AN ASSESSMENT OF THE SUPPLY-DEMAND BALANCE FOR THE MAIN STEELMAKING RAW MATERIALS

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Steelmaking raw materials

• A sharp increase of steelmaking raw materials demand
• Adverse supply-side factors
• New trends
  – Iron ore
  – Coking coal
  – Ferrous scrap
• Issues for discussion
Steelmaking raw materials demand sharply increased between 2002 and 2011

• All large producers (excl. Russia, Ukraine) rely on iron ore or coking coal imports.
• Some EAF producers, especially Turkey, rely on ferrous scrap imports.
• Steelmaking raw materials trade (2002-11)
  – Iron ore trade increased by 112%.
  – Coking coal trade increased by 57%.
  – Ferrous scrap trade increased by 75%.

Chinese steel production and iron ore imports (mmt)

• Iron ore imports increase was driven by the fast growth of Chinese steel production.

Sources: UNCTAD, World Steel Association
Adverse supply-side factors

• **Weak investments in mining in the 1990s,**
  – because of the low level of commodity prices, ...
  – ... led to undercapacity in the 2000s
• The **steepness of the cost curve** for high-cost iron ore producers.
• **Climatic problems.**
  – e.g. the floods in North-West Australia in early 2011
• **OECD, Economics of export restrictions as applied to industrial raw materials, 2013.**
  – They lead to higher prices and lower exports.
  – They negatively impacts future production.

Ratio of a steelmaking raw materials basket cost to the price of hot rolled coil (%)

• The sharp price increase of steelmaking raw materials was a major change for steelmakers.

![Graph showing the ratio of steelmaking raw materials basket cost to the price of hot rolled coil (1995-2012)](Sources: OECD calculations, CRU)
New trends

• On the demand side: **expected Chinese steel production slowdown**,  
  – but with increasing dependence on foreign resources;  
  – Brazil and India will contribute to coking coal demand.

• On the supply side: **large announced capacity additions** between 2013 and 2017:  
  – 80% of current iron ore mining capacity,  
  – 26% of current coking coal mining capacity.  
  – But, not all the announced projects will come on stream;  
  – Increasing capital costs of new mining activities;  
  – Depletion of existing mines.

Cumulated new iron ore capacity announced (mmt)

• 2,070 mmt of new iron ore mining capacity announced for 2013-2017

Source: Metal Bulletin Research
Iron ore mining capacity by region (Share of world total, in per cent)

- Largest contributors: Brazil, Australia.
- New players expected in Africa and South America.

Iron ore needs by the steel industry and implied expected iron ore production (mmt)

- Supply expected to exceed demand at least up to 2015.
Cumulated new coking coal capacity announced (mmt)

- Largest contributors: Australia, Mongolia, Colombia, Mozambique.

Coking coal mining capacity by region (Share of world total, in per cent)

- The share of China in global coking coal mining capacity is expected to decrease from 50% to 40%.
Coking coal needs by the steel industry and expected coking coal production (mmt)

- Supply expected to exceed demand at least up to 2014.

Sources: Metal Bulletin Research, IEA, OECD

Global ferrous scrap needs by the steel industry (mmt)

- Scrap requirement is expected to increase by 120 mmt from 2011 to 2017.

Sources: BIR, OECD
Issues for discussion

• Which factors could curb the expected change in terms of the supply/demand balance situation?

• If proved true, will these scenarios contribute to improve the situation of the steel industry?

• Can the increasing use of gas-based DRI be a major factor affecting steelmaking raw materials demand in the coming years?

• Can scrap generation increase fast enough to match the future needs of EAF producers?

Iron ore spot price, delivered in China, from Australia, cost and freight

In USD per tonne

Source: Datastream
Iron ore spot price, delivered in China, from Australia, and Asian steel PMI

Sources: Datastream, Markit

Prime coking coal, delivered in China, from Australia, cost and freight

Source: Datastream
Scrap price (HMS 1/2 80:20), Turkey import, CFR Turkish port

In USD per tonne

Source: SBB