THE VIABILITY OF THE STEEL INDUSTRY: AN ATTEMPT TO ANALYSE STEELMAKERS' ECONOMIC AND FINANCIAL PERFORMANCE

DSTI/SU/SC(2013)2

74th Steel Committee Meeting
Paris, 1-2 July 2013

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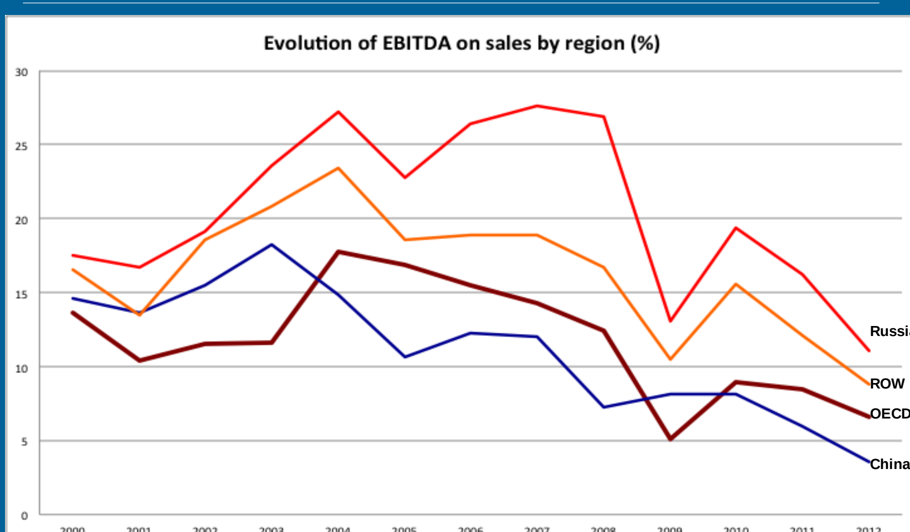
Acknowledgements

- This study brings together research by:
  - Marcel Genet of Laplace Conseil (2013).
  - Benjamin Liebman (2013), Chair and Associate Professor of Economics, St. Joseph's University.
- Data sources:
  - FactSet, a database including company-level financial information based on financial reports.
  - A database bringing together information from Cap IQ and Bloomberg.

Context: why an interest in profitability?

- External factors with adverse effects on the steel industry:
  - Economic slowdowns and recessions,
  - Global excess capacity, and
  - Elevated raw material and energy costs.
- Worsening financial situation led to drastic measures:
  - Steel amongst the worst-performing industries in many economies
  - This is weighing on necessary standard investments and innovation.
- Selected strategies adopted by steelmakers:
  - Moving towards growing markets,
  - Merging to form larger companies,
  - Integrating vertically into mining, and
  - Adding value to their steel products.
- The paper tries to show what may have worked

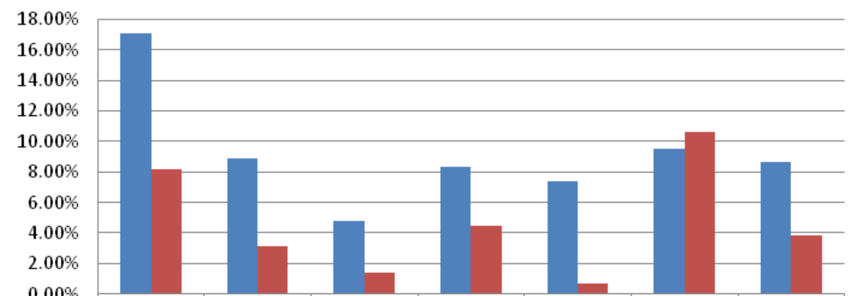
Steel industry's profitability developments



Sources: Laplace Conseil based on data collected by the Secretariat from FactSet.

Profitability: steel versus all firms in 2011

Pre-tax operating margins (%), ranking of steel industry within total industries appears below country/region name

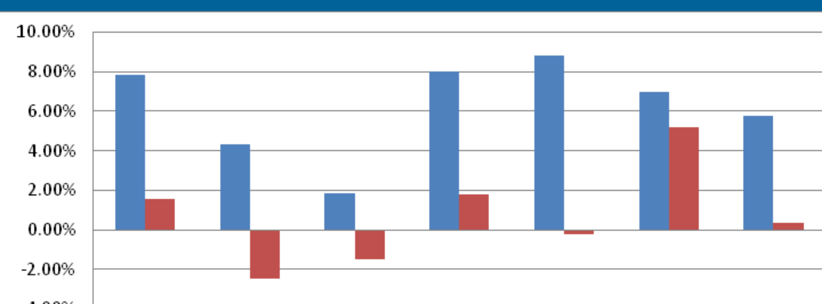


	US 81/99	EU 86/96	Japan 78/89	Emerging Markets 79/96	China 85/93	India 33/87	World 87/96
All Firms	17.13%	8.89%	4.75%	8.31%	7.37%	9.53%	8.63%
Steel Firms	8.19%	3.11%	1.41%	4.45%	0.70%	10.61%	3.86%

Sources: Liebman (2013) based on Cap IQ and Bloomberg.

Net profit margins (%): all firms compared to steel firms in 2011

Ranking of steel industry within total industries appears below country/region name

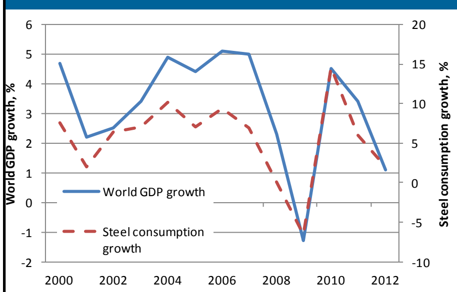


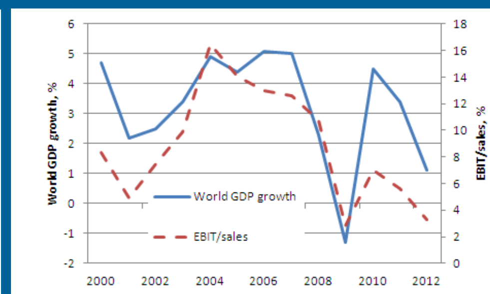
	US 93/99	EU 88/96	Japan 82/89	Emerging Markets 88/96	China 87/93	India 39/87	World 86/96
All Firms	7.84%	4.31%	1.84%	8.03%	8.81%	6.99%	5.74%
Steel Firms	1.58%	-2.47%	-1.50%	1.79%	-0.23%	5.18%	0.33%

Sources: Liebman (2013) based on Cap IQ and Bloomberg.

Factors that impact the profitability of the steel industry: macroeconomic activity

The steel industry is very pro-cyclical



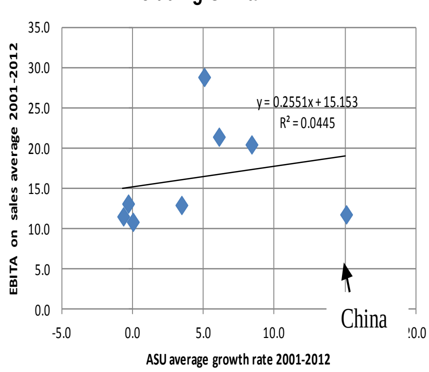


Sources: OECD calculations based on data from the World Steel Association, International Monetary Fund and FactSet.

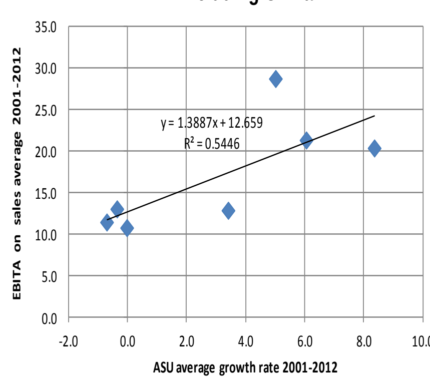
Relationship between the growth of markets and steel industry profitability (2001-2012)

Sample of economies (Brazil, China, EU, India, Japan, Korea, Russia, and the United States)

Including China



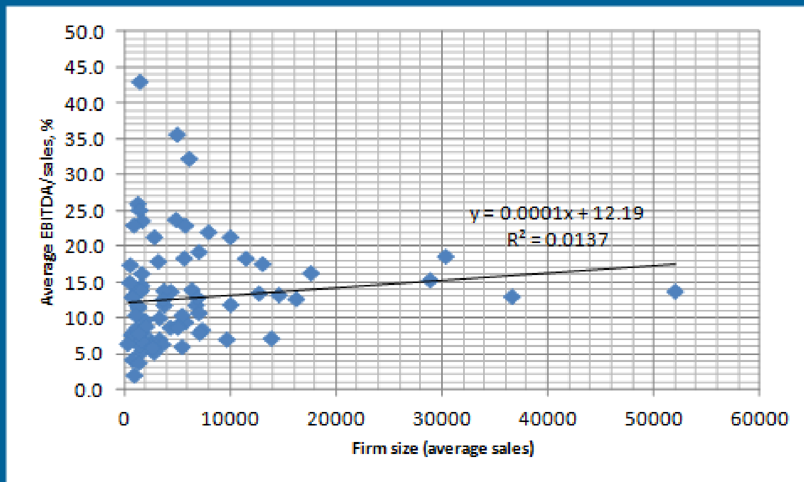
Excluding China



Source: OECD Secretariat estimates.

Firm size and profitability (2000-2012)

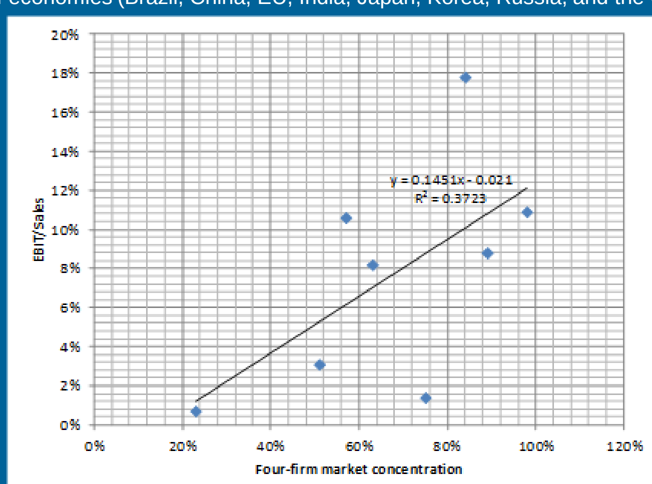
Average EBITDA/sales (%) and average firm sales during 2000-2012



Sources: OECD Secretariat based on data from FactSet.

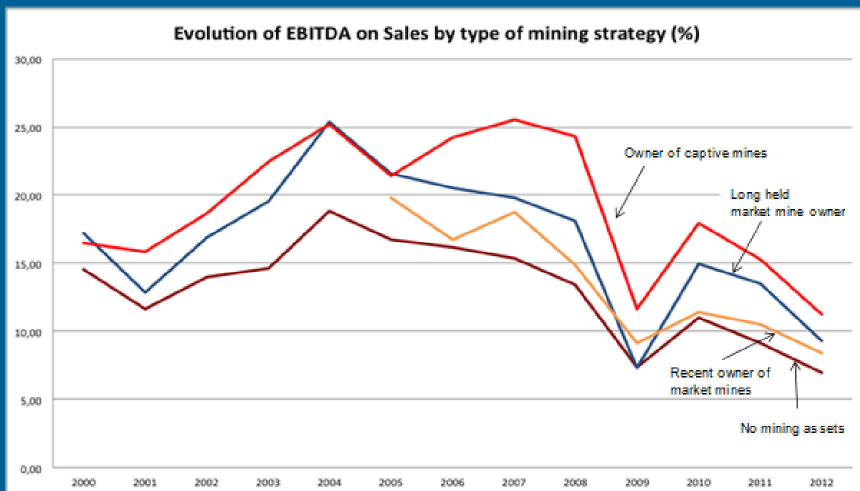
Concentration and profitability

Sample of economies (Brazil, China, EU, India, Japan, Korea, Russia, and the United States)



Sources: OECD Secretariat based on data from FactSet.

Profitability by type of mining strategy (EBITDA/sales, %)



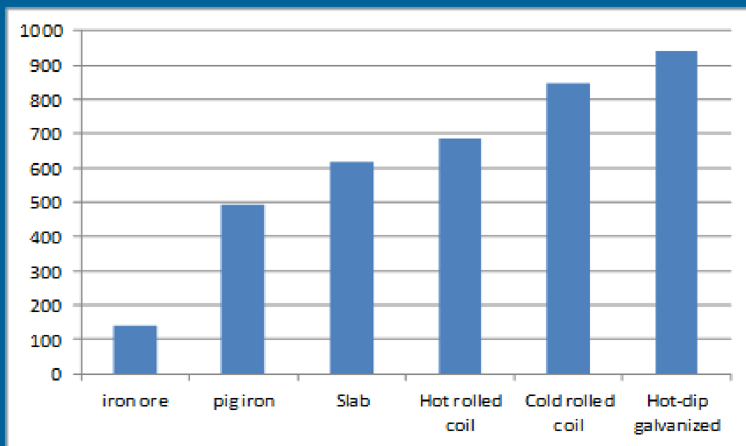
Sources: Laplace Conseil based on data from the OECD and FactSet.

Panel Estimation Results: Steel Profit Model (2007-2012)

	(1) (EBITDA/Sales)	(2) (EBITDA/Sales)	(3) (EBITDA/Sales)
$(EBITDA/Sales)_{t-1}$	0.335^{***} (4.53)	0.266^{***} (3.12)	0.308^{***} (3.02)
$\log(P_{ore})$	-3.676^{***} (-3.45)	-4.043^{***} (-3.28)	-3.081^{**} (-2.44)
%ΔGDP	0.990^{***} (8.58)	0.870^{***} (6.51)	1.081^{***} (5.84)
Four-firm concentration	0.308^{***} (6.86)	0.207^{***} (3.92)	0.555^{***} (3.82)
log(output)		5.035 (1.53)	
log(output/employee)			3.434 (1.18)
constant	6.233 (0.90)	-0.105 (-0.01)	-29.42 (-1.29)
No of Observations	149	123	101
No of Firms	26	26	23
R^2	0.82	0.83	0.84

Sources: Liebman (2013) based on Factset.

Steel industry value chain of flat products in USD per tonne



Source: Metal Bulletin Research (2012).

Pros and cons of focusing on value added steel products (1/2)

- Arguments against focusing on high value-added steel products:
  - They account for a limited share of demand
  - Competition is intense in those segments.
  - They require large capital expenditures.
  - Since 2000, the profitability of high-value added steel producers has been smaller, on average, than manufacturers of commodity/low value steel products (Laplace Conseil).

Pros and cons of focusing on value added steel products (2/2)

- Arguments in favour of focussing on value added steel products:
  - Adding value to steel products and improving operational efficiency can offset higher labour and raw materialscosts.
  - It can help steelmakers based in OECD economies to improve their competitive situation on global markets.

Conclusion (1/2)

- The viability of the steel industry linked on general economic situation and health of downstream industries.
- Firm size is not associated with improvements in economic performance (plant size is important for economies of scale, not firm size per se)
- However, the level of concentration matters for steel profitability.

Conclusion (2/2)

- High raw material prices tend to reduce steelmakers' profitability.
- Steelmakers with captive mines or mining assets purchased before 2003 are generally more profitable but those who acquired mining assets later are not so profitable.
- Moving into higher value-added may enable steelmakers to compete less on price and to improve their competitiveness situation.