Rio Tinto

OUTLOOK FOR METALS AND MINERALS

Half Year Results 2008
26 August 2008

Vivek Tulpulé
Chief Economist

Summary

- The following paper sets out the views of Rio Tinto's Chief Economist, Vivek Tulpulé, on the economic outlook into 2009.

First half of 2008

- Spot prices remain high and records were set in this half for copper and aluminium. Record contract prices were also achieved for bulk minerals such as iron ore and coal.
- Prices for aluminium and copper remain higher than at the start of 2008 and above average levels in 2007 despite the falls in July and August. Also, price volatility so far this year has been in line with outcomes in recent years.

Broad outlook for 2009

- While we remain mindful of the risks to growth and commodity markets, we expect constrained supply conditions and firm demand from China and other developing countries. This creates the basis for strong average prices through 2009.
- The central scenario implies a sixth straight year of strong prices reflecting rapid industrialisation and urbanisation in the developing world. Such a period of broad strength would be unprecedented in the past one hundred years.

Demand

- Global GDP growth near 4 per cent is forecast by the IMF – below levels achieved in recent years but still robust when viewed on a longer historical basis. This is expected to provide the basis for firm commodity demand.
- Growth in emerging markets is projected to be slower than in 2008 while still remaining buoyant. Domestic demand is expected to limit negative effects from reduced exports.
- China's GDP is expected to grow by around 9 per cent. A minor post-Olympics economic boost is possible as production and construction shutdowns re-start. The government is expected to resume a pro-growth policy stance.
- Less developed but highly populated interior provinces in China are seeing much faster investment growth than the richer coastal regions. There is great potential for them to add strongly to global commodity demand in their own right over the medium term.
- OECD growth is expected to be slow. But activity in this region is a much less important determinant of commodity prices than in the past.

Supply

- The speed of supply expansions will continue to be limited by constraints on the availability of key inputs, capabilities and skills. One consequence is that pressures on construction and operating costs are expected to persist.
- Further constraints to expansion can also be expected as permitting and stakeholder issues play an increasingly important role in determining project timing, costs and risks.
- Lower grades at mature operations will put pressure on the supply of some commodities.

- Also, the persistence of conditions that have led to increased production disruptions will continue to fuel concerns about supply availability.

Risks

- The current macroeconomic and geopolitical outlook is complex and there are risks to the central scenario on both the upside and downside.
- Downside risks include more rapid deceleration of growth in developing countries than expected – for example if anti-inflationary policies bite more aggressively than expected.
- But on the upside, Chinese GDP growth could stabilise near double digits within the next year, leading to even tighter markets in some cases.

Long run

- We expect long term strength in demand, as developing economies urbanise and industrialise and we see persistent constraints on the speed at which capacity can expand and be brought on line. The implication is a structural shift toward much higher long run commodity prices than implied by historical trend in many cases and in some instances higher margins.
- Looking further forward, 'big picture' global changes including the development of global climate change policies could have profound effects on some long range prices.

Metals and minerals

Iron ore

- Significant price increases of 80-97 per cent were negotiated in June 2008.
- Chinese steel consumption has grown by more than 15 per cent reflecting strong ongoing construction activity.
- Falling Chinese iron ore grades, along with a stronger Renminbi have provided further support to spot iron ore prices, which have remained in a range of $175-200/tonne.

Copper

- The LME cash copper price over the first half of 2008 was 19 per cent higher than in the same period last year, a strong performance despite slowing OECD growth. Prices reached an all time high of $4.07c/lb in early July.
- The gap between Shanghai and LME prices has closed, improving the attractiveness of imports into China.

Aluminium

- Prices over the first half of this year were about 2 per cent higher than the average in H1 2007 and the spot price achieved a record of $3291/t in July due to supply disruptions.
- Firm demand in developing countries and a phase of restocking activity ahead of expectations of an economic upturn in the US and Western Europe towards the end of 2009 could contribute to stronger global demand next year.
- Limited supply options for bauxite combined with rapid growth in demand have caused prices for traded bauxites imported into China to double over the last two years from $30-35/t in 2006 to $60-70/t in H1 2008.

Thermal coal

- Demand growth for Pacific seaborne thermal coal remains strong while supply has failed to keep pace due to infrastructure and weather-related events.
- The market remains tight. Prices are at around US$150/t, a 70 per cent increase since the beginning of the year and 135 per cent greater than the 2007 average.

Rio Tinto

A sixth straight year of strength for commodity markets in 2009

Over the first half of 2008, firm demand with ongoing supply constraints and disruptions combined to generate tight markets for many of the commodities produced by Rio Tinto. In this environment spot prices fluctuated in a high range, approaching or reaching record levels for copper and aluminium. Over the same period contract prices for minerals including iron ore and coal also achieved new records.

It is notable that even after falls in spot prices during July and August, prices for major Rio Tinto commodities remain either above start of year levels or in excess of their historically high 2007 averages. This suggests that expectations about fundamental strength in these markets remain in place despite current anxieties about global inflation and growth.

Looking forward we remain mindful about the risks to economic activity and therefore commodity markets. But the central scenario for major Rio Tinto metals and minerals is that constrained supply conditions and firm demand from China and other developing countries should create the basis for strong average prices through 2009.

The following points describe the key aspects of the broad medium term central scenario in the context of a complex global macroeconomic and geopolitical environment.

Demand

- The IMF projects that global GDP growth will slow through the balance of 2008 and average about 4 per cent in 2009. The reported consensus forecast is for inflation to decline in most economies while remaining high relative to outcomes in recent years.

- OECD growth is expected to be slow. But by contrast, growth in developing economies is expected to remain strong in absolute terms even though it may decelerate a little.

- In China, which is the most important underlying driver of commodity markets, strong domestic demand conditions and pro-growth policies are expected to allow GDP to expand by around 9 per cent in 2009. High domestically led growth is expected even as exports slow on weaker OECD demand and a stronger real exchange rate.

- Within China, many less developed but highly populated interior provinces are seeing much faster investment growth than the richer coastal regions. For example Henan and Hunan each with populations of more than 60 million saw nominal fixed asset investment rise by about 30 per cent (year-on-year) over the last six months. Given their scope for relatively fast industrialisation and urbanisation such less developed provinces have the potential to add strongly to global commodity demand growth in their own right.

- Notwithstanding the various concerns evident in much recent market commentary, such a global macroeconomic environment creates conditions for firm underlying commodity demand in 2009. This is especially the case for commodities that are consumed in larger proportions within the developing world.

Supply

- Given current high prices, incentives to expand production are great. However, it is likely that the speed of expansions will continue to be limited by constraints on the availability of key inputs, capabilities and skills. One consequence is that pressures on construction and operating costs are expected to persist

- Constraints to expansion can also be expected as permitting and stakeholder issues play an increasingly important role in determining project timing, costs and risks.

- Production disruptions became increasingly important drivers of market outcomes for some minerals and metals during the first half of 2008. The likely persistence of conditions that led to such disruptions will continue to fuel concerns about supply availability.

- Finally, lower grades at mature operations will put pressure on the supply of some commodities.

Prices and risks

- Given expected broad supply and demand conditions, commodity prices would need to remain strong in order to encourage high cost suppliers to remain in production and to discourage demand from consumers with low willingness to pay.

- On this basis, prices of Rio Tinto's major commodities are expected to remain within a historically high range and the central scenario is for average prices to remain substantially above long run trend in 2009.

- At the same time, prices can be expected to fluctuate significantly. This is because most markets are currently tight, perceptions about future demand will shift continuously as GDP growth decelerates and production disruptions can be expected. Volatility is likely to be greatest in markets where funds are most active because their presence allows ever changing expectations about commodity fundamentals to be translated quickly into the term structure of prices.

- Given the complexity of the current macroeconomic and geopolitical environment there are obvious risks to the central outlook on both the upside and downside.

- For example on the downside, if growth in developing countries were to decelerate much more than projected (which could occur if anti inflationary policies were to bite more aggressively than expected) then commodity demand growth would be slower. This would lead to easier market conditions for a period. Of course any subsequent recovery in growth would see a later reacceleration in demand and this prospect could limit the downside on spot prices in exchange traded markets.

- On the upside, it is entirely possible that Chinese GDP growth could stabilise at or near double digits within the next 12 months. That would lead to larger than expected increases in apparent consumption for a range of commodities resulting in even tighter markets in some cases.

The medium term central scenario suggests a sixth straight year of broad price strength. The key debate going forward relates to how much of this strength is medium-term cyclical and how much is long-term structural.

Over the longer run, it is expected that sufficient commodity supply growth will be induced to cause most prices to revert toward more sustainable long-run levels. But ongoing strength in demand, as developing economies urbanise and industrialise, and persistent constraints on the speed at which capacity can expand suggest that it will most likely take much longer for commodity prices to return to long-run levels than would have been the case if historical reversion rates had applied.

Also expected shifts in industry cost structures, for example related to higher long run energy costs, stronger currencies in some countries and new high cost marginal producers, mean that long-run prices and in some instances margins are expected to be significantly higher than would be implied by historical trends.

Looking further forward, the outlook for commodities may begin to be influenced increasingly by a range of 'big picture' developments such as global climate change. In this context, the evolution of carbon constraints could have profound effects on long range price formation for a range of commodities.

Many of the themes raised above have been discussed in some detail in previous Rio Tinto outlook papers. In the remainder of this paper we elaborate further on some specific issues including: the role of regional Chinese commodity demand on global markets; the diminishing role of OECD economic activity in commodity price determination; and supply constraints. There is also a discussion of drivers in key Rio Tinto markets including some commentary on the evolving Pacific bauxite market.

While there are risks, expected macroeconomic developments support a central scenario of firm average demand through 2009

Consensus forecasts for GDP growth and inflation in major economies are shown in the table below and there are two main themes. First, economic activity in OECD countries is expected to be slow due to constrained credit markets, high energy prices and weak consumer confidence. By contrast, growth in developing economies is projected to remain strong in absolute terms even though it may slow somewhat. This outcome is driven mainly by the expectation of continued strong domestic consumption and investment in those countries but slower exports.

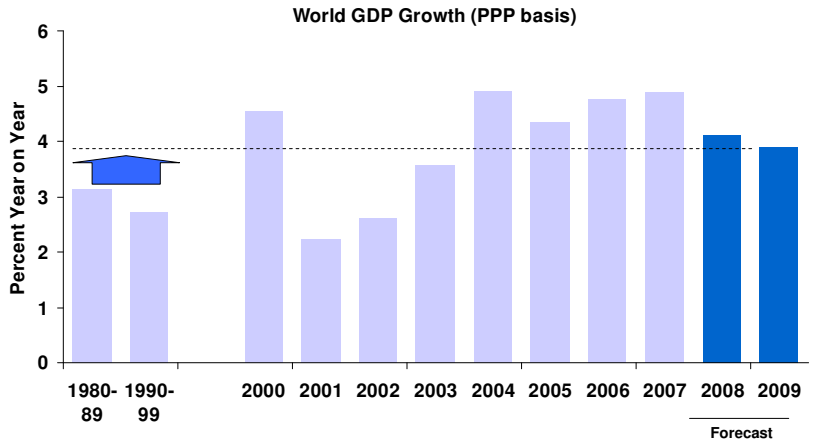
World Economic Activity and Consumer Price Inflation

	Real GDP Growth (per cent increase)		Consumer Prices (per cent increase)	
	2008	2009	2008	2009
China	9.9	9.2	6.9	4.7
India	7.5	7.7	8.1	6.4
Russia*	7.0	6.3	13.7	11.6
Indonesia	5.9	5.7	10.6	8.3
Brazil*	5.1	4.5	5.8	5.4
South Korea	4.4	4.4	4.8	3.8
Taiwan	4.5	4.7	3.5	2.9
Saudi Arabia*	6.8	4.2	11.6	11.25
Germany	2.0	1.1	2.9	2.1
France	1.5	1.3	3.2	2.2
UK	1.4	0.9	3.6	2.9
US	1.6	1.4	4.5	2.9
Japan	1.3	1.2	1.4	0.9

*Source: Consensus forecasts (August 2008), *Global Insight*

At a global level, the IMF projects growth of 4.1 per cent for 2008 and 3.9 per cent for 2009. It should be noted that these rates are high by historical standards even though they are lower than in recent years. The reason for the relatively high projected global growth rate is the increased importance of fast growing developing economies such as China in the world aggregate.

IMF projected growth remains high by historical standards



Source: IMF survey, July 2008

The second key theme in the consensus forecasts is that inflation is projected to abate, but remain above levels seen in recent years. Inflation is a key issue for central banks in both developed and developing economies. Higher hard and soft commodity prices and accommodative monetary policies have combined to raise aggregate prices globally. Countries are now putting in place policies to address inflationary pressures and the strength of these measures will have an important effect on the pace of economic growth during this year and next.

Taken together such macroeconomic conditions are expected to support firm average demand for major Rio Tinto commodities through 2009. Although it should also be expected that apparent demand will fluctuate especially as economies decelerate.

Of course there are risks to this broad outlook based on a range of factors including credit conditions, trade levels and the effects of anti inflationary policies. Illustrating these risks, the range of forecasts for US GDP growth in 2009 is from near zero per cent to more than 2 per cent. For China, growth forecasts range from 8 per cent to 10 per cent. The possibility of such differences in growth and rates of change in growth from current levels generate risks to average demand on both the upside and the downside of our central scenario.

China

Following growth of 11.7 per cent in 2007, Chinese GDP is expected to expand by around 10 per cent in 2008. In 2009 growth is expected to remain strong at around 9 per cent. This is in line with our projections for China's medium term sustainable growth rate. Exports are expected to slow given the outlook for OECD economies and a stronger real currency. But, as argued in previous outlook papers, we expect aggregate domestic consumption and investment to remain more or less resilient to the reduction in export demand.

There is also some uncertainty about the pattern of near term growth due to any 'Olympic Games effect'. Olympics related investment was relatively small and not expected to affect economic growth measurably. But prior to and during the Games, some industrial activity was curtailed in Bejing and its surrounds for environmental reasons. The affected region contributes over 25 per cent of China's GDP. In this context, it is reasonable to expect that there could be a small post-Olympics boost to growth as activity comes back on line.

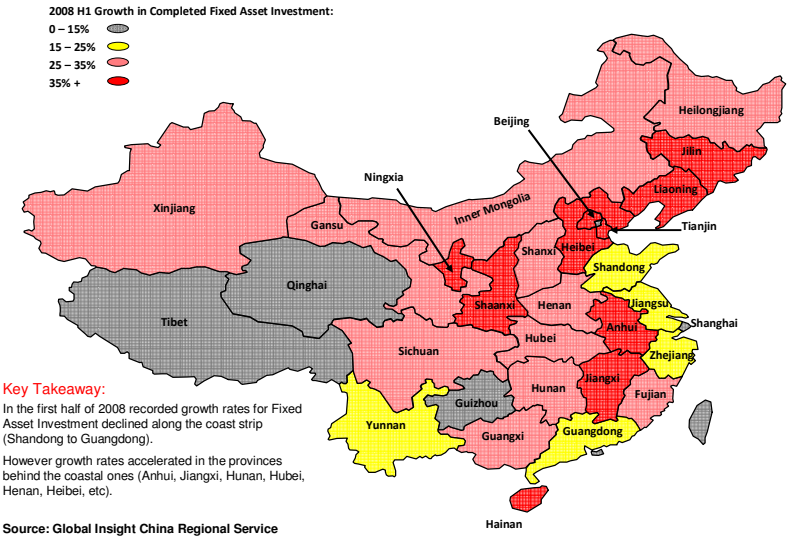
Chinese consumer price inflation has continued to moderate. The latest CPI figure was just above 6% per cent compared with the peak near 9 per cent in February. At the same time export growth has slowed. In this context, government policies are expected to shift back to the traditional bias which favors promotion of growth objectives while remaining vigilant over inflation threats. For example, it is expected that targeted public spending on infrastructure, housing and reconstruction will increase over the next 18 months. At the same time there is expected to be some extension of assistance to export-exposed labour-intensive sectors.

Chinese regions

While Chinese growth is expected to remain strong in aggregate, a key theme in the commodities outlook is the growing importance of regional growth within China. The chart below shows that the less well developed regions of China have recently attracted relatively high growth in fixed asset investment. Over time it is likely that China's less developed regions will have the potential to grow at a more rapid rate than the national average.

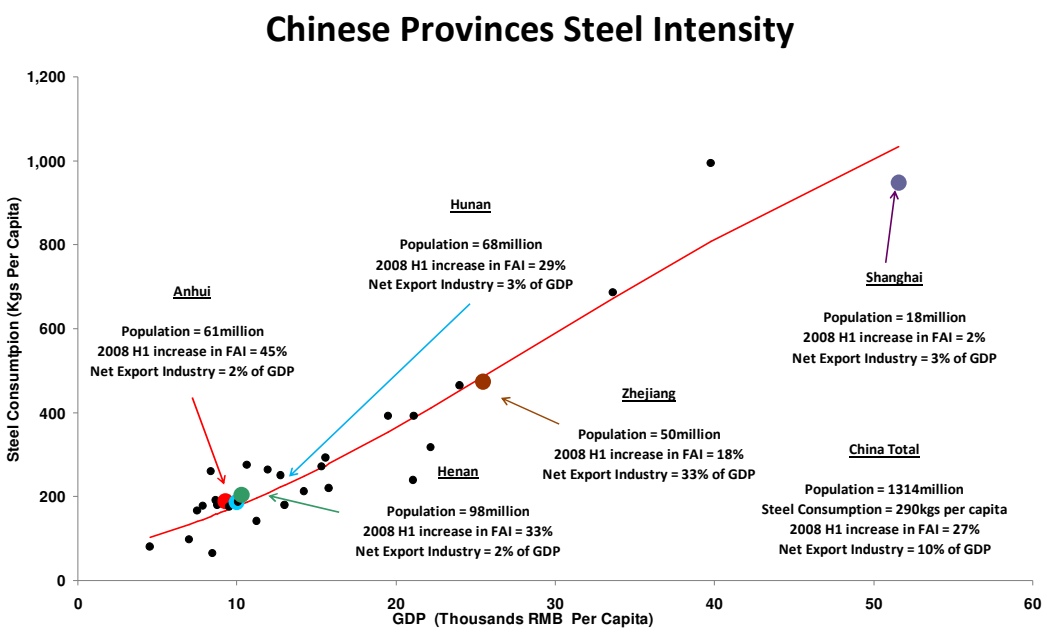
The importance of this dynamic for commodity demand is that it is precisely the less developed regions of China that have most underlying potential for commodity demand growth - both in the near term and going forward.

China Fixed Asset Investment: Province by Province



The next chart summarises the main points. It shows steel intensity against per capita income for 31 Chinese provinces and large cities. As would be expected, provinces with lower per capita incomes tend to have lower per capital steel consumption.

As per capita incomes in these regions increase it can be expected that consumption of steel per person will also grow relatively strongly as suggested by the intensity curve. Of course there will be regional differences based on differences in factors such as climate, proneness to natural disasters and population densities.



A key point is that many regions in the lower part of the intensity curve have large populations. For example, the three regions highlighted (Anhui, Henan and Hunan) have a combined population of more than 200 million. This means that per capita growth in steel consumption in these provinces could translate into substantial absolute demand. For example, if Henan were to achieve the same level of steel intensity as Zhejiang, then its steel consumption would grow by 27mt. Looking further ahead the population density of Henan is nearly double that of Japan. If its steel intensity gravitates to the Japanese level, Henan's steel consumption would grow by 41mt. This growth alone would be more or less equal to all of Germany's current consumption.

Toward the top of the intensity curve are China's three large megalopolises – Shanghai, Bejing and Tianjin. First it should be noted that the steel intensities of these cities, while high, are probably still less than that of Seoul. The government is trying to ease the pressure on these cities by encouraging investment & urban migration to other cities, and this could result in the more rapid emergence of a number of other megalopolises.

Finally, it is important to observe, that the effect of regional growth differences on commodity demand may well be at work in the short term. For example the chart above on fixed asset investment showed that investment growth in the low steel intensity regions is currently outstripping that of the high steel intensity regions. At the same time, it is apparent that these regions are not very dependent on international trade and therefore are more likely to be driven by internal growth dynamics than by changing international trade conditions.

Other developing economies

The Reserve Bank of India has raised interest rates aggressively to reduce inflationary pressures. As a result industrial production is expected to slow to below 7 per cent this year. The consensus projects growth of about 7.5 per cent for 2008 and 2009. Longer run growth approaching 10 per cent is considered possible.

The Brazilian economy is expected to grow strongly in 2008 and 2009. The lagged effect of interest rate cuts from 2005-2007 should encourage investment and consumption in coming quarters.

In the Middle East, growth will be affected by the rate of growth in oil prices and productivity of investments that have been made based on the accumulation of oil wealth. For example the Saudi government is restructuring the economy in order to attract private sector investment and diversify the production base. Continued robust growth is expected in this region although at a slower pace in 2009 than the 2008 average.

United States

US growth has slowed substantially over the last 6 months as falling household wealth, constrained credit conditions and rapidly declining residential construction have taken their toll. Over this period the Federal Reserve has acted and signaled aggressively to ensure resilience in the financial system.

Looking forward the consensus predicts that growth will slow to about 1.5 per cent over 2008 and 2009 as the negative trends seen during the first half of this year persist. The Federal Reserve has signaled that interest rates are on hold as its concerns about growth and inflation are now balanced. But many commentators suggest that if growth weakens as expected, the Fed will lower interest rates further still.

There are three major interlinked uncertainties in this outlook. The first relates to how much credit conditions may change over the coming year. Second there is the extent to which US export growth can offset any reduction in domestic demand and third, there is the speed with which US consumers will reduce consumption and save in order to rebuild wealth.

For metals and minerals markets a more specific uncertainty relates to the speed with which construction may recover as this sector is an important direct and indirect contributor to US commodity consumption. Some analysts forecast that residential construction will pick up next year in advance of any more general recovery in economic activity.

Other OECD economies

Economic activity in Japan has fluctuated sharply over the course of the year with growth of around 3 per cent (annualised) in Q1 2008 followed by a fall of around 2.5 per cent in Q2. The consensus is projecting weaker growth in 2009. Despite the slow growth outlook the Bank of Japan has indicated a shift in interest rate policy to a neutral bias based on concerns about inflation. One notable point from a commodity demand perspective is that housing starts remain weak following changes to the building approval code last year and it is possible that this sector could be among the first to recover.

Growth in Europe has slowed sharply over the course of the year. The credit contraction, high fuel prices and weak housing markets in some economies have affected investment and consumer confidence. The European Central Bank has had a particular focus on inflationary concerns and has not cut interest rates in the same way as the US Federal Reserve. 2009 growth projections for economies in the region are at about 1 per cent.

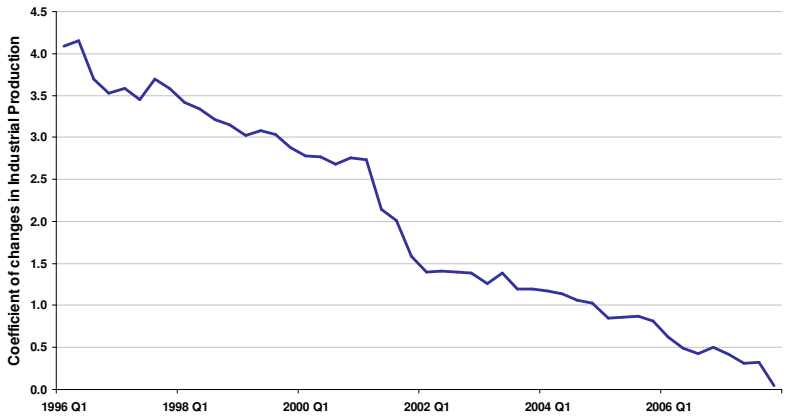
The diminishing importance of the OECD in commodity price determination

In the context of weaker economic conditions in the OECD, it is worth noting that many analysts have observed a significant relationship between activity in developed economies and metals prices. Indeed, relationships between OECD leading indicators of industrial production and prices continue to be quoted in commentary about commodity market expectations.

But since the start of this decade, the growing importance of China and other developing countries means that shifts in OECD output are less likely to have a direct influence on prices than was once the case.

To test the extent of change in the influence of OECD industrial production, we built a simple econometric model. This is based on the conventional assumption that changes in metals prices can be explained by changes in observed physical commodity stocks, US exchange rates, lagged price changes (to pick up the effects of momentum in price determination) and OECD industrial production.

Downward trend in influence of OECD industrial production on metals prices



The chart above shows that OECD industrial production did indeed once have a significant effect on metals prices. For example during the late 1990's, a one per cent fall in OECD industrial production would have led to a relatively large fall in commodity prices. Since 2000, however, it is estimated that the relationship has weakened substantially and the direct relationship between OECD industrial production and prices may now be quite small.

Exchange rates

Finally on the macroeconomic front, over the first half of 2008 the US dollar weakened appreciably against most other currencies driven by expectations that the US Federal Reserve may cut interest rates to address growth concerns while other central banks may raise rates to combat inflationary pressures. Recently, the greenback has regained some strength relative to other currencies on shifting expectations regarding relative interest rate policies.

More specifically, since the start of the year the Australian dollar has gained about 8 per cent against the US dollar; the Chinese RMB has gained 6 per cent, the Euro 7 per cent and the Brazilian real has gained 10 per cent. On the other hand the Chilean peso has depreciated by about 4 per cent, the Indian rupee 9 per cent, while the Canadian dollar has remained largely unchanged.

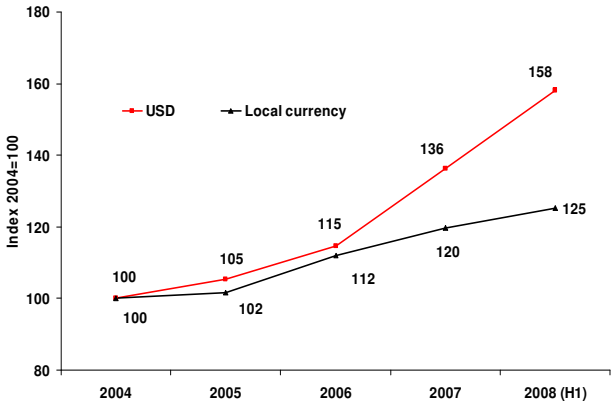
Currency appreciation versus the dollar would have increased average US dollar production costs for many commodities. But at the same time, it could be argued that US dollar weakness would provide some support to prices of commodities that are denominated in US dollars but with large non-US consumption and cost bases. For example, appreciation in the Chinese currency has contributed to increased marginal costs of aluminium and iron ore production, thereby increasing the underlying cost basis for prices.

Going forward, exchange rates are likely to fluctuate on ever-shifting speculation about relative inflation and interest rate policies, ongoing concerns about financial risks and structural imbalances, policy decisions in the case of managed currencies and commodity prices in the case of large commodity exporters.

Cost increases, expansion constraints and more difficult ore body conditions create the basis for tight supply conditions

On the supply side of commodity markets, escalating operating and construction costs have been key themes. To give an indication of the pace of the growth in capital costs, the following chart shows an estimate of the unexpected increase in project costs in Western Australia during the construction phase. It gives a measure of capital cost overruns for a range of resources projects. Capital costs have consistently exceeded project cost estimates for all years since 2004, and this trend has been increasing. Project start and completion dates have also been stretched due to physical constraints. Cost escalation in Western Australia has been particularly acute given the concentration of project activity in the region. Clearly the increasing strength of the Australian dollar relative to the US dollar has accentuated cost increases as measured in US dollar terms.

Western Australia project capital cost overruns 2004-08



Source: Company reports
Index shows project cost overruns across a range of Western Australian natural resource projects during construction phase.

More specifically, a global shortage of engineering, procurement, construction management (EPCM) capability is driving up project costs in a number of ways. Limited availability of construction and services suppliers has caused an increase in project lead times, while the shortage of adequate skilled engineers has increased the amount of design and rework at the early project execution phase.

EPCM companies also have to compete for the same pool of skilled engineers and managers as mining companies. In this context, the availability of project managers and process engineers is the most critical shortage and it is expected to take some time for this to be relieved. Given the slow employment rates following earlier years of low commodity prices, there are now fewer managers and engineers moving through to senior roles and at the same time a large proportion of the skilled labour force is approaching retirement age.

Operating cost increases are also ongoing with higher energy, raw materials prices and rising labour and contractor rates. In addition to which there are a number of factors that are indirectly driving up costs:

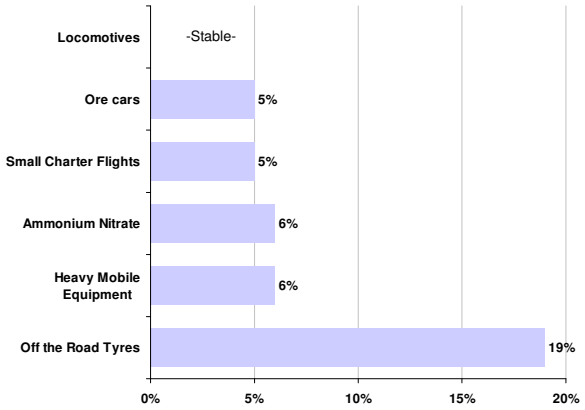
- Increased shortages of input material availability have at times led to the temporary sourcing of supply from uncommon providers. The increased transportation distances for some of these inputs further increases its cost.

- If sourced from less reliable suppliers, the reduced quality of some temporary sources can have the added effect of reducing mine productivity. Productivity has been further hampered by the higher than normal lead times for key equipment pieces due to bottlenecks in the supply chain.

- While shortages in skilled labour availability are leading to higher labour costs, increased employee turnover is also having an indirect impact. Higher attrition among contractors can lead to higher payouts of agency hiring fees, general hiring costs for sourcing and selection and some productivity losses.

Price increases seen for some raw materials in particularly short supply in Australia are outlined below. It should be noted that the impact of costs increases for Rio Tinto has been limited through contract agreements for key supply pieces.

Australia – Key input price increases through H1 2008 (US$)

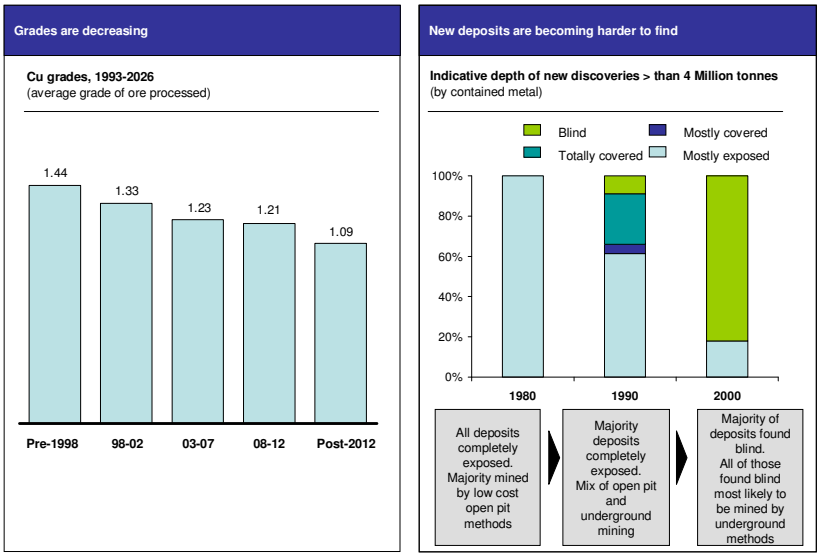


Source: Rio Tinto Procurement

Mining and resource constraints

As a general point, it is clear that existing operations are facing difficulties in increasing output and one source of this has been declining grades. This is illustrated most clearly in the case of copper for which grades have been declining progressively.

Looking to the longer term, it is also evident that resource discoveries are becoming more difficult. In previous outlook papers this point has been shown in the case of diamonds where the discovery of Kimberlites has been declining over time. The following chart shows that new large copper deposits have become harder to find. Not only has the rate of discovery of large and easy-to-mine ore bodies been declining but deeper deposits will necessitate more challenging underground mining methods to exploit future resources.

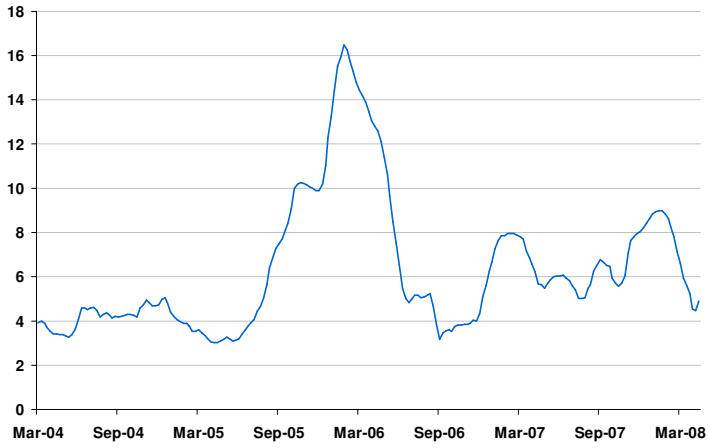


Source: Brook Hunt; Rio Tinto Exploration

Demand and supply conditions support a sixth straight year of strength in commodity markets in 2009 as the central scenario

Currently most prices for major Rio Tinto commodities are higher than start-of-year levels and they are mostly above the levels seen in 2007. This suggests that market conditions for these commodities remain strong. At the same time, the chart below shows that price volatility since the start of 2008 is in line with volatility observed over the past few years.

Metals Price Volatility



Source: Economist Metal Price Index. Volatility is measured as ratio of the standard deviation to mean over six-monthly (moving) averages.

The following few sections address specific issues relating to a range of commodities produced by Rio Tinto.

Aluminium

LME 3-months aluminium prices rose from about $2,400/t at the start of the year to over $3,200/t by early March and averaged around $3,000/t throughout the second quarter. Prices over the first half of this year were 2 per cent higher than the average for the first half of 2007.

Supply disruptions have been an important source of price support. Weather and power related disruptions in China and South Africa at the start of the year resulted in a production fall of over 700 thousand tonnes on an annualised basis in the first quarter. Output at affected Chinese smelters has been recovering gradually but power concerns have re-emerged raising prospects of further production cutbacks.

Rising raw materials costs have also supported higher aluminium prices so far this year. Prices for carbon materials have surged and spot alumina prices have remained near $400/t, despite new Chinese supply, as refineries face higher delivered bauxite, caustic soda and energy costs.

The extent of production cutbacks at some of China's largest smelters remains unclear and will be a key driver of supply strength over the remainder of the year. More capacity is expected to come on stream in China in 2009 as several expansions are underway, although here again it is possible that power issues could lead to commissioning delays in some cases. Meanwhile, average prices are expected to continue to be supported by high marginal costs, with upside reflected in a supply risk premium associated with the possibility of further power-related disruptions.

On the demand side, global aluminium demand growth in 2008 is slowing following a record 10 per cent increase in 2007. Chinese primary aluminium consumption is expected to be around 18 per cent and demand remains strong in the Middle East, Russia and parts of Latin America. In OECD economies demand has weakened in line with their overall growth.

In 2009, demand is expected to be strong in China and other developing countries In OECD economies a phase of restocking activity ahead of expectations of a pick up in economic activity in the US and Western Europe towards the end of 2009 could lead to stronger global demand again next year.

Looking further forward, energy constraints and underinvestment in power infrastructure in key aluminium producing regions around the world have become more apparent in recent months. As a result, the opportunity cost of power for industrial users around the world is rising. Therefore, while China continues to add new aluminium smelting capacity in the medium term, the operating cost of this new supply is very likely to remain high. Meanwhile, options for new capacity elsewhere may be becoming increasingly limited.

Expectations of continuing increases in power and other operating costs, along with higher capital costs for greenfield projects and expansions, have generated record far-forward aluminium prices.

Asia-Pacific Bauxite

High levels of integration continue to be observed in the bauxite and alumina part of the aluminium value chain where integration between mines and co-located refineries has been designed to reduce bauxite freight costs.

But the rapid construction of alumina refineries in the coastal province of Shandong in China without any in-situ bauxite source or secured long term bauxite arrangements has challenged the upstream integration model. This has created a rapidly growing trade in bauxite in the Asia Pacific region with Chinese imports reaching about 23 million tonnes in 2007 and averaging an annualised rate of 27 million tonnes so far in the first half of 2008.

High freight costs impact supply of bauxite from the Atlantic region and while these costs persist, limit the number of bauxite supply options for Chinese refineries. Indonesia has been the predominant source to date with significant imports from India as well. Bauxites from these locations are suitable for a low-temperature refining process. However, some refineries have more recently added high-temperature lines and are planning line conversions.

The limited supply options combined with a rapid growth in demand have caused prices for traded bauxites imported into China to double over the past couple of years from $30-35/t in 2006 to $60-70/t in the first half of 2008.

About 14 million tonnes of alumina was produced from domestic Chinese bauxites in 2007 and a significant amount of new capacity is expected to come on stream over the next two to three years. The overall size of China's bauxite resources are not well defined as domestic resources are fragmented into several small to medium scale deposits. However, bauxite grades are anticipated to be falling and the scope for further expansions beyond what is being planned is likely to become more limited. Given these restrictions, there is a strong probability that the growth in alumina production based on Chinese bauxite will not be able to match the growth in Chinese aluminium demand through to the middle of the next decade.

This could create opportunities for coastal refineries using imported bauxites to add more capacity in the medium term. Over that timeframe supply options will continue to be limited as high freight costs will continue to make imports of bauxites from Africa and Latin America prohibitive and options for the rapid development of green field bauxite deposits in the Asian region remain low. For example bauxite resources in Vietnam are significant but in remote and difficult terrains which would require significant infrastructure investments to be made available to the traded market. Meanwhile question marks remain regarding the reliability and sustainability of Indonesian bauxite exports. This suggests substantial potential for a growing role for Australian bauxites in China going forward.

Copper

In the first half of 2008 the LME cash copper price was 19 per cent higher than in the same period last year, a strong performance given slowing OECD growth. A weaker US dollar has contributed with the trade weighted dollar falling by 11 per cent in the period. With tight markets flow of investment money contributed to price volatility. But the fundamentals have been a re-run of recent history, with supply falling short of plans serving to offset weaker than expected demand. Indeed, some of the demand weakness has been a function of high prices as high prices have been required to discourage consumption from consumers with limited willingness to pay in a tight environment.

Copper prices have slipped back in the last month from the all time high of $4.07c/lb hit in early July. Seasonal demand weakness has been compounded by the effects of expectations of weaker economic growth and a stronger US dollar. But the low absolute level of stocks and more news of production shortfalls have discouraged heavy short selling. An analysis of co-movements in Shanghai and LME prices shows that in recent times, LME prices have moved more aggressively than Shanghai prices to close gaps between the markets - a phenomenon that appears to have repeated this summer.

Even with prices reaching record levels, China's influence on the copper market has been much less positive so far this year than in the same period last year. In the first half of 2008

imports of cathode and semis fell year-on-year (by 26 per cent and 19 per cent respectively). By contrast imports of raw materials have been strong, with scrap up 11 per cent and concentrate up 18 per cent. The increase in raw materials imports has enabled refined output to increase by over 15 per cent, and some of the scrap will have been used to substitute for more expensive cathode in semis production, both factors reducing the requirement for imports. China's cathode imports are typically volatile, and they may rise in the second half all other things being equal. In this context it is notable that the gap between Shanghai and LME prices has now closed.

Data on mine output in the first half of 2008 suggests it was modestly lower than in the same period last year, and there were some substantial shortfalls. Strike action continues to affect production in some cases as does the ongoing effect of grade declines. Delays and slow ramp ups at new operations have featured in recent news. An increase in output from some medium sized new mines is expected in the second half. But increases in aggregate output will depend on performance at existing mines.

The impact of slow growth in mine output on the refined copper market has at least partly been offset by a large increase in the use of scrap. Between 2003 and 2007 global mine output rose 1.7Mt or just 12 per cent according to the ICSG. Total scrap use has probably grown by more than that, with recovery of scrap at smelters and refineries up 1mt in the same period (an increase of over 50 per cent) and a further increase in the direct use of scrap by fabricators of a similar tonnage. The increase was from a low point in the scrap cycle, when prices hit rock bottom, and has been assisted by structural changes which have increased the recycling rate. But the near term outlook is for much slower scrap growth, and therefore the market is expected to become more reliant on mine production growth than in the last five years.

Iron Ore

In the context of tight markets, Australian producers negotiated benchmark price increases for iron ore of 80-97 per cent in June. This closed some of the freight differential with Brazilian ores.

Reported domestic Chinese production of iron ore concentrates plus seaborne imports has increased by 19 per cent this year, outpacing the rise in domestic crude steel production. One consequence of this has been an accumulation of iron ore stocks held at port. But while stocks held at 18 major ports amount to 60-65 million tonnes that total still only represents one month's total demand. Moreover, the true supply position may be tighter than these figures imply as iron ore mined domestically is suffering from falling grades.

The other consequence of falling domestic grades, along with a stronger renminbi, has been that domestic Chinese costs are continuing to increase. This is providing further support to spot iron ore prices, which have remained in a range of $175-200/tonne this year.

Trends in the steel industry have to date weathered the slippage in global growth, with prices rising progressively over the first six months despite a 6 per cent year-on-year rise in global steel production. It has been notable that in contrast to some base metals, apparent consumption of steel in China has actually been picking up rather than slowing down this year. Demand in the first half was up 17 per cent year-on-year. This reflects firm construction activity but may also be a truer picture of underling metals demand growth in China than apparent consumption figures for other markets, since year-on-year comparisons for some of these other metals can be distorted more by stocking and destocking patterns.

After flattening off during 2007 month-on-month growth in Chinese crude steel production has picked up again, supported by rising demand and improved prices and as bottlenecks ease. Chinese steel output grew 9.4 per cent in the first half of 2008 and now amounts to nearly 40 per cent of total global production.

The gap between domestic supply and demand trends resulted in a 20 per cent decline in Chinese steel exports in the first half. Although production in other regions was up, the fall in Chinese exports has provided the impetus for higher global prices through the year.

Thermal coal

Growth in demand for internationally traded thermal coal remains strong while supply fails to keep pace due to infrastructure and weather-related events. Newcastle coal prices started the year at a record US$90/t as there were three major shocks to available seaborne supply. These were: Chinese snow; flooding in Australia; and South African power cuts. The subsequent April settlements saw coal prices increase by 125 per cent to US$125/t. Market tightness saw spot prices peak at US$201/t in July before easing back to around US$150/t, 70 per cent up on the year and 135 per cent greater than the 2007 average.

Chinese coal supplies remain tight as coal production lags demand and transport infrastructure is stretched. The resulting lack of coal has resulted in occasional power shortages and coal stocks remain at low levels. In June thermal coal prices were capped at key Chinese ports, acting as a disincentive for exports. China remains a net exporter but delays to additional export licences will further restrict Chinese seaborne supply.

Australian infrastructure remains constrained but considerable port and rail expansions have been announced, for example Queensland has plans to spend A$9bn on coal transport infrastructure in order to allow a doubling of exports within 20 years. Australian thermal exports increased by about 3 per cent in H108, but shipments from Hunter Valley continue to favour higher margin semi-soft coking coals at the expense of thermal exports. Port congestion at Newcastle has eased from previous very high levels but remains around 25-35 ships.

South African ‘load shedding’, mine stoppages and a 10 per cent reduction in power have all contributed to lower South African coal exports for H108. Exports through Richards Bay were nearly 8 per cent lower than H107 and are 25 per cent below nameplate port capacity.

Indonesian exports are currently 13 per cent down, partially due to a prolonged wet season. Vietnamese exports, mostly anthracite to China, are down 19 per cent and look to struggle in H208 as typhoon damage has severely reduced export capacity.

Conclusion

It is important to remain mindful of the near term macro-economic risks relating to OECD growth and global inflationary pressures. But even in this context, the IMF expects world growth to remain near 4 per cent this year and next, which is high relative to historical outcomes.

In this setting, firm commodity demand growth from China and other developing countries would be expected over 2009 and supply growth is expected to remain relatively constrained.

Our central case therefore is that prices for Rio Tinto commodities can be expected to remain in a high range over the coming year averaging at levels well above long run trend.

This would be a sixth straight year of strong prices – a period of strength that would be unprecedented in the past one hundred years, reflecting ongoing rapid industrialisation and urbanisation in the developing world.

Forward-Looking Statements

This production includes “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements other than statements of historical facts included in this production, including, without limitation, those regarding Rio Tinto’s financial position, business strategy, plans and objectives of management for future operations (including development plans and objectives relating to Rio Tinto’s products, production forecasts and reserve and resource positions), are forward-looking statements. Such forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of Rio Tinto, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements.

Such forward-looking statements are based on numerous assumptions regarding Rio Tinto’s present and future business strategies and the environment in which Rio Tinto will operate in the future. Among the important factors that could cause Rio Tinto’s actual results, performance or achievements to differ materially from those in the forward-looking statements include, among others, levels of demand and market prices, the ability to produce and transport products profitably, the impact of foreign currency exchange rates on market prices and operating costs, operational problems, political uncertainty and economic conditions in relevant areas of the world, the actions of competitors, activities by governmental authorities such as changes in taxation or regulation and such other risk factors identified in Rio Tinto's most recent Annual Report on Form 20-F filed with the United States Securities and Exchange Commission (the "**SEC**") or Form 6-Ks furnished to the SEC. Forward-looking statements should, therefore, be construed in light of such risk factors and undue reliance should not be placed on forward-looking statements. These forward-looking statements speak only as of the date of this production. Rio Tinto expressly disclaims any obligation or undertaking (except as required by applicable law, the City Code on Takeovers and Mergers (the “**Takeover Code**”), the UK Listing Rules, the Disclosure and Transparency Rules of the Financial Services Authority and the Listing Rules of the Australian Securities Exchange) to release publicly any updates or revisions to any forward-looking statement contained herein to reflect any change in Rio Tinto’s expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based.

Nothing in this production should be interpreted to mean that future earnings per share of Rio Tinto plc or Rio Tinto Limited will necessarily match or exceed its historical published earnings per share.

None of Rio Tinto, any of its officers or any person named in this production with their consent or any person involved in the preparation of this production makes any representation or warranty (either express or implied) or gives any assurance that the implied values, anticipated results, performance or achievements expressed or implied in forward-looking statements contained in this production will be achieved.