



New Competitive Realities in Steel: Cost Leaders in the New World

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Steel Business Briefing
www.steelbb.com

**SBB Steel Markets Asia
Conference**

15-16 November 2005

**Taj Lands End Hotel
Mumbai, India**



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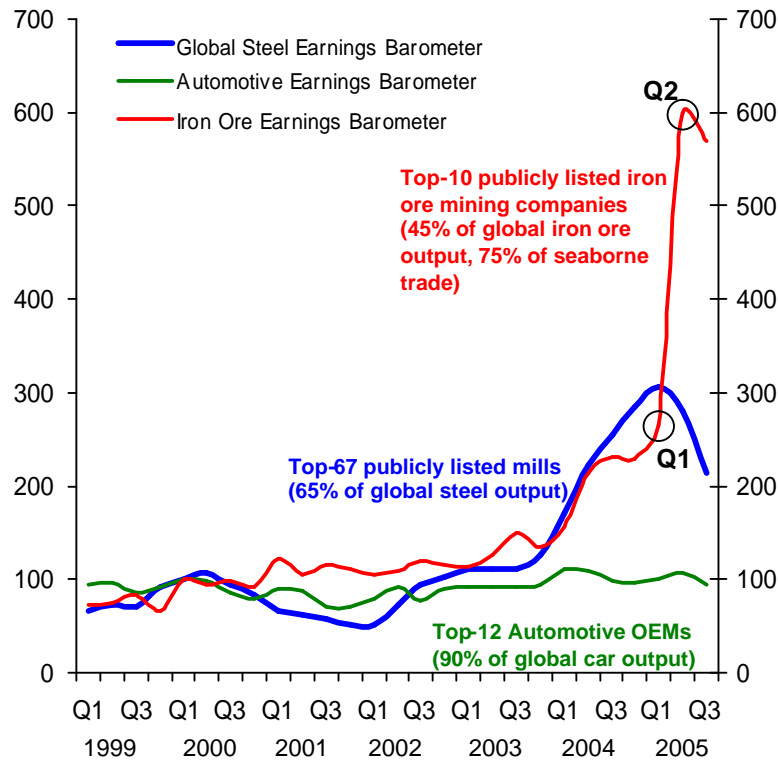
- **Introduction**
- Raw materials
- Labour
- Energy
- Conclusions

Though raw materials costs have risen and sales prices have declined, the steel industry is still highly profitable

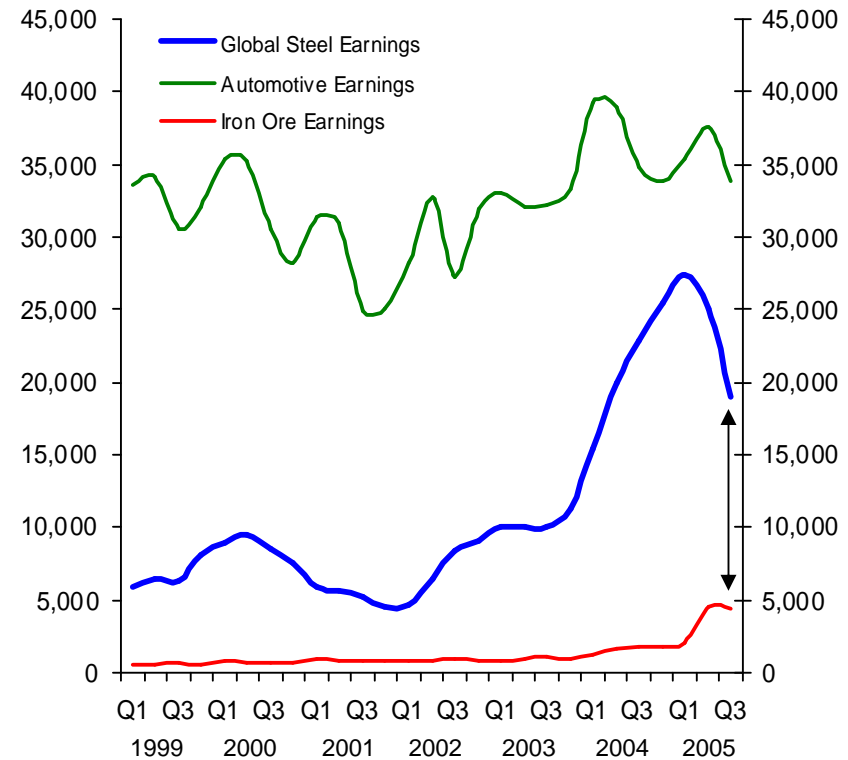
71.5% 2005 iron ore price rise boosts earnings of mining companies in Q2 2005...

But in US\$ terms steel mills still enjoy much higher earnings than the independent iron ore mining industry

EBITDA (Index (US\$, Q1 2000=100))



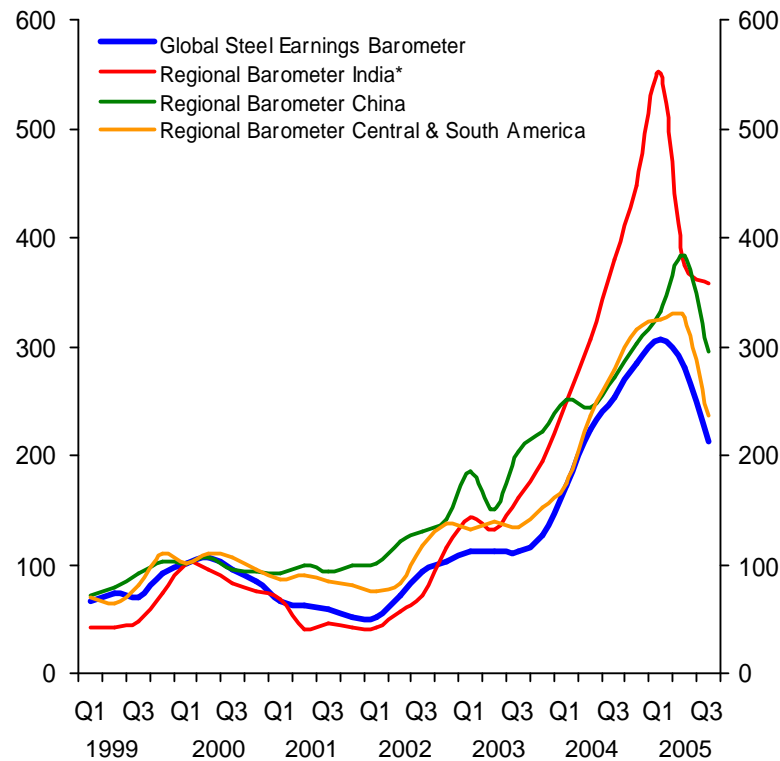
EBITDA (mln US\$)



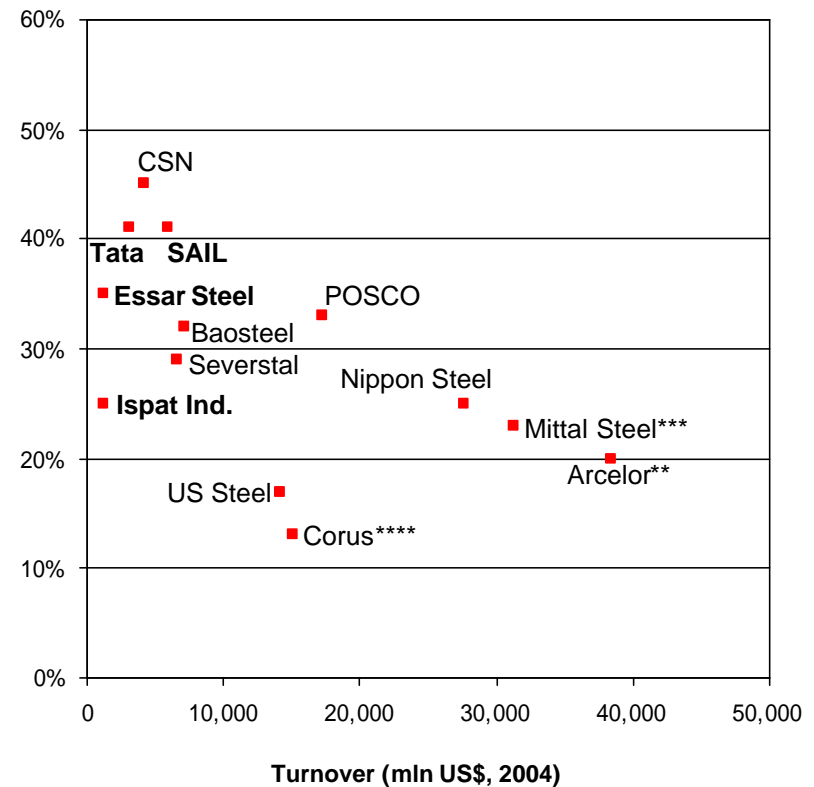
Source: SteelConsult International (www.steelearningsbarometer.com)
 Note: Q3 data are partial estimates

The competitive performance of Indian mills is excellent. Though scale is limited, margins are high

EBITDA (Index (US\$, Q1 2000=100))



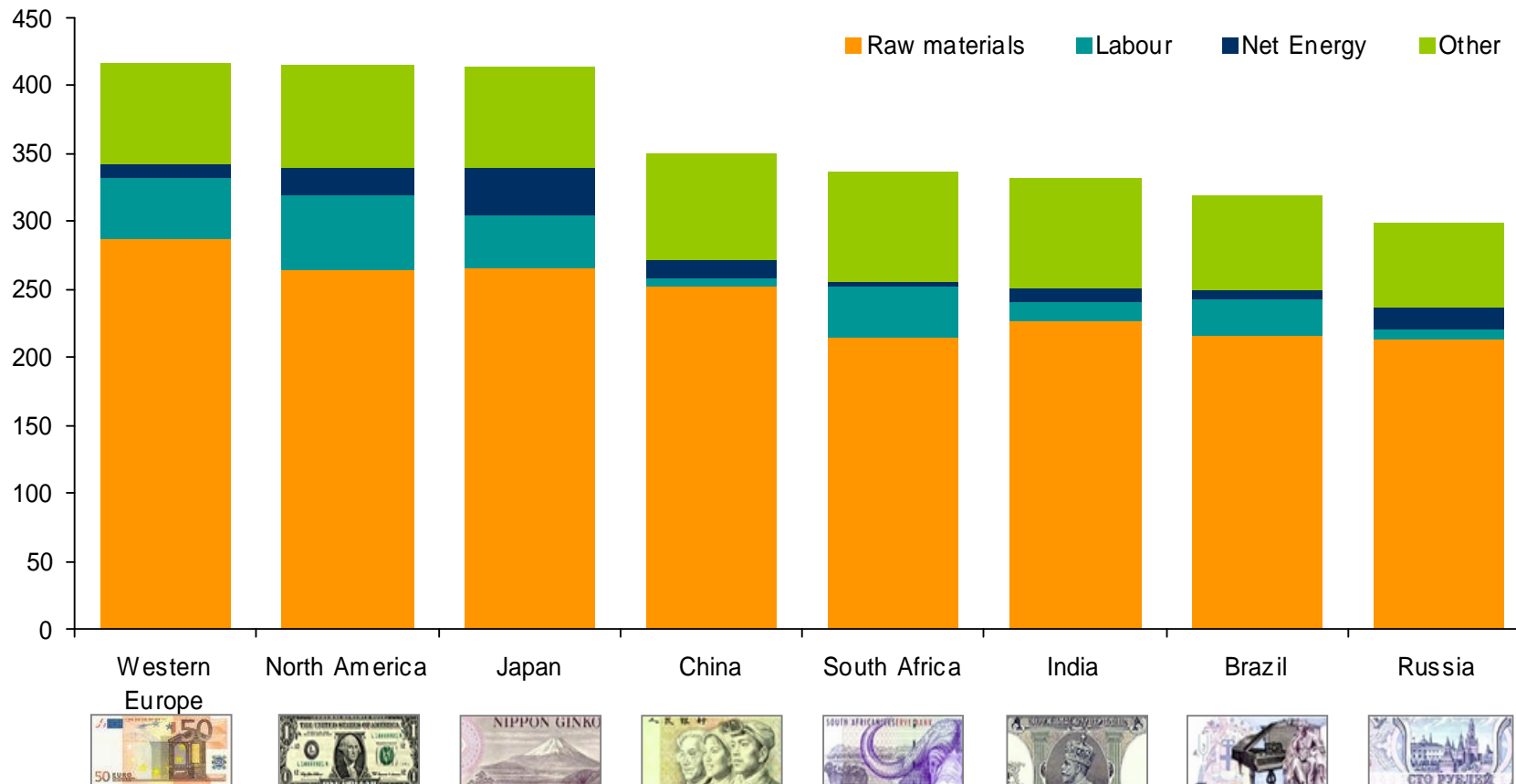
EBITDA margin (% , H1 2005)



Source: SteelConsult International (www.steelearningsbarometer.com)
Notes: *includes SAIL, Tata Steel, Essar Steel, Ispat Industries and RINL
incl. 100% CST & Acindar * incl. ISG ****excl. aluminium activities

The new competitive arena in 2005 ... Indian mills are among the lowest cost producers in the world

Operating cost HR coil by component, US\$/tonne, 2005



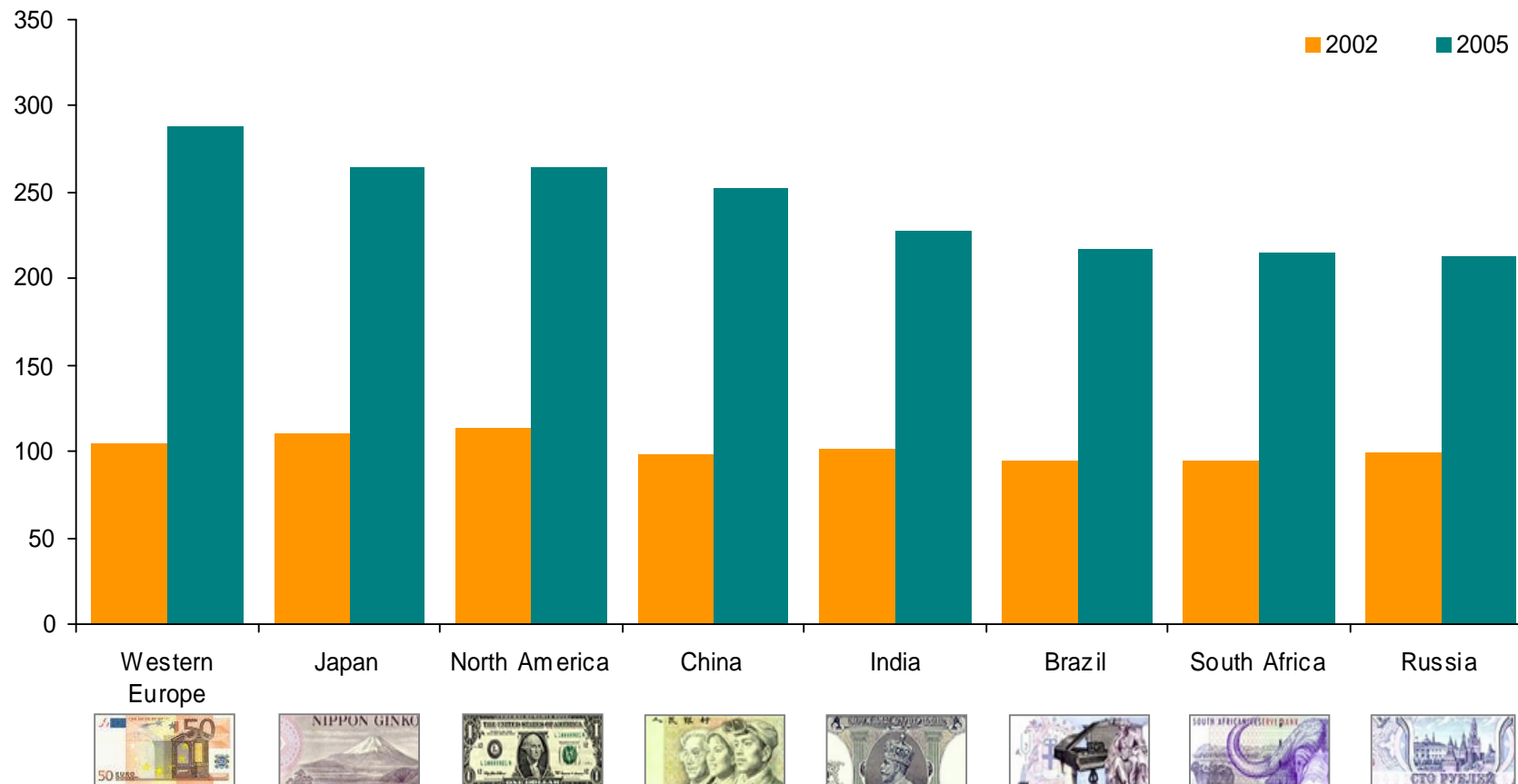
Source: SteelConsult analysis
Notes: Costs based on average of main integrated HR producers in each country/region

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Access to local raw materials is the decisive cost differentiator in 2005. India has large reserves of iron ore, but needs to import low ash coal/coke

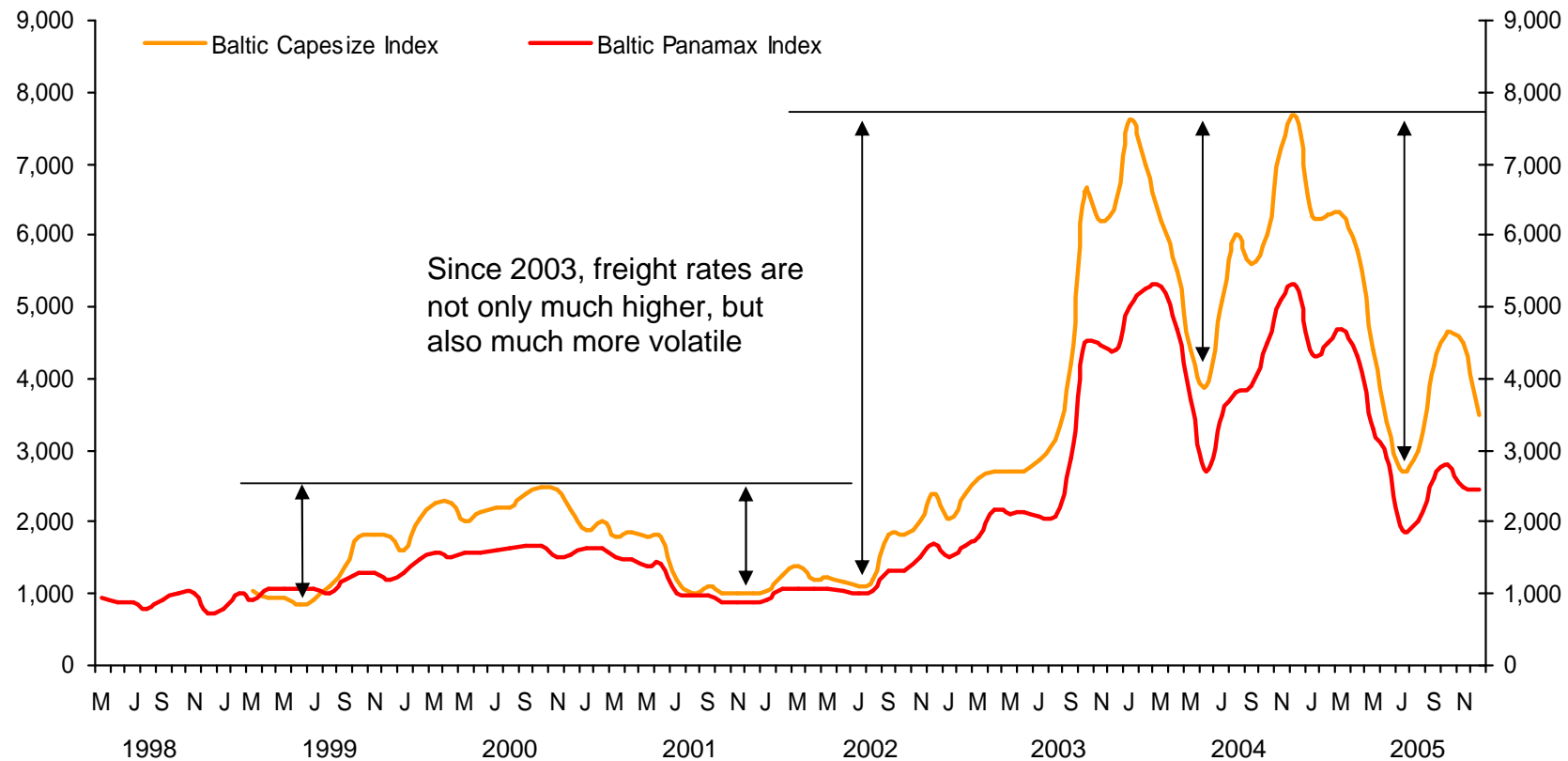
Costs of raw materials, US\$/tonne of HR coil



Source: SteelConsult analysis
Notes: Costs based on average of main integrated HR producers in each country/region

Freight adds up to \$60/tonne of steel to mills importing raw materials from overseas. Local supply of ore, and to some extent coal, is a major advantage for Indian mills

Baltic Capesize & Panamax Indices

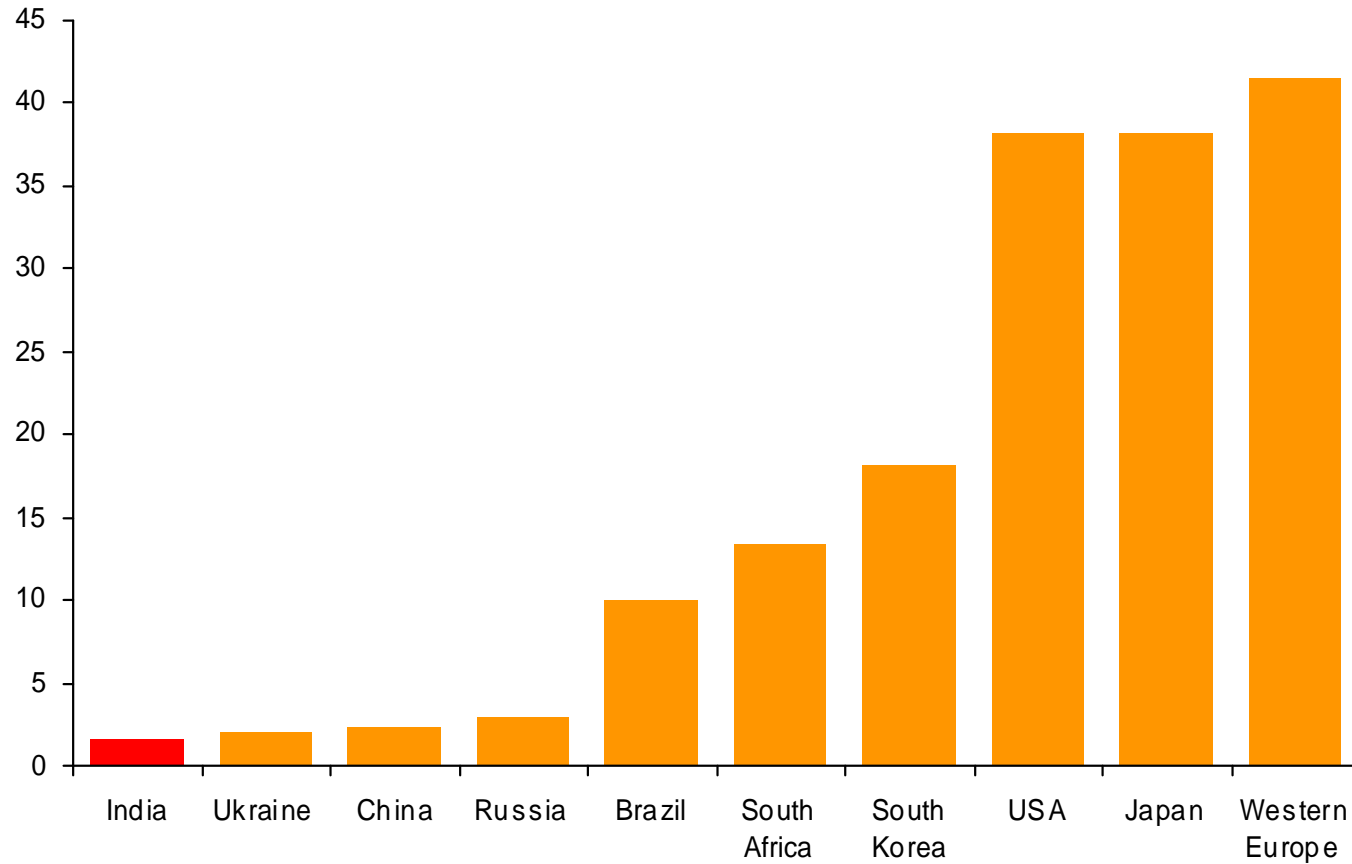


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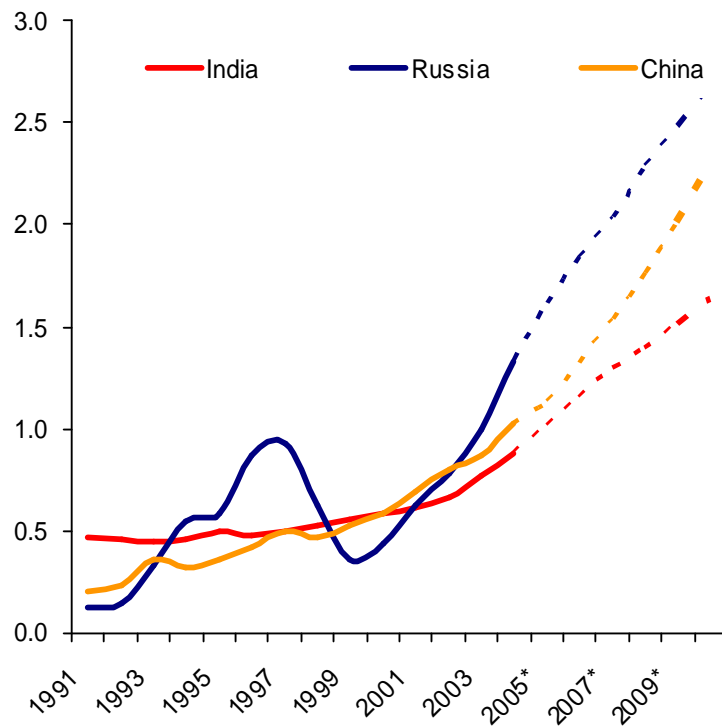
Hourly labour costs in India are lowest in the world. But how soon will wages catch up?

Hourly labour costs in the steel industry (US\$), 2004

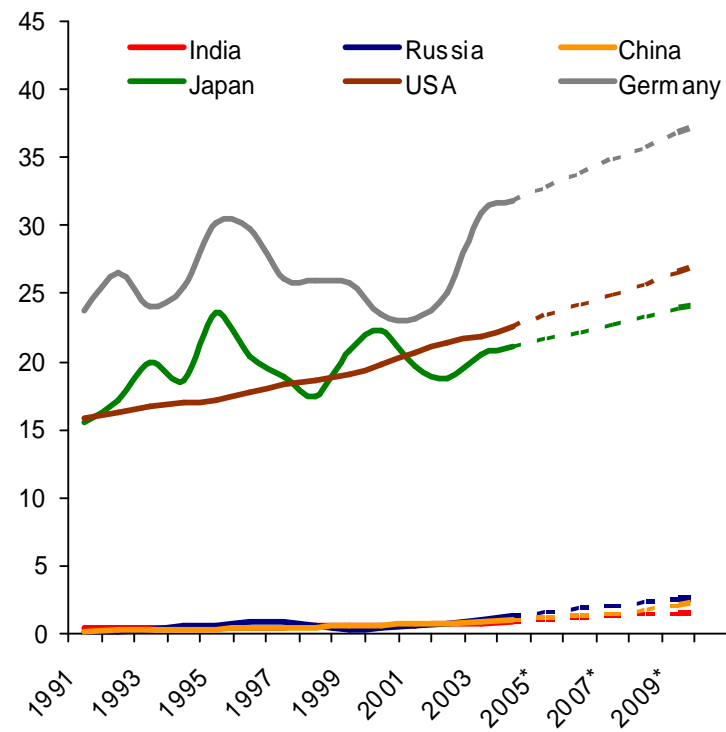


While Indian labour costs (in US\$ terms) are expected to almost double in the next 5 years, they will remain much lower than in Europe, North America and Japan

Hourly labour costs manufacturing (US\$)

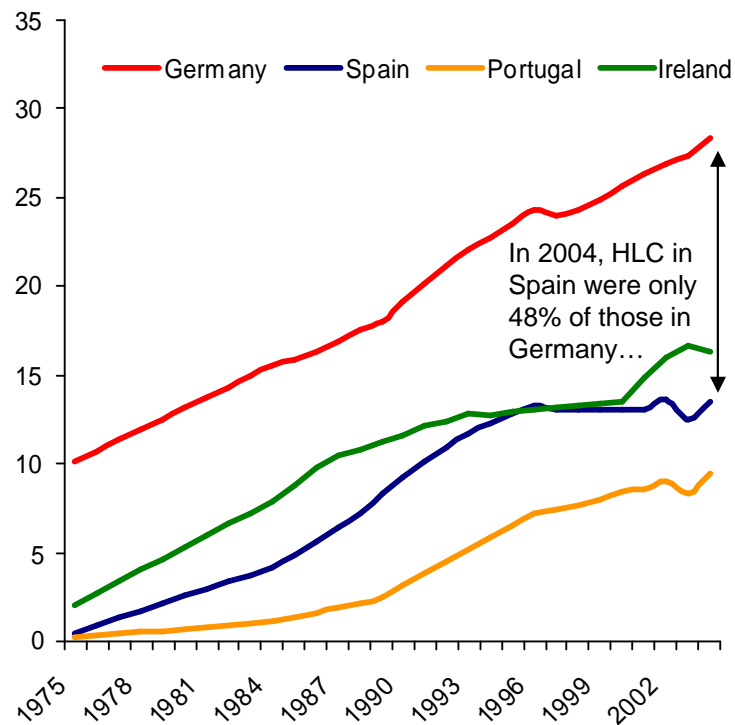


Hourly labour costs manufacturing (US\$)

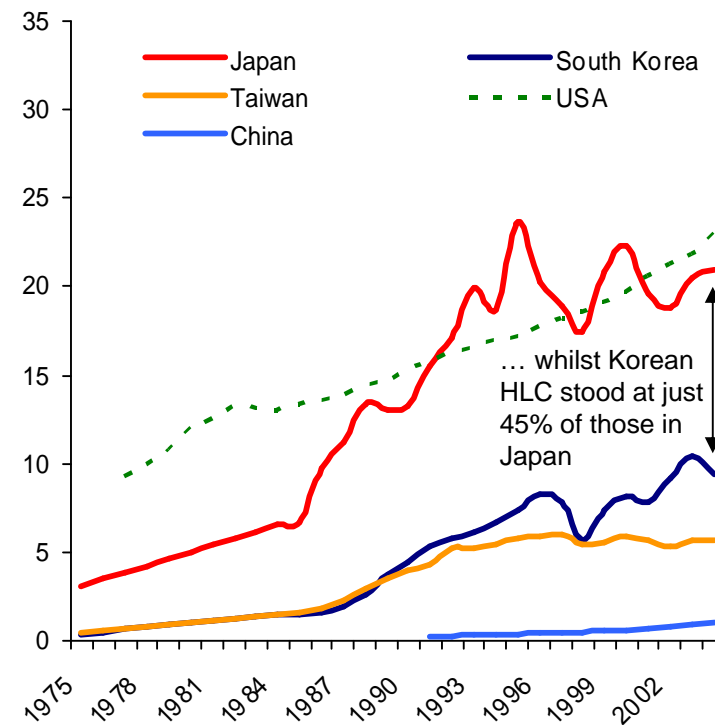


It takes decades for labour costs in rapidly developing economies to catch up with those in mature economies

Hourly labour costs manufacturing (€)

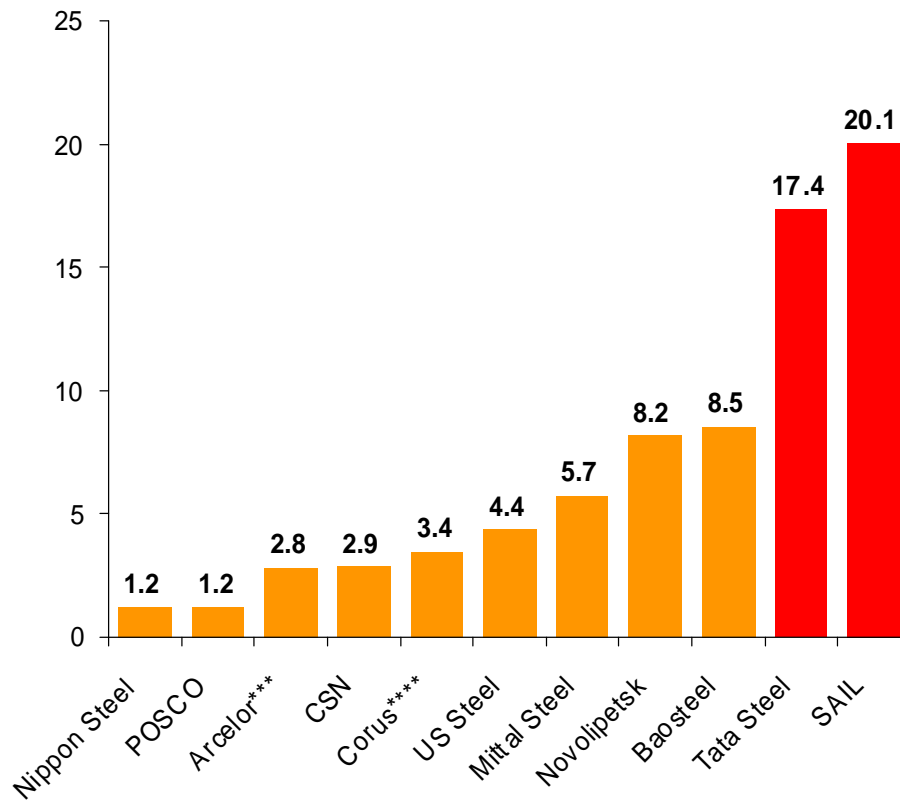


Hourly labour costs manufacturing (US\$)

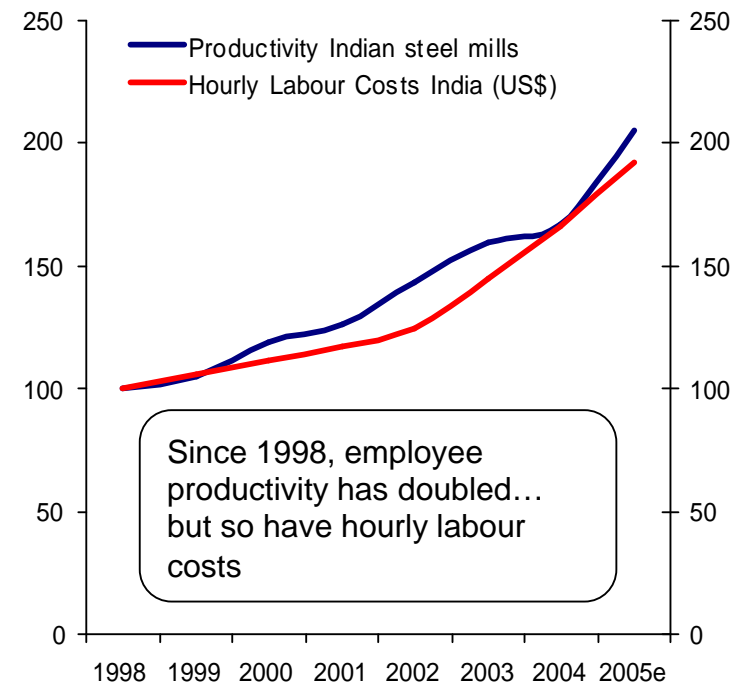


However, labour productivity in India is still low. Indian mills have an opportunity to increase their competitiveness by raising productivity faster than US\$ costs of employment

Manhours*/tonne of crude steel, 2004



Labour costs/productivity India, indexed (1998=100)**



Source: EIU, SteelConsult analysis

Notes: *Manhours based on total company staff **Productivity defined as steel output/head

Arcelor excl. A3S *Corus excl. Aluminium and Distribution & Building Systems

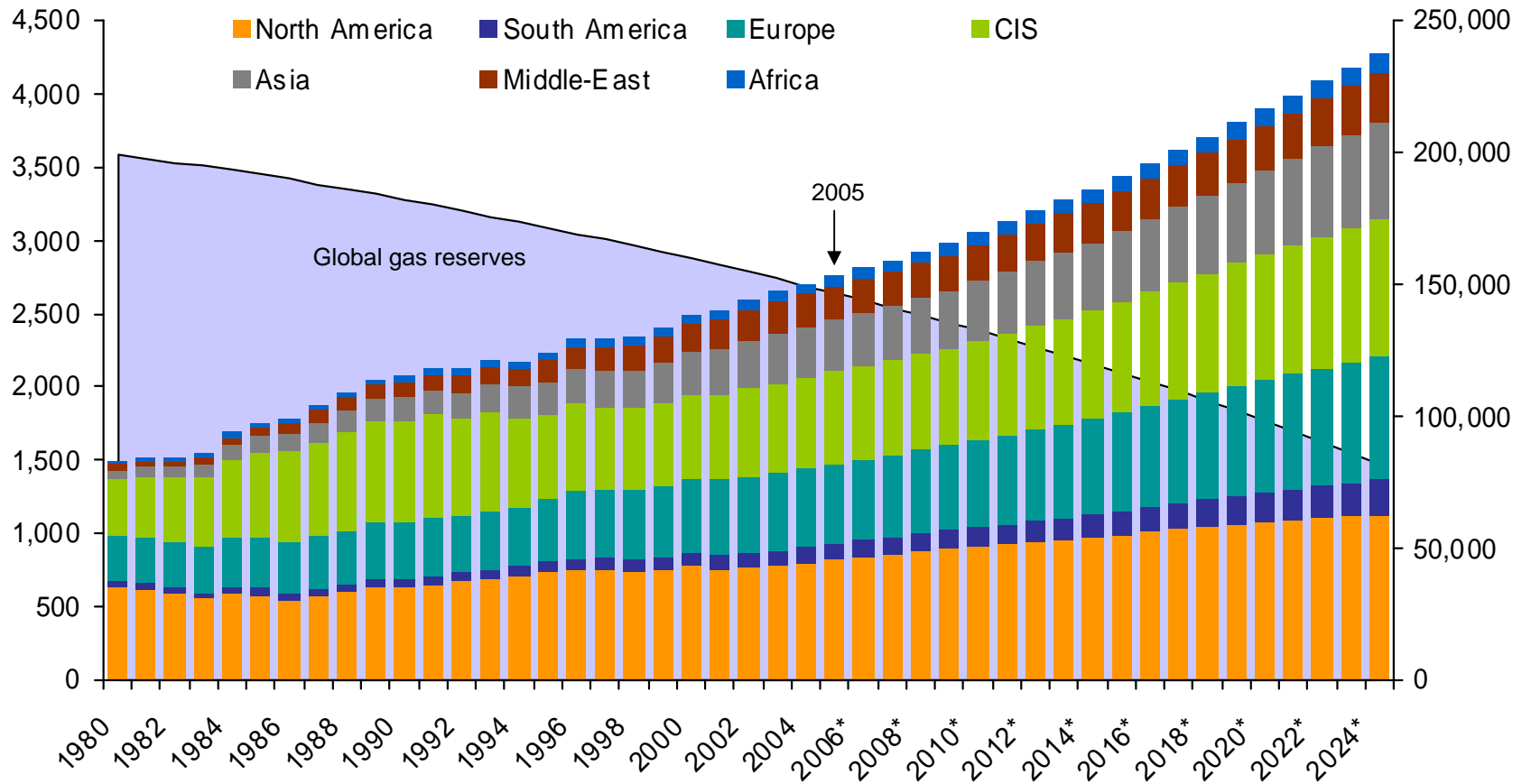
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Energy has a relatively modest impact on competitiveness of integrated mills. However, the days of cheap energy are over

Natural gas consumption by region (bn m³)

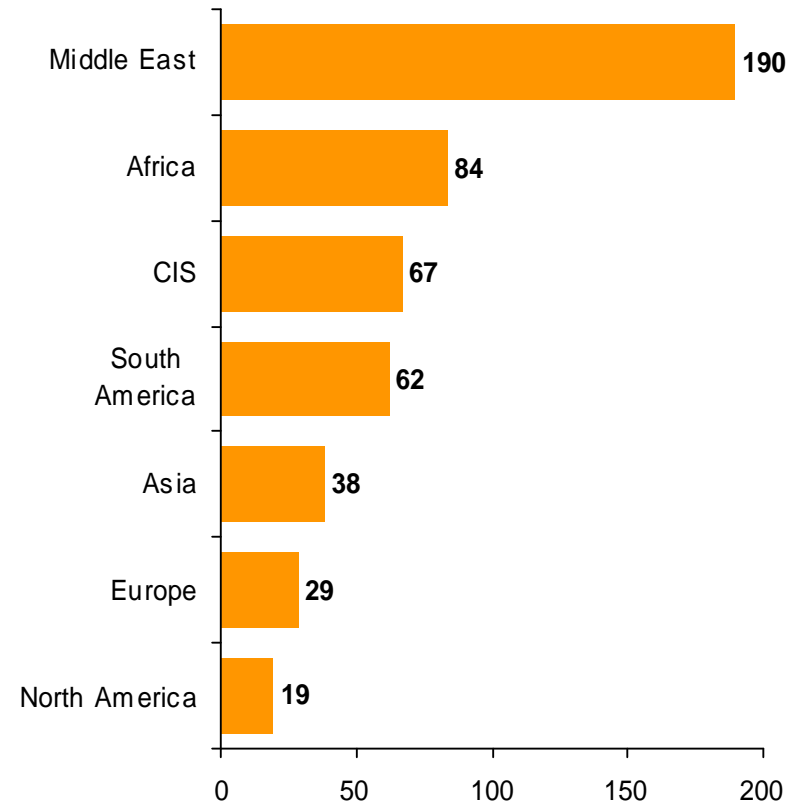
Global natural gas reserves (bn m³)



Russia and the Middle-East hold 65% of the world's identified natural gas reserves. Asia, Europe and North America increasingly rely on imported energy

	Annual production (bn m ³)	Identified reserves (bn m ³)	%
CIS	763	51,506	34%
Middle East	250	47,629	31%
North America	770	15,220	10%
Asia	299	11,631	8%
Africa	134	11,377	7%
Europe	276	8,207	5%
South America	105	6,594	4%
World	2,597	152,163	100%

Gas reserve life duration at production levels 2004 (years)

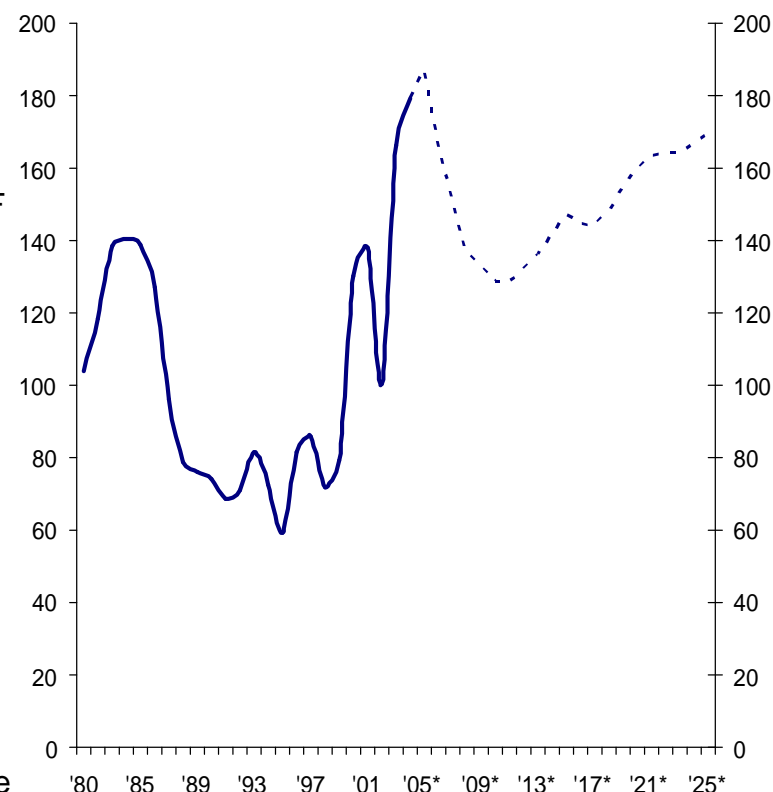


Source: USGS, IEA, SteelConsult analysis
 Note: Production refers to dry natural gas

Indian mills should seek to reduce dependency on external energy by maximizing energy efficiency and reducing exposure to the price of natural gas

- Coal and coke prices will decrease from the peak levels of 2004/2005. Prices for energy, however, will remain high in India as in most other parts of the world;
- The energy that is locked inside the coal and is released through coke oven and BF gas will become increasingly valuable in the future;
- As a result of the developments mentioned above, the BF/BOF route will become increasingly attractive vs the (gas based) DRI/EAF route in countries without cheap gas;
- To increase competitiveness, integrated mills should seek to reduce dependency on external energy by maximizing energy efficiency and recycling;
- The Indian mills using the gas based DRI/EAF route should manage their exposure to high energy costs by:
 - Joint purchasing with other large energy consumers (eg chemicals & alu companies);
 - Examining possibilities to switch to non-gas intensive reduction/smelting technologies;
 - Importing HBI from gas rich countries in the Persian Gulf or the CIS by purchasing from local suppliers and/or investing in or relocating DRI production facilities to these countries.

US prices* for natural gas (US\$/1,000m³, real prices in 2000 dollars)



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Conclusions: How can Indian mills retain their competitive edge?

- Indian mills are among the most cost competitive mills in the world. The large capacity expansions planned in the coming years will lead to scale economies and enhance competitiveness.
- The global supply/demand balance for raw materials is tightening, to the relative benefit of mills with access to cheap local raw materials. Indian mills without captive supply of iron ore and coal should seek to secure at least part of their long term requirements urgently.
- Energy will become an increasingly important cost differentiator for integrated mills around the world. With energy relatively expensive compared to other parts of the world, Indian mills should continue to improve energy efficiency and recycling and secure lowest possible prices.
- Labour costs in India are lowest in the world, and will remain much lower than those in most other countries for many years. To maximize this competitive advantage, Indian mills need to ensure that productivity improvements keep up with, or even exceed, rising wages and other costs of employment.
- The capacity expansions planned in the next few years provide an excellent opportunity to increase productivity while minimizing social consequences.
- However, cost is not the only important competitive differentiator. Indian mills will also have to further increase investments in R&D, product quality, customer support and delivery performance.
- These criteria are particularly important in view of the increasing involvement of leading foreign mills in the Indian industry and market.

इस ओर ध्यान देने के
लिये धन्यवाद!

Thank you for your attention!

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