Adjusting to Globalization in Germany
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Introduction
- What are the distributional effects of globalization and trade?
- Does increased foreign competition lead to job losses at home?
- Who are the winners and losers of increased international trade?
- And are the gains and losses of economic significance?
- How did individual workers adjust to globalization?

- Germany is one of the most open economies in the world, so export and import shocks can be expected to have large effects on the labor market.
- We consider three trade shock episodes which hit the German economy:
  1. The fall of the iron curtain and the rapid transformation of countries in Eastern Europe
  2. The rise of China and its integration into the world economy

Contribution
Workers in industries with growing export exposure have lasting earning gains:
1. We analyze at which margin export shocks are capitalized into earnings gains: on-the-job with the original employer or in a different firm but within the original industry?
2. Detect meaningful heterogeneity in the export adjustment mechanisms: Are gains from exports reaped by all workers or do better-skilled workers more easily adapt?
Import competition has only muted total effects on worker earnings:
3. Are the negative consequences of import competition equally distributed across all exposed industries or do they depend on worker or firm characteristics?
4. Do laid-off workers have higher long-run losses if they worked in import competing industries?

Data and Measurement

Individual Data
- Data source: 30% sample of the Integrated Labor Market Biographies from the IAB
- We identify all individuals in either 1990 or 2000:
  1. between 22 and 54 years old
  2. full-time job in manufacturing, wage above marginal-job threshold
  3. with a tenure of at least two years
- Resulting dataset: complete employment biographies of more than 2.4 million individuals in 1991-2000 or 2000-2010

Trade Exposure
- Data source: United Nations Commodity Trade Statistics Database (UN Comtrade)

Results

Adjusting to Rising Import and Export Exposure
Table 1: Trade exposure and individual earnings

<table>
<thead>
<tr>
<th>Same 2-digit industry</th>
<th>All employers</th>
<th>Same sector</th>
<th>Other Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same employer yes</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Import Exposure</td>
<td>0.525** 0.352*</td>
<td>0.301** 0.0344</td>
<td>-0.164*</td>
</tr>
<tr>
<td>Export Exposure</td>
<td>-0.1038* -0.5469***</td>
<td>-0.1159* 0.1141***</td>
<td>0.4449***</td>
</tr>
</tbody>
</table>

Notes: All models control for demographics, base year earnings, plant size, sexual education and commuting zones. Standard errors, clustered by industry x commuting zone x base year in parentheses. Levels of significance: *** 1 %, ** 5 %, * 10 %.

Magnitudes: (Median annual income in 1990: 42,870 €)
Earnings difference of a worker at the 75th percentile and one at the 25th percentile in 1990-2000:
Import exposure: -0.10 x (32.34 - 7.62) = 42,870/100 = -1,206 € (2000-2010: -1,206 €)
Export exposure: 0.52 x (27.00 - 9.19) = 42,870/100 = +3,996 € (2000-2010: +7,865 €)

Heterogeneous Effects
Adjustment by tertile of worker skills (Card, Heining, and Kline, 2013):

Adjusting to Job Displacement
The cost of experiencing a mass-layoff in different industries:
Across all industries:
The average worker loses 38 percent of income due to being displaced. Each % point of additional import exposure increases this loss by additional 0.25 % points. (Effect of exports is also negative but insignificant.)

Conclusions
- Workers in export intensive industries gain on two different margins:
  1. on-the-job
  2. by moving to a better paying firm within the same sector
- Better skilled workers benefit more. They also switch firms more often.
- Import competition has not only small but negative effects:
  1. mostly destroys worker rents at the highest paying firms
  2. better skilled workers adapt more easily by moving to the service sector
- Workers in import competing industries adapt more slowly after a layoff (because their specific human capital is less valuable)

References