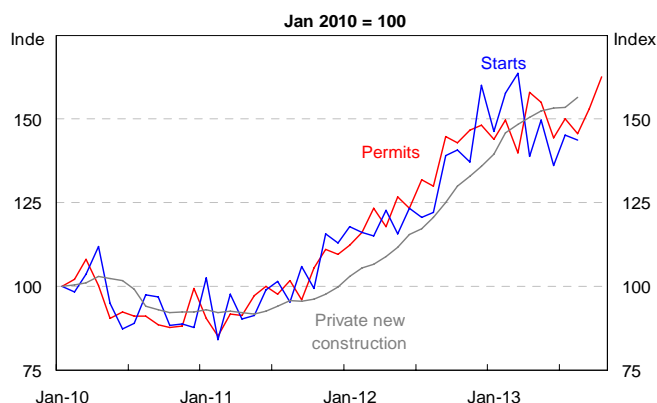
Base metals prices diverging from equity markets



Metal Demand

The markets are still watching the Fed to assess when it is likely to start winding back its asset purchases. The outlook for these asset purchases depends on the labour market improving and inflation moving back towards its 2% goal (it is currently 1 1/4% yoy). Our assessment is that this process of tapering back purchases will start next March and finish in the second half of the same year. The October employment report was strong given the anticipated impact from the government shutdown, which pared back the negative expectations for the economy, but also put earlier Fed tapering back on the table – having a perverse impact on commodity markets. Partials have improved in the housing sector in recent months, however, we remain cautious on the outlook given the volatility of multi-family home permits which are driving the improvement. Overall, considering the ongoing risks surrounding the government’s debt ceiling, we have maintained our own expectations for the timing of tapering, although the Fed’s October meeting minutes point to the risk of an earlier start as the Fed increasingly is looking towards shifting its policy mix from QE to forward guidance.

US Residential Construction Activity



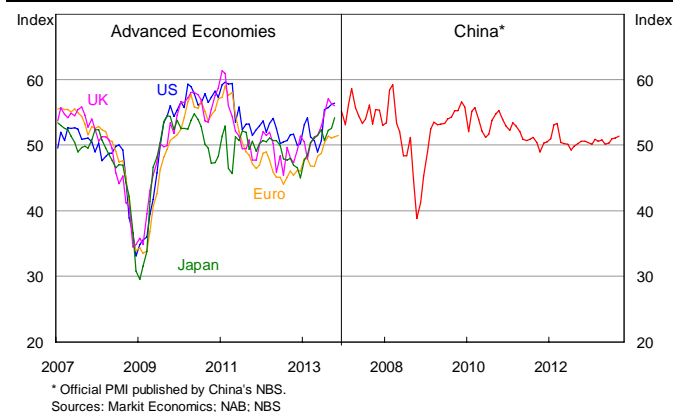
Other central banks are signalling that their policy rates will stay low for quite some time. The European Central Bank has just cut

its policy rate to 25 bps and said it is likely to keep its rates at current or even lower levels for “an extended period of time”. The Bank of Japan intends to keep its rates near zero and to continue buying large amounts of assets until inflation gets to its 2% target, which they forecast to occur in fiscal year 2015. The planned GST hike will distort inflation but the BoJ will discount that tax-induced spike in prices and keep rates low.

In terms of real demand in these regions, conditions have been picking up and look set to improve further. Industrial activity is now growing in all advanced economies with a particularly solid upturn in Japan and the UK. In aggregate, business surveys across the main advanced economies show positive net balances of firms expecting growth to continue through the next year, although the ramping up in sentiment on both current and future conditions ran out of steam in October with slightly less optimism but still positive sentiment in Germany’s IFO survey. Manufacturing PMIs in major economies have improved noticeably in recent months and are signalling stronger final demand that has helped to alleviate some of the inventory overhang that has emerged within the base metals complex. The US, UK and Euro PMIs have all reached their highest levels in more than two years.

The Japanese PMI is now close to its highest level since the global financial crisis, which is consistent with our expectations for the economy to improve going into 2014 ahead of the consumption tax increase, following a deceleration in the September quarter. Looking at the bigger picture, it is still early days for the BoJ’s experimental policies and no one is quite sure what it will produce. Our guess is that it will lead to a modest rise in prices, thereby ending deflation, as well as a pick-up in growth over the immediate period. However the structural problems that have weighed on the economy remain unresolved and so we are not expecting any return to rapid growth over the medium term.

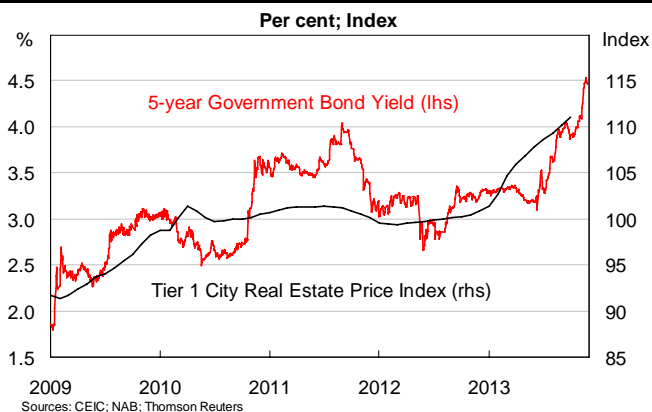
PMI Surveys



The economic performance of emerging economies has been mixed in recent months, but improving demand from the developed economies may now be trickling through to industrial activity in emerging markets, although indicators of finished goods inventories could suggest some of this activity is receiving temporary support from restocking demand. The HSBC emerging market index rose to 51.7 in October (from 50.7), although the strongest growth was still in the Chinese market. This is the strongest level for the index in seven months, but is still well below trend. Activity has been mixed across Asia with China performing well, while India continues to lag. Taiwan, which is often considered a bellwether of global manufacturing, recorded a solid PMI of 53 in October driven by improvements in demand from Europe and the US in particular. Korea’s PMI was a little softer at 50.2, although this was the first month of expansion (above 50) in five months – attributed to both an improving domestic economy and external demand.

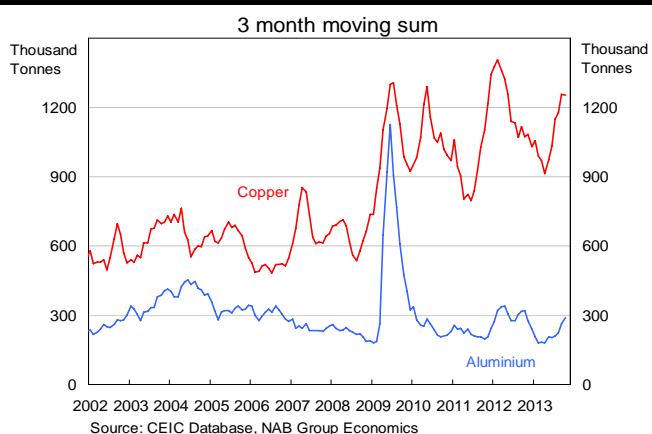
Chinese PMI indices are a little less positive than the major advanced economies, but are pointing to ongoing expansion nonetheless. The PMI's had been gaining some ground up to October, but the flash release of the Markit PMI suggests that the momentum in industrial activity may be peaking and could start to ease. While it is too soon to discern a trend from these data, our forecasts have been calling for a peak in China's economic growth in the September quarter, before easing through 2014 – consistent with efforts to rebalance the economy. The essence of the reforms to come out of the 3rd Plenum in China this month has given us confidence in this view given the push for a more market driven economy and greater supervision of local government spending.

Chinese bond yields and property prices



Monetary conditions have also tightened significantly as authorities attempt to rein in credit growth and speculative investments. This appears to be gaining traction and is expected to result in slower investment growth over the medium term. At the same time, authorities are concerned about runaway real estate prices, which could trigger a renewed push to clamp down on the sector – last month Shanghai raised minimum down payments for second homes to 70% (from 60%) and the cities of Nanjing, Xiame, Hangzhou, Wuhan and Nanchang have followed up with similar policies.

Chinese import volumes

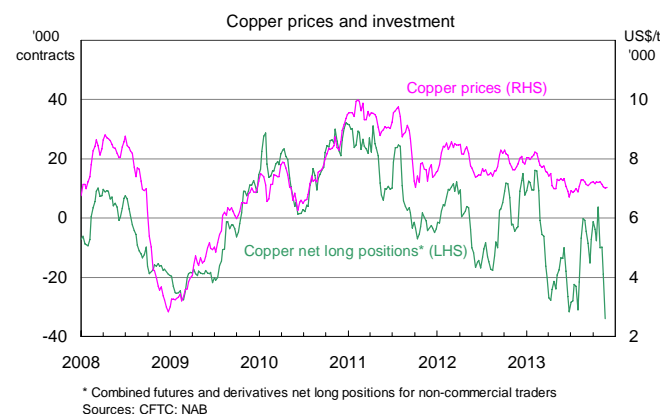


Import demand for some metals has remained strong in China which has kept premiums elevated, although some of this demand may relate to restocking demand due to lower prices since the start of the year. China's copper imports fell 11% in October but are 26% higher over the year. In contrast, solid domestic primary aluminium production has provided headwinds to imports, although they have picked up from this years lows (-2.5% y-o-y in October).

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). Copper (non-commercial) net-short positions increased following the release of more positive economic data in the US, bringing forward Fed tapering expectations, but copper prices only experienced a relatively subdued response. This could suggest that end-user demand is now becoming a more dominant driver of prices rather than easy money from the Fed.

Investment Flows



Metal Supply

Over the past month we have seen further announcements from the LME about changing warehousing rules to address the build up of metal tied up in financing deals, hampering the availability of physical metal and driving up premiums. The new rules (which are not scheduled to come into effect until April 1) will affect depots where waiting times to withdraw metal exceed 50 calendar days (this is more stringent than the original proposal of 100 days). Where waiting times exceed 50 days, the warehouse will be required to ship out metal every day exceeding the amount they take in by at least 1,500 tons. While the impact of the change is not clear cut, the majority view seems to be that the new policy will see a gradual reduction in premiums. However, there are still reasons to be sceptical as many of the incentives for metal financing deals remain in place, at least for the time being. Therefore we may simply see a shift in metal to non LME regulated warehouses.

Copper supply

Expectations for a rise in copper supply have been weighing on the outlook for copper prices. Copper concentrates supplies have already grown significantly faster than demand in 2013 – especially given fewer supply disruptions than 2012 – and this trend is likely to continue. In the third quarter rising global copper supplies were supported by the Oyu Tolgoi mine which help Rio Tinto's production increase 23% y-o-y. Anglo American also recorded strong growth of 32% over the same period. However, as miners look to reduce costs and claim additional market share, they run the risk of further fuelling the market surplus.

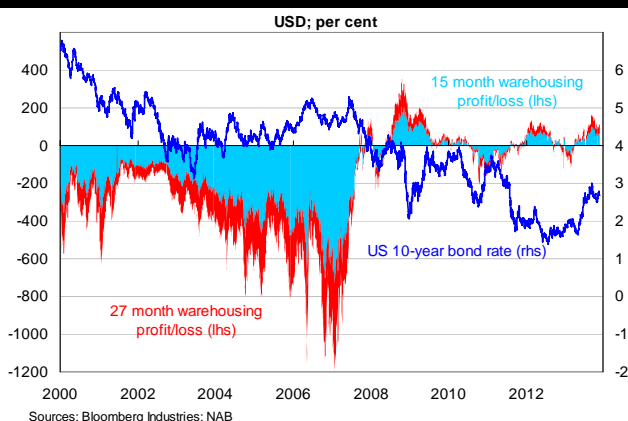
This is feeding through into refined product markets. According to the International Copper Study Group (ICSG), refined copper shifted into surplus late last year as supplies surprised heavily to the upside, while demand remained muted. A small surplus (seasonally adjusted) was recorded in August (the most recent available data), bringing the surplus in the year to date to 76,000 mt (seasonally adjusted). More recently, production of refined copper by the world's largest producer and consumer of the metal

(China) rose to a record high in October; production increased by more than 20% y-o-y. The rise in production has been driven by both an increased supply of raw material and additional capacity.

Aluminium supply

A surplus of production capacity continues to drive the chronic global oversupply of aluminium. Chinese production start ups are more than offsetting anticipated production cuts at other smelters, which have been frustratingly absent. In October, Chinese smelters announced the commissioning of 700ktpa of new capacity which is equivalent to 1.2% of last year's production. Primary aluminium production in China rose 5% in October, reaching a record high of 1.95 million tonnes (more than 13% higher than last October); China is the world's largest producer of primary aluminium. In contrast, Russia's Rusal – the world's largest aluminium producer by output – has been actively reducing various operations to the tune of 648ktpa. Lower aluminium prices have made high cost operations an attractive target to reduce the global glut of metal, but these are still being eclipsed by low-cost new capacity.

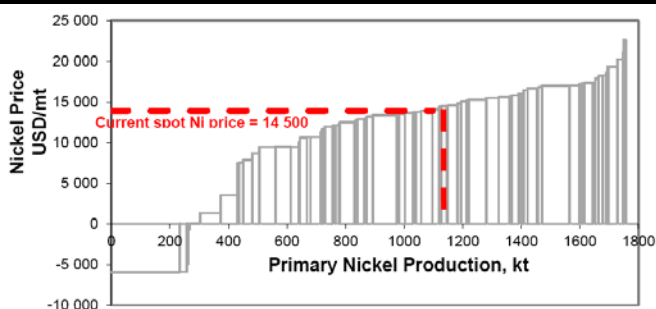
Aluminium Financing Deal Incentives



There continues to be a significant amount of aluminium stored in LME warehouses as a result of financing deals, and with interest rates to remain ultra low for the foreseeable future, low storage costs and contango in forward curves are keeping these deals attractive – Bloomberg calculations suggest that financing deals have remained profitable (see chart). Nevertheless, given high stocks, announcements regarding stricter rules for delivery of metal from LME warehouses are of particular significance for the aluminium supply outlook. While it remains to be seen how rule changes will play out, a rapid – regulation induced – decline in stocks would put pressure on premiums, adding to a global surplus and forcing more smelters to close down operations.

Nickel supply

Global nickel cash cost curve (Norilsk Nickel, August 2013)



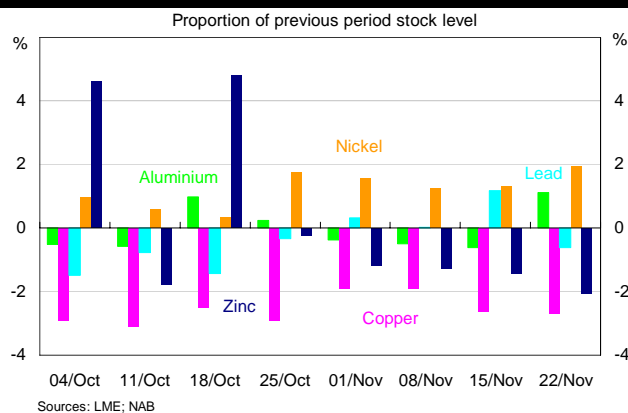
Prices for nickel have fallen heavily over the past year and are significantly below the highs of 2007. As a result, a significant share of production has become unprofitable which now appears

to be triggering a supply response. Industry reports from earlier in the year suggested that low prices (US\$14,500 per tonne) may be cutting into almost a third of global nickel capacity – prices are now significantly lower at around US\$13,500 per tonne. These pressures have been reflected in production results from some producers, while there have been announcements recently to shutter capacity. For example, Brazil's Votorantim Metals said it was halting its Fortaleza de Minas nickel smelter, while Glencore Xstrata shut its Falcondo nickel mine in the Dominican Republic. The two operations will cut around 33,000 tonnes of output next year. Nevertheless, the International Nickel Study Group (INSG) recently reported that the global primary nickel market was in a surplus of 127,100 tonnes in the first nine months of the year – more than double the same time last year.

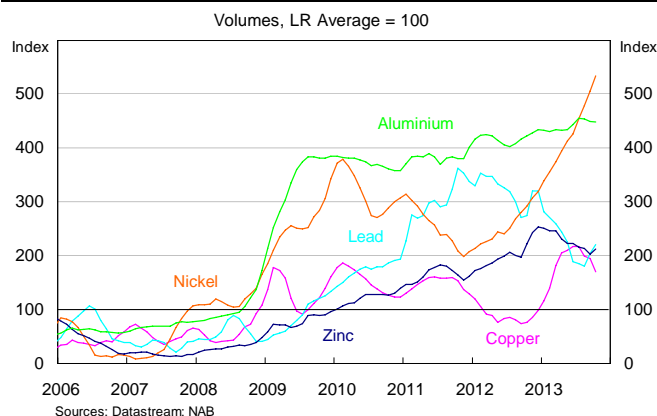
The other big supply issue on the horizon is the impending Indonesian export ban on unprocessed ore, which includes a complete ban on nickel ore exports as well as bauxite and copper (initial phase commences in January 2014). Given the reliance on Indonesian ore by Chinese nickel pig iron producers, the ban is widely expected to force closures and reduce the supply of finished nickel. Norilsk Nickel, one of the world's largest nickel producers, expects that the ban along with expected rises to NPI production costs, will see NPI output fall more than 4% in 2014. However, the precise terms of the ban remain uncertain and there is some suggestion that the current economic environment is not suitable for such a ban. In particular, Indonesia's current account deficits and susceptibility to currency pressures create incentives to reduce impediments to exports.

LME Stocks

Weekly Change in LME Base Metal Stocks



LME Base Metal Stocks

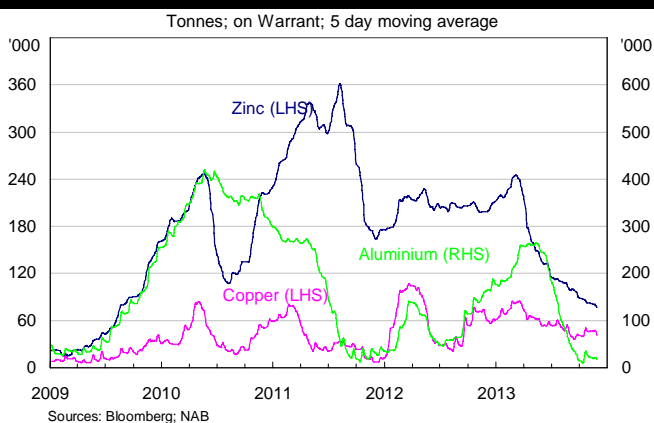


Weekly data show that copper stocks at LME warehouses were consistently drawn down over the past month at a steady pace. In contrast, LME stocks of nickel have continued to build on their

already elevated levels, while stocks of aluminium appear to have steadied at record high levels.

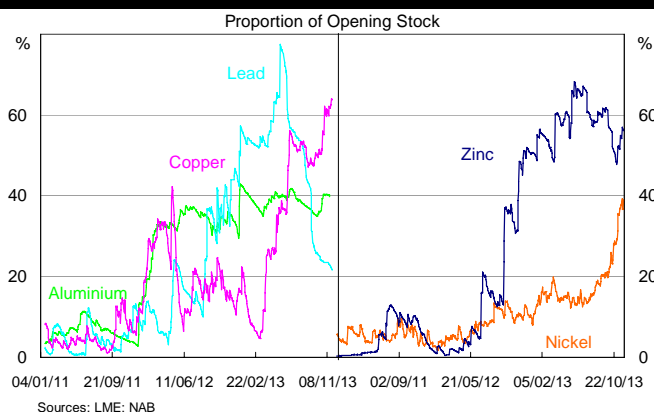
Copper stocks at Chinese bonded warehouses and at the Shanghai Futures Exchange (SFE) have fallen considerably over the year too, after peaking in February and March. SFE copper inventories picked up slightly in October, but are at their lowest levels since June and are well below the peaks of earlier in the year – possibly indicating reduced copper demand for use in financing deals. However, tighter monetary conditions in China coupled with the recent tick up in inventories could suggest renewed financing demand. Aluminium stocks at Shanghai warehouses have fallen steadily since the middle of the year, while Zinc stocks have also been drawn down to around their lowest levels since 2009.

Shanghai Futures Exchange Stocks



LME cancelled warrants across the base metal complex are suggesting varying rates of inventory draw downs in the near-term. Cancellations for copper, aluminium, nickel and zinc all surged in late October, which may have been in anticipation of the new LME warehousing rule announcement. If this is the case, the implications for delivery backlogs and a potential reduction in tradeable warrants could see temporary tightness at the front end and upside risk to physical premiums.

LME Cancelled Warrants



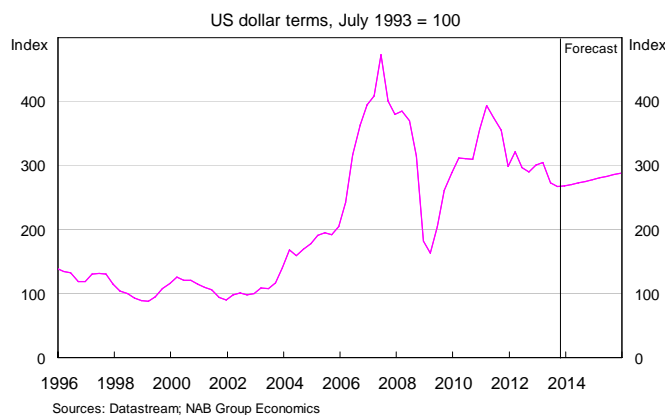
Outlook

In aggregate, business surveys across the main advanced economies show positive net balances of firms expecting growth to continue through the next year, which should bode well for the base metals complex as manufacturing and construction gather pace and offset the eventual headwinds as accommodative monetary policies in these countries are pared back. However, the ramping up in sentiment on both current and future conditions ran out of steam in October, which just highlights the bumpy road ahead, particularly as hurdles regarding the US debt limit and

Japanese consumption tax approach. Similarly, sentiment is not very positive in some of the big emerging economies with especially weak numbers in the Indian business surveys that do not seem to foreshadow a return to the rapid pre-2012 growth rates seen in the third largest global economy. In contrast, China's economy has stabilised and is expected to continue growing in excess of 7% pa, which will provide an ongoing source of significant demand growth. Finally, the impact on emerging economies of the eventual tapering in quantitative easing in the US (and the rest of the world) will be a major source of uncertainty. Experience from earlier this year suggests that this is something that warrants close monitoring.

Supply and demand fundamentals vary across the base metals, but gradual improvements in demand will be largely matched by rising supplies, suggest limited upside to prices in the near term. However, lower prices could see a consolidation of expansion plans, particularly in commodities where the Indonesian export ban will be another factor that may constrain supply and tighten the market balance. Finally, changes to warehouse rules from April will generate more uncertainty and may contribute to a temporary surge in physical premiums, but the changes are expected to reduce market distortions in the longer-term. Nevertheless, incentives for financing deals could remain in place for some time.

Base Metals Index



In aggregate, the NAB Base Metals Price Index declined by 2.1% over September quarter 2013 and is expected to be relatively flat in the December quarter 2013, reflecting range bound prices over the quarter to date. Longer term demand prospects still look relatively favourable, while supply responses in some metals due to lower prices, should sustain elevated prices at the end of the forecast horizon. Base metals are forecast to decline by around 11% over 2013, but are expected to rise by 3.6% over 2014 (see Graph).

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Quarterly Price Profile

Base Metal Forecasts - Quarterly Average Terms

US\$/MT	Actual	Forecasts							
	Sep-13	Dec-13	Mar-14	Jun-14	Sep-14	Dec-14	Mar-15	Jun-15	Sep-15
Aluminium	1783	1800	1840	1860	1890	1920	1960	2000	2040
Copper	7086	7160	7120	7160	7190	7230	7230	7230	7230
Lead	2102	2120	2150	2170	2190	2200	2220	2230	2250
Nickel	13956	13710	13850	14090	14340	14590	14840	15100	15370
Zinc	1861	1890	1910	1920	1940	1960	1980	2000	2020
Base Metals Index	267	270	270	270	280	280	280	280	290

Sources: Thomson Reuters; NAB Economics

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