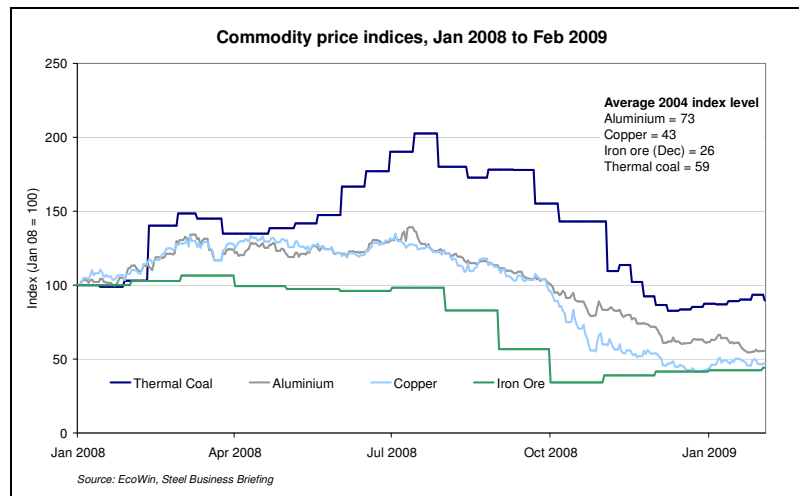


OUTLOOK FOR METALS AND MINERALS

Full Year Results 2008
12 February 2009

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The past few months have seen precipitous declines in many metals and minerals prices from record highs. In the last quarter of 2008 the *Economist's* measure of metals prices fell by 49 per cent – the largest percentage drop over a three month period in the 60 year history of the measure. There were also significant falls in the spot prices and sales of a range of bulk minerals including iron ore and coal - although there has been some recovery in spot iron ore markets in recent weeks.



Our near term outlook has reversed significantly from the first half of 2008 reflecting a much more negative global macroeconomic setting. The main points are:

- Recent price falls can be explained mostly by unexpected, sharp reductions in growth rates around the world during Q4 2008 and the emergence of a broadly based expectation that activity will remain slow over the medium term.
- Looking forward, there is great uncertainty surrounding near term paths for commodity demand, supply and therefore prices. So forecasts carry more risk than normal.
- On balance, we expect global economic activity to be weak during 2009 and possibly through 2010. Chinese GDP growth is expected by the consensus to average around 7 per cent in 2009 while OECD economies are expected to experience major recessions.
- Demand for metals and minerals is expected to reflect the slow pace of global economic activity and negative effects associated with the need to reduce inventories and capacity overhang that have built throughout the global economic system.
- The infrastructure components of various fiscal stimulus packages and an eventual cessation of destocking could provide some boost to demand over the latter part of the year.
- There have been supply cut backs in response to the weak market conditions and as a result, some commodity prices which are in the vicinity of structural lows could make gains.

- The weak conditions have led to the rapid cancellation or postponement of many projects. This has the potential, upon an eventual recovery in demand, to result in a return to tight conditions in some metals and minerals markets for a period.

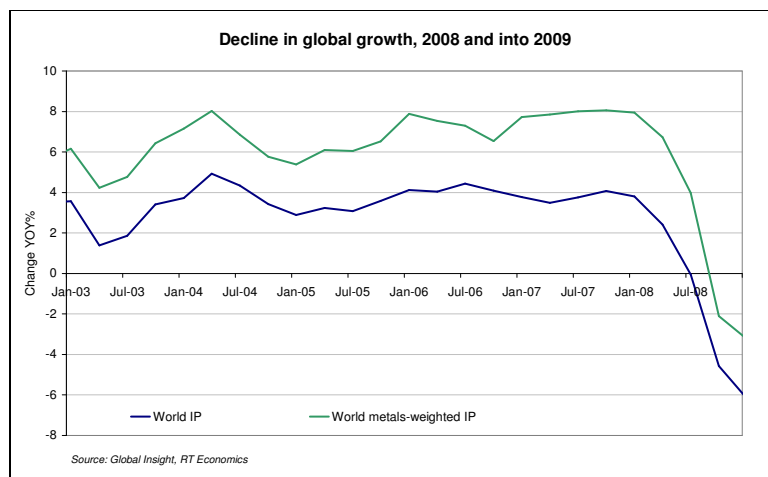
Finally, taking a longer run perspective, our expectation remains that real long run prices for almost all minerals and metals, will average higher than was the case in the two decades preceding the recent boom. A key factor in this conclusion is our expectation that the industrialisation and urbanisation of China and other developing economies will generate relatively fast average rates of global commodity demand growth following an eventual recovery from the current slump. Future global economic development is expected to require relatively high marginal cost production to meet growing metals and minerals demand. In some instances the speed of expected demand growth relative to capacity combined with input supply problems may increase the frequency of intermittent supply shortages and associated price spikes.

The remainder of this paper addresses the main causes of the current downturn and key near term drivers of the outlook. It also discusses some specific issues affecting aluminium, copper, iron ore and thermal coal markets.

Market drivers

Explaining the market decline to date

Global industrial production growth decelerated rapidly and turned negative over the latter part of 2008 following several years of strong growth. During November 2008 industrial production in G7 economies fell by 6.9 per cent year on year – the largest decline since the deep recession of 1975. In China, GDP growth in Q4 was reported to be just 6.8 per cent implying a quarter on quarter fall in economic activity of up to 1.7 per cent. In South Korea and Taiwan, recent falls in industrial production have been of an almost unprecedented magnitude.



The immediate causes of the economic problems around the world are many and interrelated in complex ways. At a high level, it is now apparent that the various large economic imbalances that had been built up in the past decade or more are now being unwound, not smoothly as most forecasters had predicted, but in a rush.

In OECD economies, the credit crisis, which was presaged in 2007 by weakness in the US housing market, worsened dramatically over the latter part of 2008. This reduced the availability of credit to households, businesses, traders and financial speculators. Simultaneously, rising fears about unemployment, falling and increasingly volatile asset

prices, and the breakdown of historically based correlations between different asset prices sapped wealth and confidence. Enormous injections of public capital into the banking system prevented more severe financial and economic crises.

In most developing countries, including China and India, it is worth recalling that through 2007 and the first part of 2008 the key policy concern was inflation and overheating. In response to this, governments tightened credit availability. Additionally in China active measures were put in place to dampen the housing market and accelerate currency appreciation. These policies acted as a hard brake on economic activity and investment. At the same time, the very rapid OECD slowdown and contraction in trade finance reduced export demand for goods and services from developing countries and the need for new investment to support that growth.

It was expected that China's growth would be 'resilient' to a slowdown in OECD economies. That analysis was based on the assumption of a relatively modest OECD recession. However, the OECD recession has been significantly greater than expected with a commensurately greater negative global knock on effect. In retrospect a combination of the very severe OECD contraction with the imposition of anti-inflationary domestic credit restrictions magnified the cumulative negative effect on the Chinese economy.

A sharp economic slowdown has two negative effects on apparent consumption of metals and minerals. First, a lower level of economic activity translates to a lower level of overall demand. Second, a very rapid deceleration in aggregate demand can lead to a build up in excess inventories and capacity throughout the economic system. Excess growth in goods and real estate inventories reduces the return on and need for new production and building – at least until the overhang clears. In turn, this can lead to disproportionately large reductions in metals and minerals demand for a period. The problem has been particularly evident in the case of aluminium metal inventories have continued to build even though prices have fallen below cash costs for a large majority of the world's producers.

Key factors driving the near term outlook

Looking forward, uncertainty about near term paths for demand, supply and therefore prices in different commodity markets is always significant, but arguably it is much greater than normal at present.

Demand-side developments over the short and medium term depend critically on the future extent of the global economic slowdown, the timing of any recovery and related to these, the speed with which excess goods and real estate inventories dissipate.

On the supply side, even as new production capacity from just-completed projects comes on line, weak markets will induce production cuts from existing capacity and reduce the appetite for new investment. At the same time, reduced input costs and weaker exchange rates in key commodity producing countries will countervail some – but not all - of the negative effects of lower prices on production. Of course, reductions in spot input prices will take time to feed through to industry costs generally because of lags associated with contractual arrangements.

While all metals and minerals prices will be determined by the interplay between similar supply and demand drivers, the outlook is mixed across commodities. Some metals and minerals prices are significantly below cash operating costs. So with production cuts and a return to better demand conditions, it seems likely that prices will increase over time. There are, however, other prices that remain well above their structural lows and which could fall over time as new low cost capacity replaces higher cost capacity.

Economic activity to remain weak in 2009 and possibly through 2010

Powerful countervailing forces continue to work on the global macro economy. On one side of the ledger it seems clear that the various macroeconomic imbalances that grew over the first part of this decade are still in the process of being rectified with ongoing negative implications for global growth. On the other side, the financial rescue, monetary and fiscal stimulus packages that are being proposed and put in place around the world are massive in scale. These will inevitably stimulate economic activity in the short term, but their longer term impacts are harder to predict. In particular, there is an increasingly popular theory that the stimulus will create new imbalances that will need to be addressed in the future.

The slowdown in global economic activity during 2009 is expected to be steep. The consensus forecast is for major recessions in OECD economies and that growth in developing countries will be several percentage points below levels achieved in recent years.

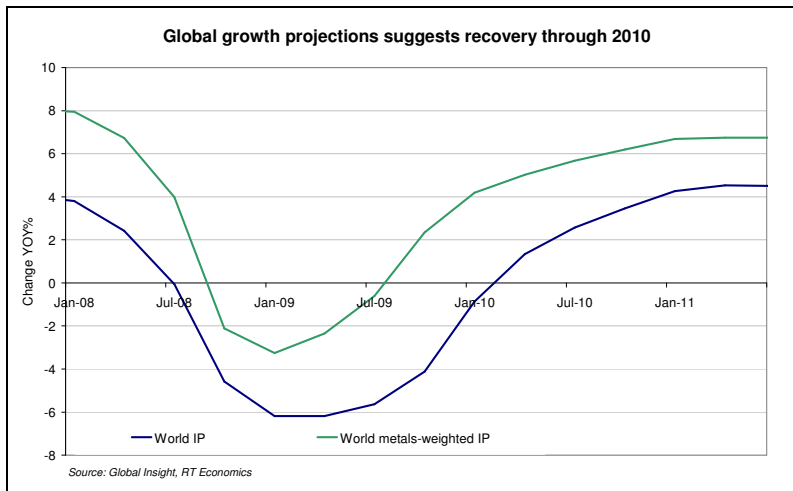
The downturn is expected to continue during the first half of the year, but the 'consensus' is optimistic about recovery through the second half of 2009 and into 2010. This is based on the expected scale of stimulus packages being implemented around the world, the positive effects of lower oil and food prices on consumer spending power, and an assumed progressive return to normality in credit markets.

However, it is worth noting that consensus projections for all countries have been moving down progressively over the past few months. Indeed, it is likely that they will drift down further still as forecasters incorporate the large job reduction announcements that have been released over the past month and leading indicators data. For example Purchasing Managers' Indices (PMIs), which despite some recent increases remain at historically low levels, continue to suggest significant contraction in global manufacturing through much of 2009. Additionally the possibility of new problems in financial systems resulting in further shocks to confidence cannot be ruled out.

World Economic Activity and Consumer Price Inflation

	Real GDP Growth		Consumer Prices	
	2009	2010	2009	2010
China	7.4	8.4	1.1	2.0
Brazil	1.7	3.3	4.7	4.3
India	5.6	7.8	5.6	7.8
Russia*	0.8	3.0	8.7	5.7
Saudi Arabia	2.1	3.9	6.1	3.9
Taiwan	-1.1	3.1	0.4	1.5
US	-1.8	2.3	-0.5	2.0
Japan	-1.7	1.1	-0.4	0.0
Australia	0.9	2.4	2.6	2.5
Canada	-0.7	2.3	0.7	1.9
France	-1.0	0.9	1.0	1.7
Germany	-2.0	0.8	0.8	1.5
South Korea	0.6	3.7	2.5	2.4
UK	-2.2	0.6	1.0	1.9

Source: Consensus forecasts (January 2009), *Global Insight



Chinese real estate

An important source of decline in commodity demand was the slow down in Chinese real estate construction - especially during the latter part of 2008. Much of this slowdown was induced by policies designed to reduce perceived overheating in the property market. The property market remains subdued. Our survey work indicates that, for the most part, buyers have not abandoned their home purchase plans but are waiting in anticipation of better entry points to the market.

Since the middle of last year, there has been a stream of new government initiatives designed to improve sentiment amongst potential home buyers. Interest rates and deposit ratios have been cut to improve affordability and the conditions on second mortgages have been eased substantially or virtually abandoned.

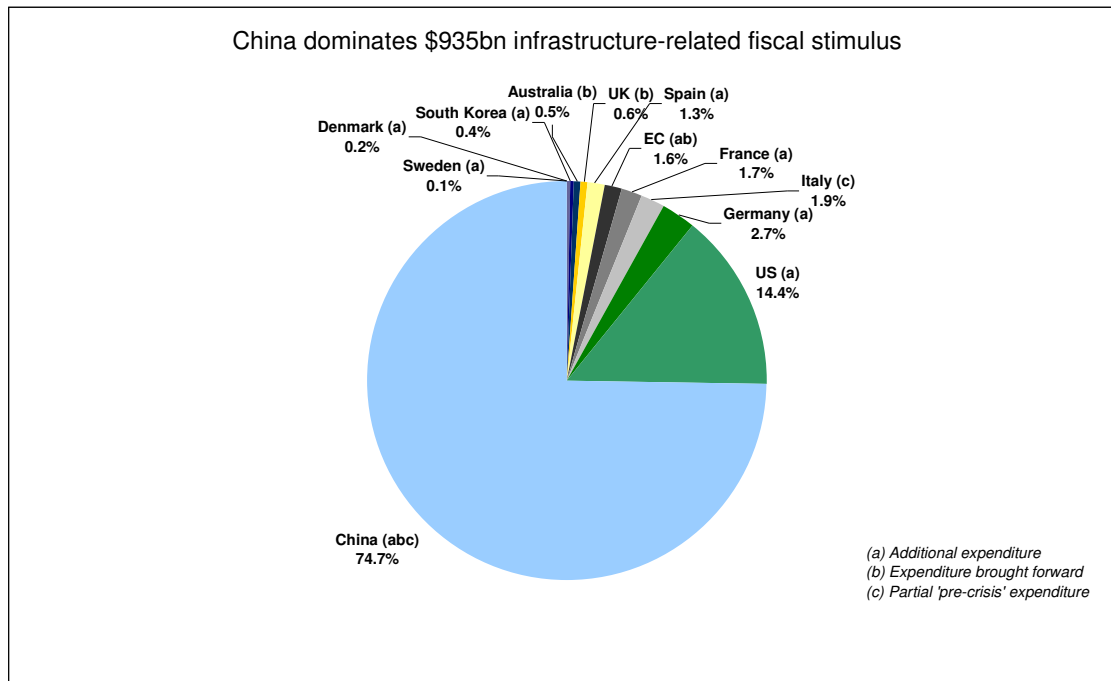
The initiatives appear to have started to work. In 14 big cities for which official daily transaction data is available, average daily sales picked up in November (albeit from a very low base) and again in December. More rapid growth in construction will lag any pick up in sales as inventories are reduced to more normal levels. We expect a return to normal levels of construction at some point in 2010.

Infrastructure stimulus

A key feature in many of the announced fiscal stimulus packages is their heavy focus on infrastructure spending. This is important because construction tends to be more commodity intensive than other forms of economic activity. Such spending has the potential to offset some of the reduced commodity demand from private construction. On this basis, it is arguable that the global fiscal stimulus will be disproportionately positive for commodity demand. At this stage, however, it is too early to predict with any accuracy how positive.

The chart below shows the split of infrastructure-related expenditure estimated from announced stimulus packages. The total is around US\$935bn - although the exact amount is difficult to determine given the preliminary nature of many of the packages, lack of specificity and obscure timelines.

The expenditures are a mix of new spending; spending that has been brought forward; and to some extent, expenditure that had already been committed prior to the slowdown. The planned American Recovery and Reinvestment Bill includes nearly \$135bn of planned infrastructure expenditure, representing over 0.9 per cent of US GDP in 2009. Stimulus related infrastructure spending in Europe totals around \$80bn. At the time of writing only \$4bn of infrastructure spending from Asia, ex-China, had been announced (by South Korea).



Sources: IMF [GDP forecasts], [Australia] MYEFO 2008/09 – Australian estimate based on 10 per cent of Part I of National Building Fund for 2009 and 2010, [China] Xinhua News Agency, [EC] European Economic Recovery Plan, French Government Portal, [Germany] Die Bundesregierung, [Korea] Ministry of Strategy and Finance, [Spanish] Economy and Employment Stimulation Plan, [UK] HMT, [US] House Committee on Appropriations.

Chinese spending stands out starkly as being by far the most important source of stimulus related infrastructure spending. This expenditure (over 2009-2010) represents around 14.6 per cent of China's forecast GDP in 2009. We estimate that the original four trillion RMB package includes at least one trillion RMB of new spending, as well as projects and plans brought forward. Of course some of the spending had already been committed and therefore will not add to economic stimulus.

Initial indications are that a substantial proportion of the package could be in execution phase by the end of 1Q09. Some construction companies are already reporting expectations of increased orders and there are indications of increased in construction activity in some major cities. Additionally our survey work suggests that the final infrastructure stimulus could substantially exceed that which has been reported to date as provincial governments reveal increasingly ambitious plans.

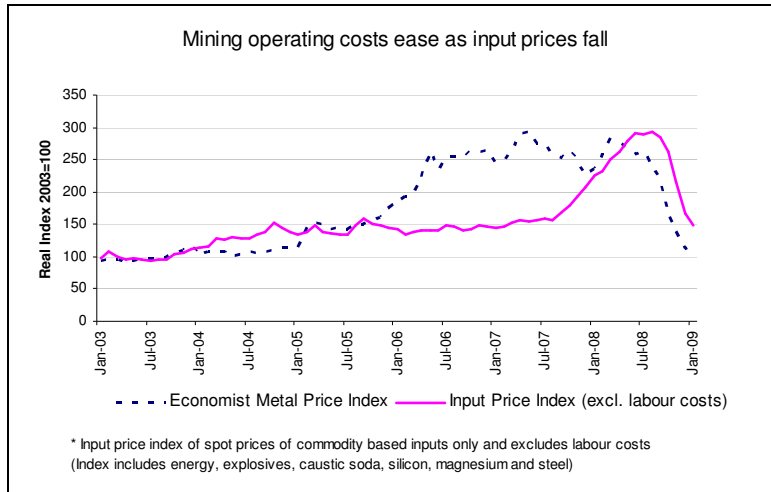
Commodity markets

Before discussing issues relating to specific commodities, it is worth noting that cost declines are becoming as pervasive a feature of metals and minerals markets as falling prices. Of course reductions in spot input prices will take time to feed through to industry costs generally because of lags associated with contractual and other arrangements.

Changes in operating costs

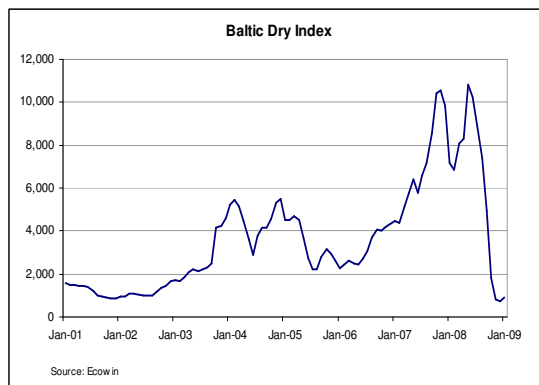
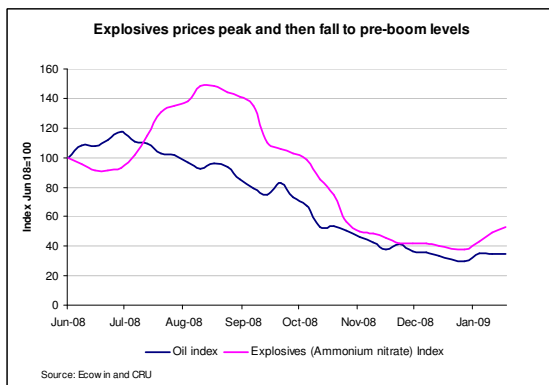
One important reason for the recent cost declines has been the currency depreciation experienced in many major commodity producing countries. Through H1 2008 the US dollar depreciated against many commodity exporting countries currencies as commodity prices increased and concerns grew about the weakness of US economic growth. But in the latter

half of the year and into 2009 this trend reversed sharply as concerns grew about commodity led economic growth.



By July 2008 the Australian dollar peaked against the greenback at its highest level in more than 20 years. But such was the slump in the latter half of the year that the currency had depreciated against the US dollar over the whole of 2008 by 25 per cent (comparing January and December month averages). Over 2008, the Brazilian real, Canadian dollar, Chilean peso and Indian rupee depreciated by 35 per cent, 22 per cent, 35 per cent and 23 per cent respectively. By contrast, the Chinese RMB has remained more or less stable against the US dollar since July.

Other reasons for spot input prices falls include declining demand from miners and processors as production has been cut back and projects deferred. At the same time falling costs, especially for energy, placed downward pressure on some input prices. For example, explosives were in critically short supply in mid-2008. However by year-end prices had dropped back by 75 per cent from their peak, both in response to falling demand as well as the drop in natural gas prices (a key feedstock for explosives production). In another example, the particularly large contraction in the Baltic Dry Index (BDI) last year was driven by sharply reduced trade flows in the latter months of 2008. There have been some recent increases in the BDI owing to increased bulk freight shipments to China.



Headcount reductions are also expected to bring about costs improvements. So far, announced cuts are near 40,000 jobs. These are related mainly to project cancellations and deferrals. Salary freezes and reductions have also been reported in some cases. Slowing production activity is also expected to reduce costs that have been associated with high staff

turnover during the past few years and bonuses paid during boom times should settle back. During the year ahead reduced spending on high-cost contractors, or a reduced requirement for overtime shifts with higher overtime rates could bring down labour costs further still.

Input costs have not fallen in all instances. For example, large off road tyres remain in relatively short supply supporting their prices for the moment. In the case of copper, while many costs have fallen, there have been some increases due to falling by-product prices and higher treatment and refining charges.

Looking forward, it is expected that there will be further average and marginal cost reductions as producers curtail output at more expensive operations and cut any fat in cost structures that was built up during the boom.

Aluminium

Aluminium enjoyed one of the fastest rates of growth amongst non-ferrous metals in recent years, with global demand increasing by about 50 per cent between 2002 and 2007. The contraction in consumption in the latter part of 2008 combined with a strong inventory adjustment throughout the supply chain has therefore been felt particularly sharply in this market. During 2008 global aluminium demand growth has swung rapidly from a 5.7 per cent year on year rise in the first quarter to a drop of up to 13.5 per cent year on year in the final quarter of the year. Prices have fallen from near record highs in the first half 2008 to record lows.

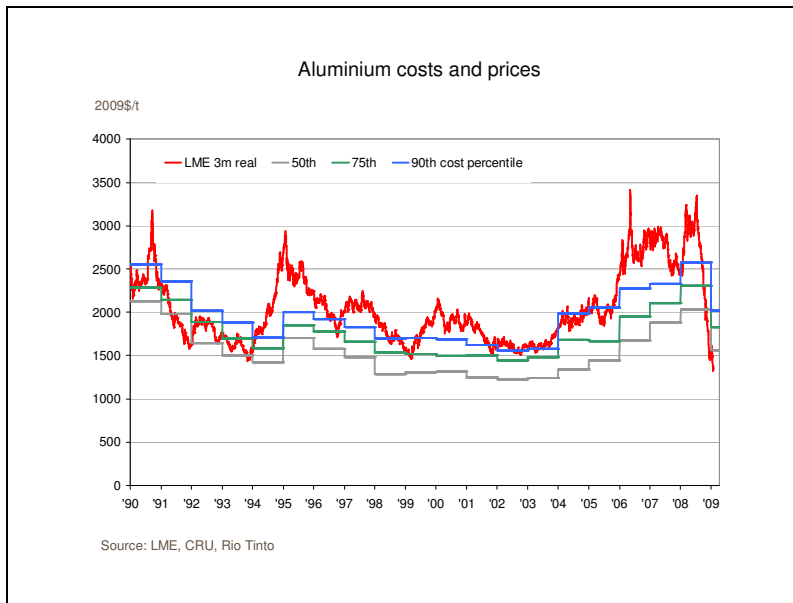
With about five million tonnes of announced closures and postponed commissioning, the industry has reacted more rapidly to the slowdown than in previous downturns. Chinese producers had responded to falling prices with production cuts of just over 20 per cent by the end of 2008 compared with mid-year peak levels (and compared with a drop of just three per cent over the same period outside China). This highlights the position of Chinese smelters as high cost producers but also illustrates that, despite some level of local government support, Chinese producers appear to operate in an economically rational manner.

Despite the production cuts, given the severity of the demand correction, stocks have been accumulating at a rapid pace in LME warehouses since early September 2008. Total reported stocks at the start of 2009 represent close to 10 weeks of western demand (based on 2008 consumption levels).

The rate at which LME stocks build over the next few quarters will depend on how far the consumers' destocking cycle has run its course and also on how producers continue to react to prices that are near all-time lows in real terms.

To date, the pace of production cuts has been tempered by falling costs due to a combination of lower raw material costs (especially in China), LME-linked input costs, exchange rate movements and in some cases local government support. Additionally, the broader Chinese slowdown has caused regional power markets to move toward an easier balance, putting downward pressure on power prices and easing cost pressures on Chinese smelters.

But even though industry costs have come down, current prices are not sufficient to cover cash costs for over half of the industry's capacity. Further cutbacks are therefore likely, which will help the market to rebalance. Once demand starts to pick up again the market will need to first absorb the overhang of stocks and excess capacity before prices return to long run sustainable levels.



It should be noted that some of the production cutbacks that will take place during this downturn will be permanent. Indeed this period of low prices is accelerating the phase-out of smelters relying on Soderberg technology and is also bringing forward the closure of smelters operating in high cost and uncertain power environments. Meanwhile many projects that were pencilled-in to replace this capacity are being cancelled or postponed.

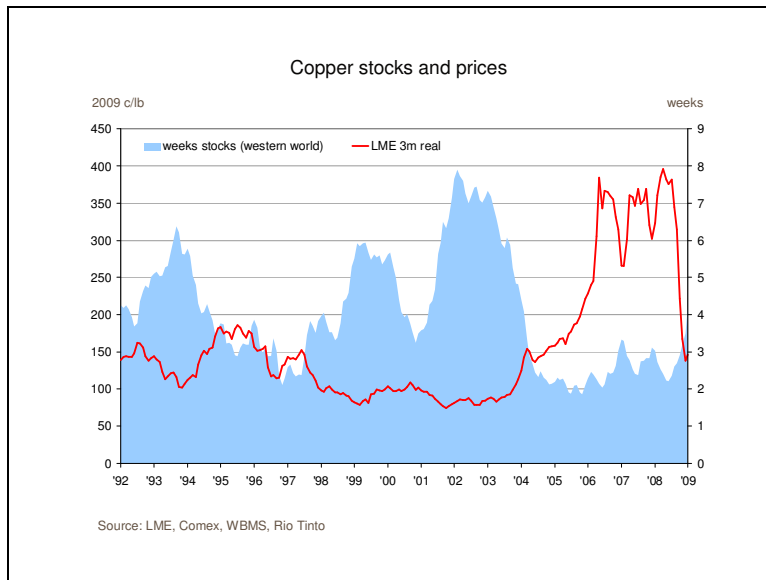
Looking over the current cycle it is important to note that the structural factors that were expected to result in increased long run marginal costs and prices in the aluminium industry remain in place. For example, once out of recession, the world economy is expected to continue to face difficult issues related to energy and power availability as well as the rising economic cost of carbon emissions. Meanwhile, although there has been a pause in the appreciation of the Chinese currency since the middle of last year, the renminbi is still believed to be significantly undervalued against the US dollar. As the Chinese economy recovers, a gradual real strengthening in its currency is expected to place upward pressure on Chinese smelting costs.

Copper

By the start of 2009 copper prices had fallen to about one third of their all time high of \$4.07/lb reached in early July 2008.

With supply failing to meet demand growth, prices had been maintained since early 2006 at levels encouraging demand destruction and substitution away from copper. But the need for such inducement disappeared as soon as demand began to contract due to the slowdown in economic activity, removing price support above \$2/lb.

Although the magnitude of the copper price correction has been as large as for other metals, it is important to note that in clear contrast to other industries, copper prices have not fallen by near as much in relation to costs. Indeed, even at current prices most copper mines continue to return a positive (if significantly reduced) margin over costs. Announcements of price related mine production cutbacks have therefore been limited so far. However, many of the factors that have led to copper mine output consistently falling short of expectations over the past few years are expected to continue constraining supply in the short term.



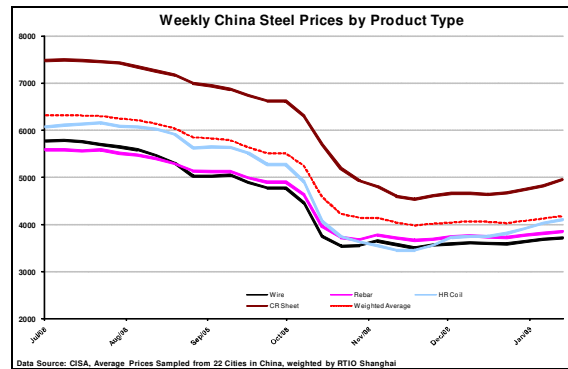
Copper mine disruptions reached again a new high in 2008, with some estimates putting lost output at up to 1.4 million tonnes or just over 8 per cent. Global mined output was therefore broadly unchanged from 2007 levels as a result. In 2009, labour-related disruptions should play a lesser role in disrupting supply and some consumables and equipment bottlenecks have eased. However several large copper mines continue to struggle with falling grades and technical issues.

As with aluminium, the extent to which consumers through the copper value chain have reduced inventories over the past few months will be an important determinant of the timing and amplitude of the recovery in demand. Deep reductions have in the past been followed by rebounds as consumers and strategic buyers start to re-stock ahead of any anticipated improvements in economic conditions.

Looking further out, the impact of the credit contraction and lower prices on the financing of new projects will also play an important role in determining the shape of the price recovery. Several projects have already been abandoned or delayed as mining companies reconsider their capex spending plans. On this basis it is possible that the copper market could enter the next phase of demand strength facing greater capacity constraints and with a lower stock overhang than at the start of this decade.

Steel and iron ore

Steel production in China, Japan, South Korea, Taiwan and EU15 (the vast bulk of the 'seaborne iron ore market') fell by more than 12 per cent in Q4 reflecting reduced demand for investment goods, lower demand for consumer durables, and reduced levels of construction. In China apparent finished steel consumption contracted 11 per cent year on year in 4Q08 driven mainly by a large fall in residential construction and it is now 18 per cent below the peak recorded in 2Q08. The Chinese data for 4Q is negatively biased by de-stocking activity and at the time of writing, stocks were below their historical average.



Looking ahead, steel demand in the seaborne iron ore market is very likely to rise from current depressed levels over the course of 2009. Our estimates indicate that the Chinese stimulus package could add between three per cent and 14 per cent to finished steel consumption, from current levels, depending on the extent of spending by provincial governments. Mills are already receiving stimulus related orders and these are expected to escalate during Q1 this year.

China imported 34.5 million tonnes of iron ore in December which is a six per cent month on month increase, with Indian producers capturing most of the incremental demand. Based on the level of port congestion the three largest iron ore producers increased their sales on the spot market in January. The number of bulk vessels loading in Brazil is up nearly 50 per cent from a low point recorded in December 2008. Increases have also been reported at Australian and Indian ports and increased unloading has been reported in China.

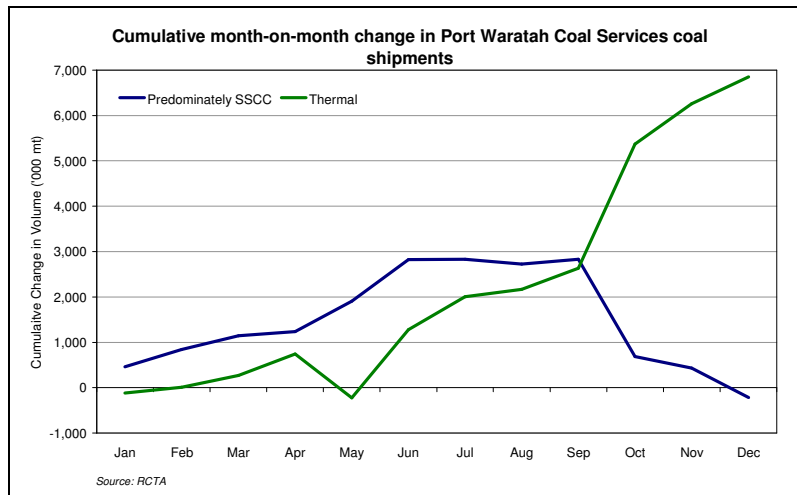
It is not apparent that the increase in imported supply is being stockpiled. For example iron ore stocks at 23 major Chinese ports have fallen almost every week since October and are now nearly 20 million tonnes below their peak.

The increase in sales into China's spot market has not undermined the spot price. Indian iron ore fines, with a Fe grade of 63 per cent, are now selling for \$81 per tonne CFR, up 33 per cent on the low recorded in October. The average price for China's domestic iron ore is nearly \$100 per tonne.

Thermal coal

Thermal coal prices started 2008 at about US\$90/t before spiking to over \$190/t in early July and then falling back to around \$80/t. The three major supply shocks which pushed prices up have all subsided for now. The South Africa power crisis has abated as world IP growth and demand for commodities have fallen; Chinese coal supplies are less constrained than was the case following the weather-driven tightness in January 2008; and infrastructure constraints in Australia have eased. The average port queue for the major Australian thermal coal export port was 56 ships in 2008 compared with 20 ships in January 2009.

Additionally, the substantial adjustments in coking coal markets over the course of 2008 and into 2009 have had a major influence on the thermal coal price. With extreme tightness in the coking coal market during much of 2008, coals with marginal coking properties were used in coke ovens rather than power stations. As the demand for iron and steel eased, substantial volumes of these coals have flowed back into the thermal market. The rapid increase in thermal coal shipments in October combined with the drop in semi-soft coking coal shipments indicates that semi-soft volumes have flowed into the thermal market.



Thermal coal pricing will continue to be extremely sensitive to developments in China and India. The scale of coal production and consumption of China, relative to the international seaborne market, means China is at the forefront of these risks. The interaction between the Chinese coal market and international seaborne trade remains largely at the discretion of Government policy. Export licences granted to four Chinese companies notionally set a potential limit to exports, although there is no reason why a substantial change could not be granted. At present, the first tranche of export licence volumes for 2009 are slightly lower than in 2008.

In India, power stations were persistently under-stocked during the period of high prices. Therefore, the price decline may stimulate increased Indian participation in the seaborne market and increase imports toward the Power Ministry's additional 20 million tonne imported coal target for the current fiscal year.

Conclusion

The world economy has slowed much more rapidly than had been expected in the middle of last year leading to a significant deterioration in the near term outlook for commodity markets.

A sustained recovery in demand is not expected until next year and there are risks that 2010 could be weak as well - for example due to the possibility of further financial shocks to the economic system or delayed implementation of stimulus packages.

On the supply side, the recent fall-off in commodity prices and reduced availability of credit are leading to production cuts and to the abandonment or delay of many projects. This is expected to support the eventual recovery in markets.

It is clear that the world economy is going through a process of a severe and potentially prolonged cyclical adjustment. But the expectation that development in emerging markets will generate underlying strength in metals and minerals demand over the long term remains broadly unchanged. Per capita metals consumption in emerging markets remains below developed country levels suggesting scope for significant incremental demand growth over time.