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

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Acknowledgements

• This study brings together research by:
  – 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

![Graph showing the evolution of EBITDA on sales by region (%).](image)

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

<table>
<thead>
<tr>
<th>Region</th>
<th>All Firms</th>
<th>Steel Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>17.13%</td>
<td>8.19%</td>
</tr>
<tr>
<td>EU</td>
<td>8.89%</td>
<td>3.11%</td>
</tr>
<tr>
<td>Japan</td>
<td>4.75%</td>
<td>1.41%</td>
</tr>
<tr>
<td>Emerging Markets</td>
<td>8.31%</td>
<td>4.45%</td>
</tr>
<tr>
<td>China</td>
<td>7.37%</td>
<td>0.70%</td>
</tr>
<tr>
<td>India</td>
<td>9.53%</td>
<td>10.61%</td>
</tr>
<tr>
<td>World</td>
<td>8.63%</td>
<td>3.86%</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Region</th>
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<th>Steel Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>7.84%</td>
<td>1.58%</td>
</tr>
<tr>
<td>EU</td>
<td>4.31%</td>
<td>-2.47%</td>
</tr>
<tr>
<td>Japan</td>
<td>1.84%</td>
<td>-3.50%</td>
</tr>
<tr>
<td>Emerging Markets</td>
<td>8.03%</td>
<td>1.79%</td>
</tr>
<tr>
<td>China</td>
<td>8.81%</td>
<td>-0.23%</td>
</tr>
<tr>
<td>India</td>
<td>6.99%</td>
<td>5.18%</td>
</tr>
<tr>
<td>World</td>
<td>5.74%</td>
<td>0.33%</td>
</tr>
</tbody>
</table>

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)

Sources: Liebman (2013) based on Factset.
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.