Germany: Changing with Globalization

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Germany Still Comparatively Highly Industrialized

Figure 2. Share of manufacturing in total employment, G7 countries, 1970-2003, in %

Source: OECD, STAN Indicators database, December 2005.
Germany World’s Leading Exporter

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Germany</td>
<td>$1.133 trillion</td>
</tr>
<tr>
<td>2</td>
<td>USA</td>
<td>$1.024 trillion</td>
</tr>
<tr>
<td>3</td>
<td>China</td>
<td>$974 billion</td>
</tr>
<tr>
<td>4</td>
<td>Hong Kong</td>
<td>$611.6 billion</td>
</tr>
<tr>
<td>5</td>
<td>Japan</td>
<td>$590.3 billion</td>
</tr>
<tr>
<td>6</td>
<td>France</td>
<td>$490 billion</td>
</tr>
<tr>
<td>7</td>
<td>UK</td>
<td>$468.8 billion</td>
</tr>
<tr>
<td>8</td>
<td>Italy</td>
<td>$450.1 billion</td>
</tr>
<tr>
<td>9</td>
<td>Netherlands</td>
<td>$413.8 billion</td>
</tr>
<tr>
<td>10</td>
<td>Canada</td>
<td>$405 billion</td>
</tr>
</tbody>
</table>
Germany’s Exports Concentrated in Old Economy Manufacturing

<table>
<thead>
<tr>
<th>Principal exports fob 2005</th>
<th>US$ bn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor vehicles</td>
<td>187,073</td>
</tr>
<tr>
<td>Machinery</td>
<td>137,573</td>
</tr>
<tr>
<td>Chemical products</td>
<td>127,509</td>
</tr>
<tr>
<td>Metals and metal products</td>
<td>50,938</td>
</tr>
<tr>
<td>Devices for electricity production &amp; distribution</td>
<td>48,250</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Main destination of exports 2005</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>10.2</td>
</tr>
<tr>
<td>US</td>
<td>8.8</td>
</tr>
<tr>
<td>UK</td>
<td>7.8</td>
</tr>
<tr>
<td>Italy</td>
<td>6.9</td>
</tr>
<tr>
<td>Netherlands</td>
<td>6.1</td>
</tr>
<tr>
<td>Belgium</td>
<td>5.6</td>
</tr>
<tr>
<td>Austria</td>
<td>5.4</td>
</tr>
<tr>
<td>Spain</td>
<td>5.1</td>
</tr>
</tbody>
</table>
German Outward Manufacturing FDI is Extensive

- Concentrated in OECD
  - 79% of all sales by MANUFACTURING affiliates abroad in 2000 were in developed EU states + USA, Canada & Japan
  - Growth in MFG affiliate sales in USA, Canada & Japan grew by 198% between 1996 & 2000
  - Affiliate sales in US grew by 181% between 1996 & 2000
    - German Manufacturers employed 550,000 in the US in 2000
  - Similar sales in Canada in same time period grew by 498%
    - 43,000 Canadians employed by German Manufacturers
German Companies Currently #2 Investor in USA

<table>
<thead>
<tr>
<th>Source Country</th>
<th># of Projects</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>448</td>
<td>17%</td>
</tr>
<tr>
<td>Germany</td>
<td>376</td>
<td>14%</td>
</tr>
<tr>
<td>UK</td>
<td>374</td>
<td>14%</td>
</tr>
<tr>
<td>Canada</td>
<td>260</td>
<td>10%</td>
</tr>
<tr>
<td>France</td>
<td>197</td>
<td>7%</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>38%</td>
</tr>
</tbody>
</table>

Data: Loco Monitor Website: http://www.locomonitor.com/index.cfm?page_title=FDI%20By%20Country&child_page=North%20America&c=USA&ShowAll=yes
Manufacturing FDI to Asia (China/India) also growing

• But is modest
German investment in India lags other regions & countries...

Regional and country shares of German FDI stock (2003)

- China: 15.4%
- India: 0.3%
- Large new EU countries: 4.4%
- USA: 33.6%
- Others: 1.1%

Other EU countries: 45.2%

Source: Deutsche Bundesbank

... While other locations in Asia are way ahead

% of total German FDI stock

- China
- Financial centres (Hong Kong & Singapore)
- Northeast Asia (Taiwan, South Korea)
- Southeast Asia (Indonesia, Malaysia, Philippines, Thailand)
- India

2004 = Deutsche Bank Research estimates
Sources: Deutsche Bundesbank, Deutsche Bank Research
Largest Developing Region for German Manufacturing FDI is CEE.

- 145% increase in Mfg affiliate sales between 1996 & 2000
- 293,000 manufacturing workers in Poland, Czech Republic & Hungary in 2000
Germans are dominant players in CEE

Table 1a  The Importance of Germany as an Investor for Eastern Europe in 1998 - 1999

<table>
<thead>
<tr>
<th>country</th>
<th>share (in %)¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Eastern Europe</td>
<td>23.71</td>
</tr>
<tr>
<td>Croatia</td>
<td>27.90</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>29.60</td>
</tr>
<tr>
<td>Hungary</td>
<td>28.00</td>
</tr>
<tr>
<td>Poland</td>
<td>17.30</td>
</tr>
<tr>
<td>Slovak Republic</td>
<td>22.00</td>
</tr>
<tr>
<td>Slovenia</td>
<td>12.30</td>
</tr>
</tbody>
</table>
Off-shoring to CEE increased in importance in 2000’s:

Figure 4: Importance of Trade in Autoparts\textsuperscript{a} between Germany and Central European Countries\textsuperscript{b}, 1995 and 2003 (€ per automobile produced in Germany\textsuperscript{c})

\textsuperscript{a}Sum of German exports and imports of engines and other autoparts and accessories to/from four Central European countries. \textsuperscript{b}Sum of Czech Rep., Hungary, Poland and Slovak Rep. \textsuperscript{c}In constant prices of 2000. Source: VDA (a).
CEE auto part imports into Germany increasing

Figure 5: Share of Central European Countries in Germany's Total Imports of Engines and Other Auto parts, \(^a\) 1995 and 2003 (percent)

| Country       | 1995 | 2003  | Central Europe
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Czech Rep.</td>
<td>1.5</td>
<td>8.9</td>
<td>5.6</td>
</tr>
<tr>
<td>Hungary</td>
<td>2.9</td>
<td>11.2</td>
<td>28.7</td>
</tr>
<tr>
<td>Poland</td>
<td>0.5</td>
<td>7.0</td>
<td></td>
</tr>
<tr>
<td>Slovak Rep.</td>
<td>0.7</td>
<td>1.6</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\)Car bodies not included. \(^b\)Czech Rep., Hungary, Poland and Slovak Rep.
Source: VDA (a).
Important:
Not only off-shoring.
Trade is going in both directions

Figure 6: Trade Balance\(^a\) for Engines and Other Autoparts: Germany vis-à-vis Central and Eastern European Countries, 1995 and 2003 (million €)

\(^a\)German exports minus German imports. Car bodies not included.  
\(^b\)2002 instead of 2003; including Russian Federation.

Source: VDA (a).
In fact, German car companies produce a lot more vehicles for CEE than they export from CEE--using parts made in Germany.

Figure 2: Production of Passenger Cars by German Companies in Central Europe and German Imports and Exports from/to Central Europe, 1990-2003 (1000 units)

aCzech Rep., Hungary, Poland and Slovak Rep.
Source: VDA (a).
Interesting Picture

• Much more horizontal FDI than Vertical
  – Germans thrive in high wage environments
  – But even new China investment is mostly horizontal

• Vertical (off-shoring) increases in 2000s to Eastern Europe
  – CEE wages roughly 1/6 German levels

• But, CEE Off shoring is significantly intermingled with horizontal expansion by OEMs and Suppliers
  – Probably a sign that the regional economies are becoming increasingly integrated

• Pretty straightforward Globalization of an Old Economy Economy
Globalization is changing Germany

- **Old Germany**
  - Avoid price competition; emphasize quality
  - Defend niches
  - Excel in old economy (medium tech) sectors
  - Collaborative Labor Relations
  - Competition & Institutionally supported Cooperation
  - Export

- **New Global Germany**
  - Emphasize quality but at lowest possible cost (niches harder to defend)
  - Twin pressures of innovation & cost reduction/ Constant pressure on margins
  - Still excel in old economy (medium tech) sectors
  - Balance export with FDI presence in markets
  - Restructuring collaborative Labor Relations
  - Competition & Restructured institutionally supported Cooperation
Restructuring the institutional contours of the economy

- Financial and corporate governance changes
  - More mergers
  - Expansion outside of Germany
  - Globalizing Corporations

- Continuing institutional support for cooperation
  - In R&D
  - Market ordering: support for exports, specialization
  - Training

- Weakening unions/works councils at home
  - Conflicts over stakeholderism and how to define it
  - Not the old system; not clearly anti-collaborative
  - Defections by employers and employees from the system

- Clear pressure on wages:
  - Givebacks,
  - Local agreements for competitiveness and employment
  - Threat of off-shoring
Hourly Labor Costs in Manufacturing  
(Eurostat Methodology)  
% Change, year on year

<table>
<thead>
<tr>
<th>Country</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>05</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>2006</th>
<th>2nd</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1st</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>2.5</td>
<td>1.3</td>
<td>0.4</td>
<td>0.3</td>
<td>-0.1</td>
<td>0.8</td>
<td>0.7</td>
<td>1.1</td>
<td>1.6</td>
</tr>
<tr>
<td>Euro Area</td>
<td>3.3</td>
<td>2.6</td>
<td>2.4</td>
<td>2.7</td>
<td>2.6</td>
<td>2.2</td>
<td>2.3</td>
<td>2.2</td>
<td>2.2</td>
</tr>
</tbody>
</table>
Auto Worker Wages 1992-2003

Figure 7: Production versus Non-production Workers in the German Automobile Industry, 1992–2003

Employment share of production workers\textsuperscript{a}  
\begin{align*}
\text{percent} & \\
1992 & 76.2 \\
1996 & 73.8 \\
2003 & 70.2 \\
\end{align*}

Relative earnings of production workers\textsuperscript{b}  
\begin{align*}
\text{} & \text{1992} & \text{1996} & \text{2003} \\
\text{62.4} & \text{59.4} & \text{61.3} \\
\end{align*}

\textsuperscript{a}Percent of total employment of production and non-production workers. \textsuperscript{b}Per-capita annual earnings of production workers in percent of per-capita annual earnings of non-production workers.

Source: VDA (a).
German story centrally involves SMEs (especially MEs)

- Germany’s largest corporations rank only 6th in Stock Market Value on the Forbes Global 2000 list of largest corporations
  - behind (in order) USA, Japan, UK, France, China
  - 1/13th the size of US; a third as large as Japan & UK
  - Point: most key German manufacturers are of (relatively) modest size

- Machinery producers dominated by SME’s
  - Over half of total output from companies with less than 1000 employees
  - Small MNCs: groups of family firms (Shaeffle, Kern-Liebers)

- Auto suppliers dominated by SME’s
  - Medium sized producers among most competitive in World
  - All leading companies are privately held (Bosch, ZF, Brose, Hella)
SME Globalization

• Innovation & Cost Reduction

• Seeking Leverage & Coordinated Specialization
  – Internalizing cooperation

• Two Globalization/Offshoring Moves
  – Vertical FDI: Cost cutting
    • Shave off production not connected to development/design
    • Please the customer
    • Keep design and crucial production in Germany
  
  – Horizontal FDI: Market Opening
    • Follow customers/own initiative
    • Duplicate production in different locations: design & production
    • Create internal learning dynamics
    • Knowledge and Technology transfers

• Strategies not mutually exclusive
  – Will vertical become horizontal in the long term?
Table 1: Passenger Cars: Foreign Production by German Companies and German Imports and Exports, 1990–2003 (1000 units)

<table>
<thead>
<tr>
<th></th>
<th>Central Europe(^a)</th>
<th>China</th>
<th>Brazil and Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>prod.</td>
<td>imp.</td>
<td>exp.</td>
</tr>
<tr>
<td>1990</td>
<td>0.0</td>
<td>11.0</td>
<td>6.6</td>
</tr>
<tr>
<td>1996</td>
<td>240.1</td>
<td>68.9</td>
<td>126.2</td>
</tr>
<tr>
<td>2002</td>
<td>782.4</td>
<td>261.6</td>
<td>100.7</td>
</tr>
<tr>
<td>2003</td>
<td>733.9</td>
<td>270.6</td>
<td>115.8</td>
</tr>
</tbody>
</table>

\(^a\)Czech Rep., Hungary, Poland and Slovak Rep.

Source: VDA (a).