Opportunities and Challenges
Impact of Chinese competition on Hungarian Manufacturing

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Outline

• Multifold channels of the Chinese influence on Hungarian manufacturing:
  • Competitive threat on domestic and foreign markets
  • Providing the best growth opportunities outside the stagnating domestic and traditional export market
  • Influencing commodity prices and the terms of trade
• Competitiveness issues:
  • Micro data: response of firms to import competition
• GVAR simulations
• Future challenges
Measuring the impact of the competitive threat from China


- Applied to many manufacturing exporter countries: Chile, Mexico, South East Asean countries

- Plant survival as well as output and employment growth are negatively associated with the share of industry imports sourced from the world’s lowest-wage countries.

- Within industries activity is reallocated towards capital-intensive plants.

- Data:
  - Plant level data 1999-2008
  - Trade data by product and by importing firms
Methodological change makes it difficult to compare imports from China trade before and after EU entry.
Outsourcing became prevalent in a few sectors.

Chinese Import share in manufacturing production, 1998-2007
Surprisingly little significant impact, wages respond to increased Chinese competition

- No significant impact of Chinese competition on:
  - Survival
  - Employment
  - Output
  - TFP

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<tbody>
<tr>
<td>import penetration</td>
<td>-0.31</td>
<td>-0.16 not significant</td>
</tr>
<tr>
<td>import share in production</td>
<td>-0.03</td>
<td>-0.35</td>
</tr>
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Diverging adjustment patterns among the sectors

• Low tech sectors retreated from Chinese competition:
  • Textile
  • Apparel
  • Leather and shoes
• Acceleration of technological change in electronics (office machinery, electrical machinery, radio tv)
  • While benefitting from low cost parts
  • Restructuring to higher technology products
Competition on third market was the decisive factor in success.

Export value added, 2001= 100
Significant downsizing in low tech industries
Low skill industries weren’t able to move up on the technology ladder.
Minimum wage increases didn’t allow wage adjustment in low tech sectors, significant decline in wage share in expanding sectors.
China entry to WTO coincided with large minimum wage hikes in Hungary

Kaitz indices in the region
Participation rate in Hungary and in the EU
The export story
China’s export shares in the region tripled from 2000 to 2010, but indirect impact is more important.

The share of China in the trade of CEE countries

Graph showing the percentage of China's export share in the region from 2000 to 2010 for Czech Republic, Hungary, Poland, and Slovakia.
• Global model combining individual country VECM models, whose domestic variables are related to country-specific foreign variables in a consistent manner.

• Details:
  • Replication of Cesa-Bianchi et al. (2011) + detailed CEE region
  • 32 regions (eurozone modelled as a single entity)
  • Sample: 2000Q1-2009Q4
  • Country VECMX variables: domestic & foreign GDP, inflation + oil price
  • Time-varying trade weights for construction of foreign variables
  • 2000/2008 trade weights for construction of GVAR
  • Generalized impulse responses (GIRF) for a China GDP shock lie between Cesa-Bianchi et al. (2011) and Dreger-Zhang (2011)
GIRF’s of GDP for a 1% increase in China GDP: impact with 2000 (dashed line) and 2008 (solid line) trade weights

The chart shows point estimates of the generalized impulse responses of GDP levels.
GIRF’s for a 1% increase in China GDP:
impact with 2000 (dashed line) and 2008 (solid line) trade weights

- Role of China increases from 2000 to 2008

- Indirect effects dominate (stronger China-eurozone trade linkages)

Indirect effect = ceteris paribus impact of China’s stronger trade linkages with the eurozone and the USA (calculated by lowering the trade shares of China in CEE countries)
The flip side: the impact on commodity prices and global inflation

- Robust Chinese demand for commodities
- China is the marginal consumer of commodities
- Chinese demand affects commodity prices and global inflation

The chart shows point estimates of the generalized impulse responses of nominal oil prices.
The chart shows point estimates of the generalized impulse responses of year-on-year inflation rates.
How much did China contribute to post-crisis recovery?

- Chinese stimulus/GDP: (from Dreger-Zhang, 2011)
  - 3.1% in 2009
  - 2.7% in 2010
  - Modelled as shock to Chinese GDP

- Non-negligible effect throughout the world
  - Major source of growth for Hungary

Estimated impact of Chinese stimulus measures in 2009-2010 on GDP growth (percentage points)

<table>
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<tr>
<th>Region</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>0.4</td>
<td>0.7</td>
<td>0.4</td>
</tr>
<tr>
<td>Latin America</td>
<td>0.8</td>
<td>1.5</td>
<td>0.9</td>
</tr>
<tr>
<td>Japan</td>
<td>0.7</td>
<td>1.1</td>
<td>0.6</td>
</tr>
<tr>
<td>China</td>
<td>2.0</td>
<td>2.5</td>
<td>0.9</td>
</tr>
<tr>
<td>Rest of Asia</td>
<td>0.7</td>
<td>1.0</td>
<td>0.4</td>
</tr>
<tr>
<td>Euro area</td>
<td>0.4</td>
<td>0.7</td>
<td>0.4</td>
</tr>
<tr>
<td>Central Eastern Europe</td>
<td>0.3</td>
<td>0.5</td>
<td>0.4</td>
</tr>
</tbody>
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Analysis based on GVAR model with 2008 trade weights.
Summary

- China plays a growing role in global output gap and price trends:
  - so far indirect trade channels are more important for Hungary
  - commodity price channel is stronger than in other regions:
    - Challenge for monetary policy
- Chinese competition:
  - induced an acceleration of technological change
  - burden of adjustment fell more heavily on low skilled
- Policy challenges:
  - transition of displaced workers across jobs were unsuccessful
    - ALMP
  - skills didn’t keep up with technological change
    - education challenges
    - Chinese skill intensity is increasing