

Steel market situation: survey by UK Steel

Summary

Principally as a result of the dramatic increase in Chinese steel consumption, supply shortages of vital steelmaking raw materials have begun to emerge. These shortages together with other pressures are rapidly driving up steel production costs and could in the medium term lead to steel product shortages unless customers right down the supply chain accept the necessity for steel price increases.

The China effect

China now accounts for 29% of world steel demand, which is virtually double what it was just four years ago. Demand growth in 2003 was 22%, and is forecast to continue, albeit at a slightly slower pace, in the current year:

Million tonnes per annum

	2000	2002	2003		2004*	
	MT	MT	MT	c.f. 2002	MT	c.f. 2003
Demand for finished steel products	142	211	257	+22%	290	+13%

Source: ISSB

*Forecast based on International Iron and Steel Institute data.

While China is still a major importer of steel, it has also been rapidly increasing its internal capacity and output. China is now the largest producer in the world, accounting for 23% of total output. With roughly 90% of its production capacity based on the integrated blast furnace/BOS vessel process route, this has resulted in turn in dramatically increased requirements for iron ore. While China does have its own iron ore resources, availability is restricted by the poor Fe content of local ore, and the fact that the more easily accessible sources are already being exploited. Thus the growth in China's purchases of iron ore on world markets has even outstripped the growth in steel production. Although its scrap requirements are very much lower, as a developing country its internally-generated resources are insufficient, and it needs to import around 20% of its requirements – from world markets where supplies are becoming increasingly tight (see below).

Million tonnes per annum

	2000	2002	2003		2004*	
	MT	MT	MT	c.f. 2002	MT	c.f. 2003
Crude steel production	127	182	220	+21%	265	+20%
Iron ore imports	70	112	148	+32%	200	+35%
Ore imports as share of total requirements	24%	30%	33%		37%	
Scrap imports	5	8	9	+18%	11	+20%

Source: ISSB

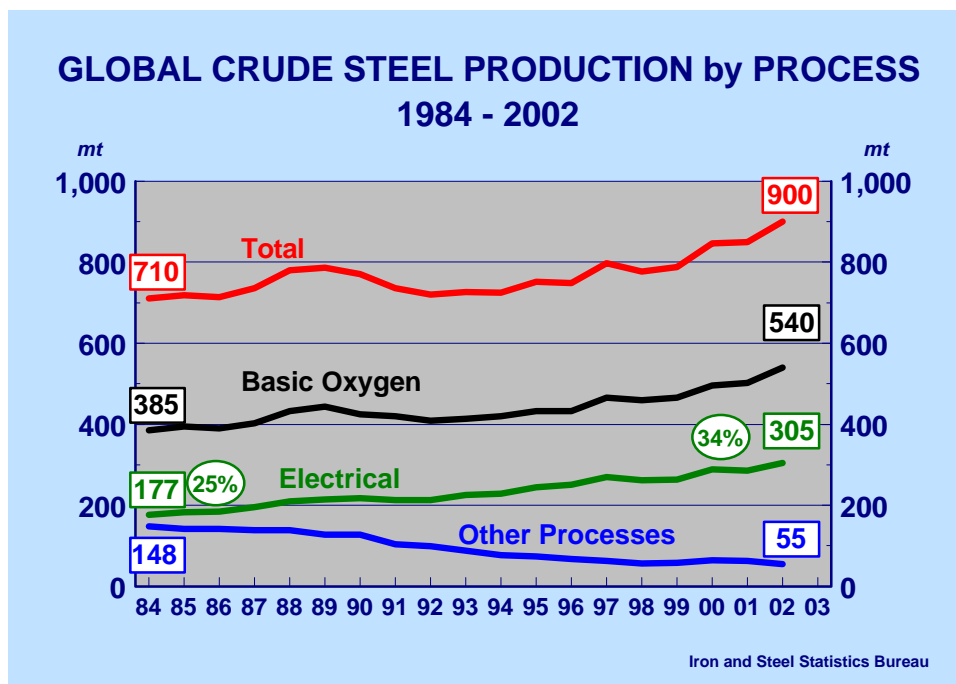
*Forecast based on World Steel Dynamics data.

Chinese demand is also causing tightness of supply for other steelmaking raw materials such as coke, and for the availability of the type of shipping used to transport ore and coal.

Other factors

Although China is the most significant factor, other developments have also combined to increase the pressure on raw material supplies and steelmaking costs:

- **Scrap** – An increasing proportion of steel is being made through the electric arc furnace (EAF) route. This is a world-wide phenomenon. In the mid-1980s, 25% of global steel was produced using the EAF route, compared with 34% now.



Steel scrap is the normal charge for EAFs. Countries undergoing rapid industrialisation (such as China and India, but also countries closer to home such as Spain and Turkey) will generally have insufficient domestic scrap arisings to meet their needs.

Scrap supply shortages are particularly acute in the USA, where leading EAF producers have even called for the US government to introduce a ban on scrap exports.

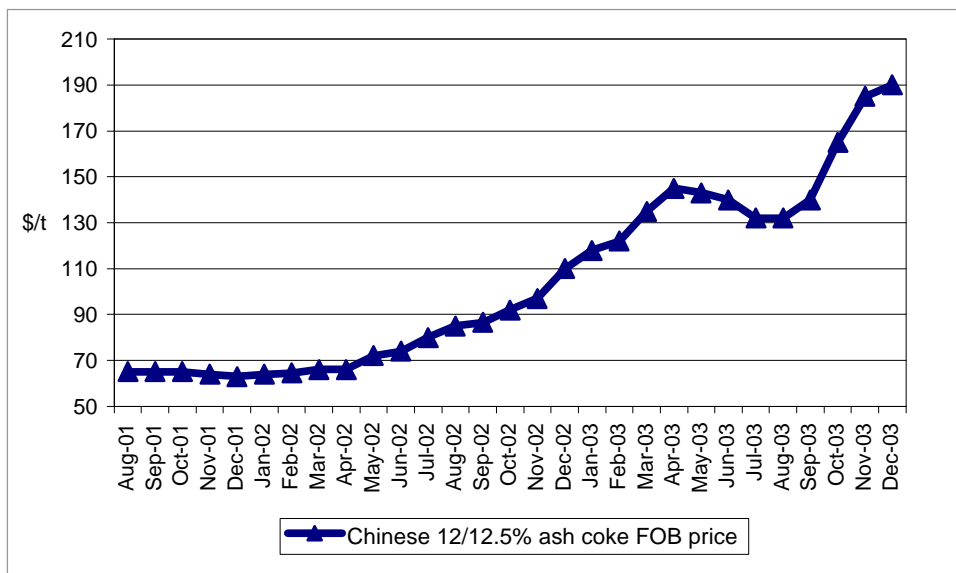
- **Coke** – While Chinese demand is again a factor in the developing world-wide coke shortage, environmental concerns in some western countries mean that security of supply has become a longer term concern for integrated steel companies that do not produce sufficient quantities of coke internally. Again, shortages are currently particularly acute in the USA, where the country's largest coke producer (US Steel's Clairton plant) has been forced to declare *force majeure* on external sales contracts as a result of a fire last September at the Pinnacle coal mine in West Virginia which has caused it to cease production.

- **Energy** – Environmental legislation in EU countries plus an increasing reliance on external sources are rapidly driving up energy costs for EU industry.
- **Ferro-alloys** – Commodity prices for alloys such as nickel – used in the production of stainless steel – are currently extremely volatile.

Raw material price impacts

Unsurprisingly, the tight markets across the whole range of steelmaking inputs are driving up prices – in some cases to alarming levels.

- **Iron ore** – Within the past two weeks, Arcelor (the world's largest steel company) and the Japanese steel producers have both conceded an 18.6% price increase for this year's iron ore supply contract. This has clearly set the benchmark for other companies' negotiations.
- **Coke** – traded coke prices have risen by 217% since December 2001.



Source: Corus/Resource.net

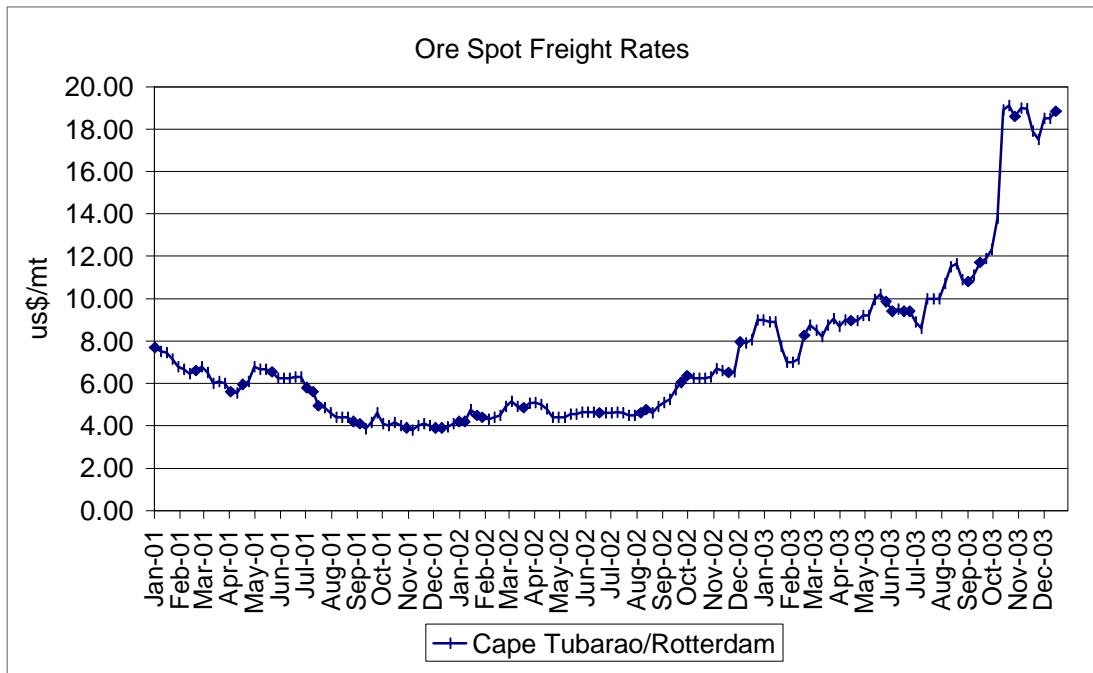
- **Scrap** – Prices across the world have risen rapidly in recent months. For example:

	June 2003	December 2003	% Change
Germany – Grade E3 demolition scrap	€110	€143	+30%
Spain - Grade E3 demolition scrap	€123	€161	+31%
UK - Grade E3 demolition scrap	€99	€138	+39%
USA – No. 1 heavy melting scrap	\$104	\$156	+50%

Sources: Eurofer, US press reports.

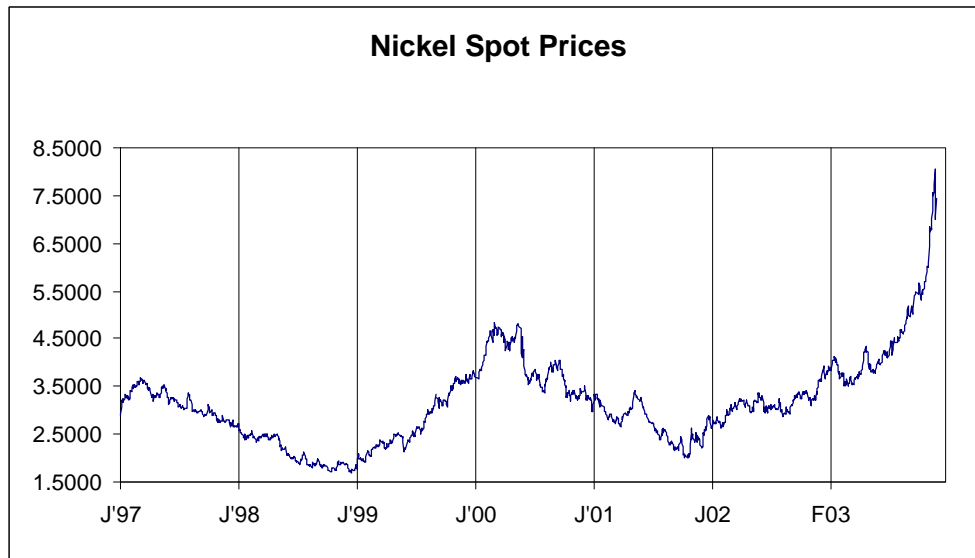
- **Shipping** – High Chinese demand for imported ore, together with congestion at ports unable to cope with the throughput, have combined with higher trade in steam coal and limited supply of new vessels to create a surge in the cost

of shipping iron ore and coal. Spot rates have risen by 280% over the past 15 months, and by 75% alone since September 2003.



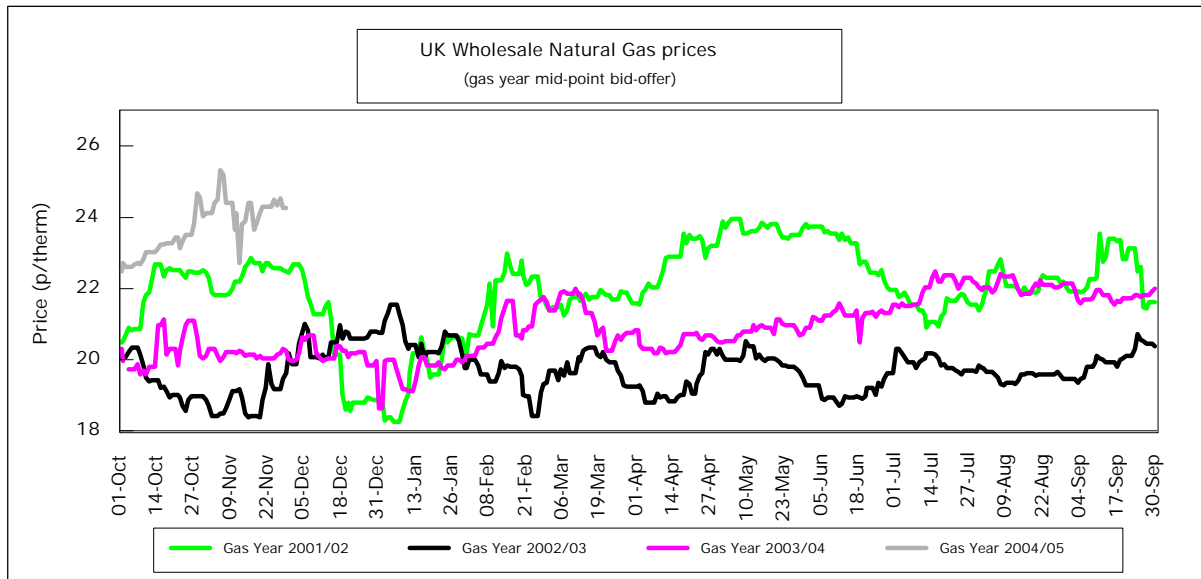
Source: Corus/SSY

- **Nickel** – Prices have been rising since the middle of 2002, and have become extremely volatile in recent weeks.



London Metal Exchange spot prices. Source: Outokumpu Stainless.

- **Energy** - UK wholesale electricity prices rose 40% in 2003, and forward markets show a further 15% increase in 2005. Industrial gas prices remain high across the EU, in line with oil prices, to which they are indexed, and increased demand (as a lower carbon substitute for oil or coal use, especially in generation), coupled with declining North Sea production, will ensure prices remain high.



Source: Corus/Heren report

In summary, the rapid and substantial increases in prices across the whole range of steelmaking inputs is unprecedented. Increases of this magnitude have been too great for steel companies, already working with tight margins, to absorb.

Impact on steel prices and availability

The result has been rapid increases in steel prices across world markets as steelmakers have sought to pass on their rising costs. This development has been most marked in products that are widely traded on spot markets. One example is billet, a semi-finished product purchased by steel companies for rolling into "finished" steel products such as rod, bar and sections. Spot prices for billet in Far Eastern markets have risen by 25% to 30% in just four months - from \$280/\$290 per tonne C&F in October 2003 to \$350/\$375 in January (source: Steel Business Briefing).

Price increases have not of course been confined to the spot market. Many steel companies have started imposing raw material surcharges. Although this has been a longstanding practice for alloy steel producers (with nickel surcharges for example), this is a new phenomenon for carbon steels. For example Arcelor is currently imposing a scrap surcharge of €39 per tonne for beams, while Corus Engineering Steels has introduced a supplemental charge of £23 per tonne for its UK customers (€33 for EU shipments). Other companies (including other divisions of Corus) have applied increases to their base prices.

Reactions in the USA have been even more dramatic. For example, prices quoted by leading US producers for flat products have surged by up to 55% since November:

	November 2003	January 2004 (including surcharges)
Hot rolled coil	\$280	\$450-\$480
Cold reduced coil	\$360	\$530-\$560
Hot dipped galvanised sheet	\$375	\$550-\$600

Source: International Advisory Services Group

A survey by UK Steel of those of its members who purchase semi-finished steel and steel mill products for further conversion into downstream products such as wire, bright bars and tubes, has shown average increases in January in the price they are charged for steel (including surcharges) in the following ranges:

Wire rod	5% - 10%
Billet	10% - 15%
Hot rolled coil	5% - 10%
Engineering bar	10% - 15%

While availability of steel from UK producers is not currently a problem, a number of Continental producers have started restricting their supplies to the market. Beltrame/Laminés Marchands Européens (LME) – the EU's largest producer of merchant bars with plants in Italy and France – informed its customers two weeks ago that it had stopped taking orders for until further notice, due to uncertainty about scrap prices. (SBB: 16th January.) This would appear to be an attempt to shorten lead times so that LME can adjust its prices more responsively to future scrap price rises.

Similarly, the Italian/Swiss/Belgian company Duferdofin has announced that it is to stop rolling for at least one week in every month "until further notice", due to a chronic shortage of available scrap. Its intention is to focus production on only those products/sizes where it is able to make a satisfactory margin over the cost of scrap. (SBB: 19th January).

Outlook

Steel demand growth in China is forecast to continue to be strong this year – at 13%, down slightly on 2003 growth – and into the medium term. Industrial output in the US is now rising strongly; and economic recovery in the Eurozone is anticipated for the second half of this year.

This will increase the pressure on iron ore and other raw material supplies and the availability of shipping. While the world has plentiful iron reserves, it will take some time before new sources can be developed to meet demand. Similarly, shipping costs will only ease once new bulk carriers have been built.

Again, there is no sign that the long term trend towards the EAF process route gradually taking over from the integrated route is about to end. Scrap resources are finite – they depend on the level of industrial and infrastructural development in previous decades. If scrap prices do continue to rise, the point will be reached where alternative types of Fe furnace charges (such as direct reduced iron) become economically more attractive. These alternatives however all require iron ore as their feedstock.

Conclusion

Steel prices have risen sharply in recent weeks, and are set to continue to rise into the medium term, in reaction to the rapid rise in all major input costs. In the short term, only a sudden downturn in Chinese economic growth is likely to reverse this.

Steelmaking capacity is not of itself an issue, particularly in the EU. However, unless steelmakers and the downstream steel processing companies can recover these increased costs, steel shortages will develop, as companies focus on business with

the best margins and phase out production of marginal products. Shortages will initially appear in the spot market for semi-finished steel products (indeed, there are some signs that this could already be happening), but will gradually move downstream. These pressures need to be understood along the entire length of the steel supply chains.

28 January 2004