Germany:
Changing with Globalization

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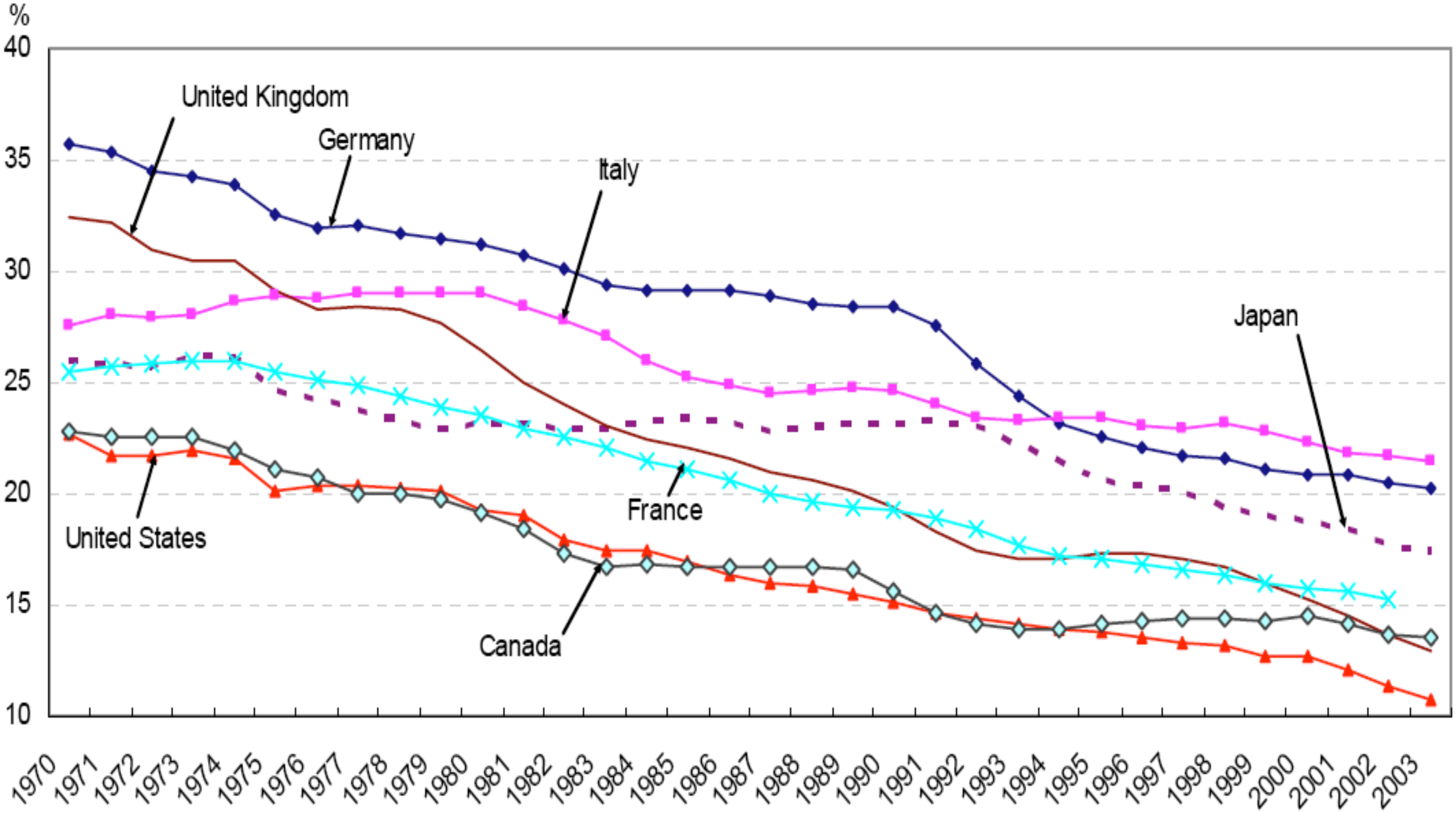
Germany Still Comparatively Highly Industrialized

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

Rank	Country	Amount
1	Germany	$1.133 trillion
2	USA	$1.024 trillion
3	China	$974 billion
4	Hong Kong	$611.6 billion
5	Japan	$590.3 billion
6	France	$490 billion
7	UK	$468.8 billion
8	Italy	$450.1 billion
9	Netherlands	$413.8 billion
10	Canada	$405 billion

Germany's Exports Concentrated in Old Economy Manufacturing

Principal exports fob 2005	US$ bn
Motor vehicles	187,073
Machinery	137,573
Chemical products	127,509
Metals and metal products	50,938
Devices for electricity production & distribution	48,250

Main destination of exports 2005	% of total
France	10.2
US	8.8
UK	7.8
Italy	6.9
Netherlands	6.1
Belgium	5.6
Austria	5.4
Spain	5.1

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

Largest FDI Countries in USA since 2002

Source Country	***# of Projects***	***Percent***
Japan	448	17%
Germany	*376*	*14%*
UK	374	14%
Canada	260	10%
France	197	7%
Other		38%

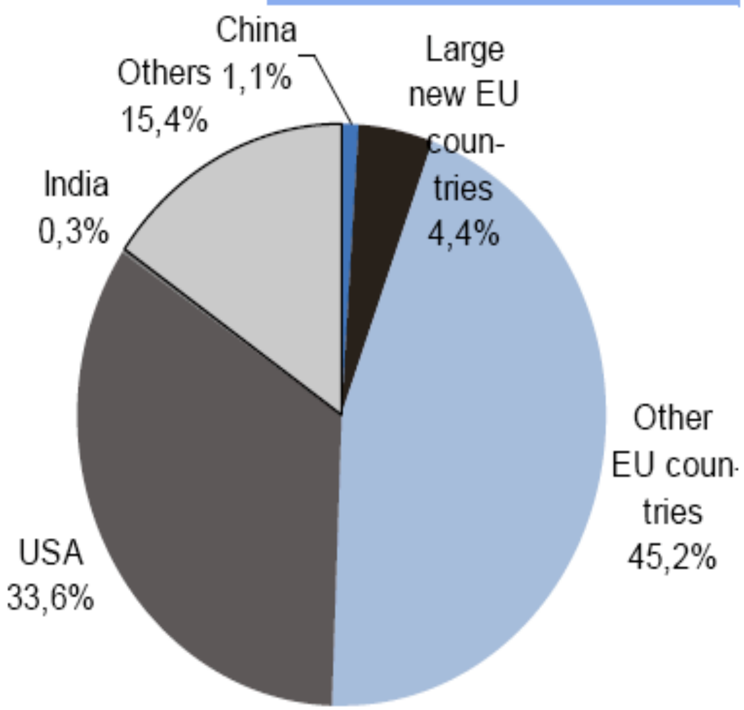
Data: Loco Monitor Website: http://www.locomonitor.com/index.cfm?page_title=FDI%20By%20Country&child_page=North%20America&c=USA&ShowAll=yes

Manufacturing
FDI to Asia (China/India) also growing

- But is modest

German investment in India lags other regions & countries...

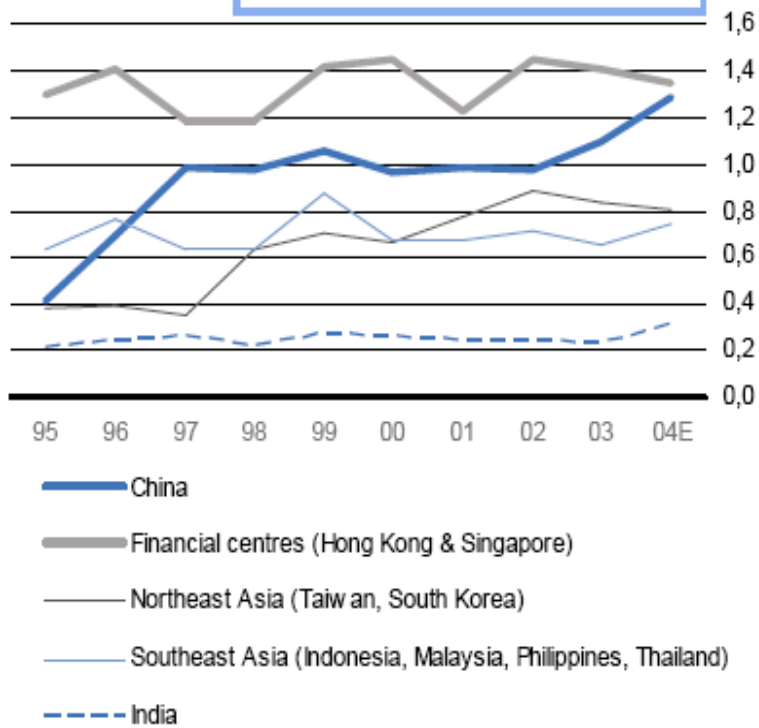
Regional and country shares of German FDI stock (2003)



Source: Deutsche Bundesbank

... While other locations in Asia are way ahead

% of total German FDI stock



2004 = Deutsche Bank Research estimates

Sources: Deutsche Bundesbank, Deutsche Bank Research

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

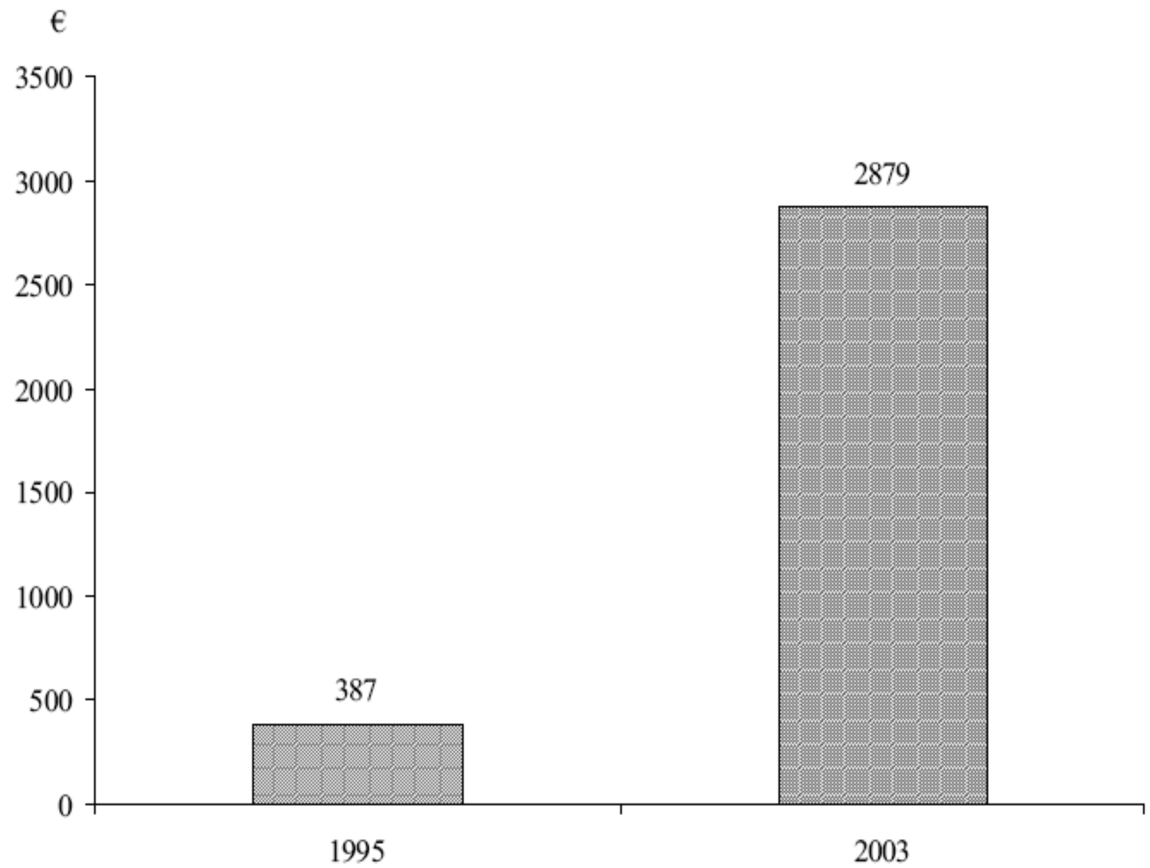
Germans are dominant players in CEE

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

country	share (in %) [1]
Central Eastern Europe	**23.71**
Croatia	27.90
Czech Republic	29.60
Hungary	28.00
Poland	17.30
Slovak Republic	22.00
Slovenia	12.30

Off-shoring to CEE increased in importance in 2000's:

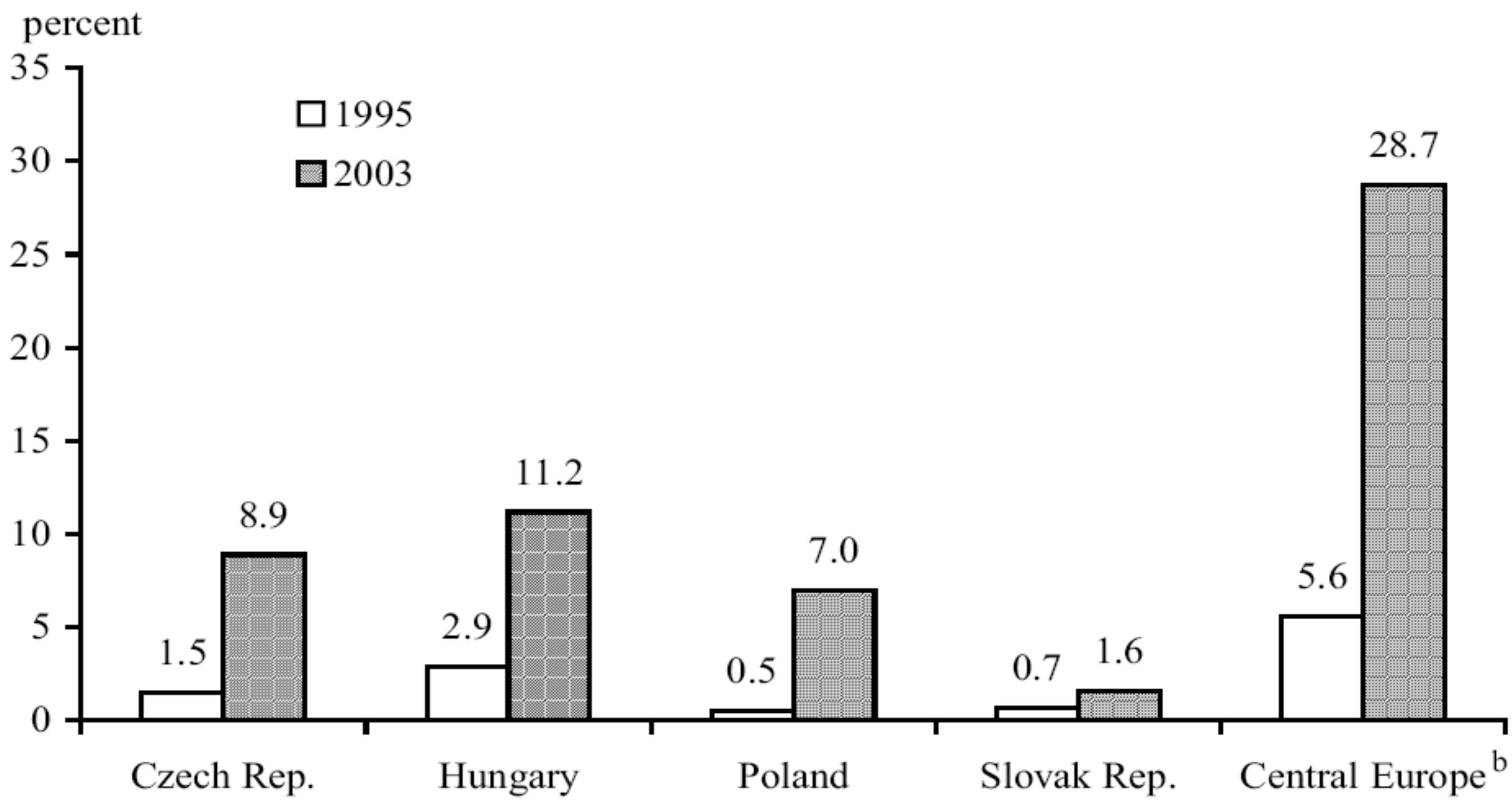
Figure 4 : Importance of Trade in Autoparts[a] between Germany and Central European Countries[b], 1995 and 2003 (€ per automobile produced in Germany[c])



[a]Sum of German exports and imports of engines and other autoparts and accessories to/from four Central European countries. [b]Sum of Czech Rep., Hungary, Poland and Slovak Rep. [c]In constant prices of 2000. Source: VDA (a).

CEE auto part imports into Germany increasing

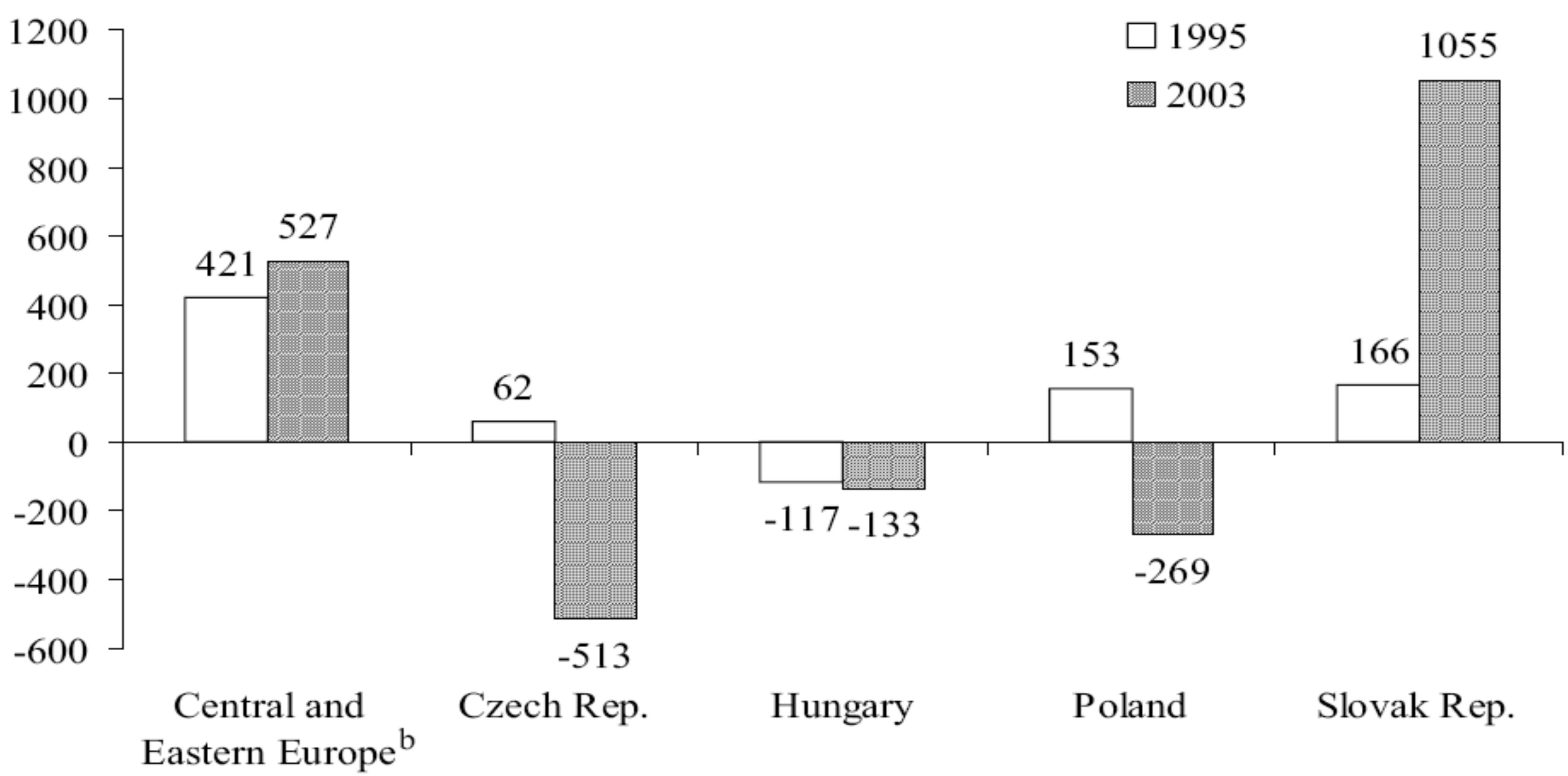
Figure 5: Share of Central European Countries in Germany's Total Imports of Engines and Other Autoparts,[a] 1995 and 2003 (percent)



[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

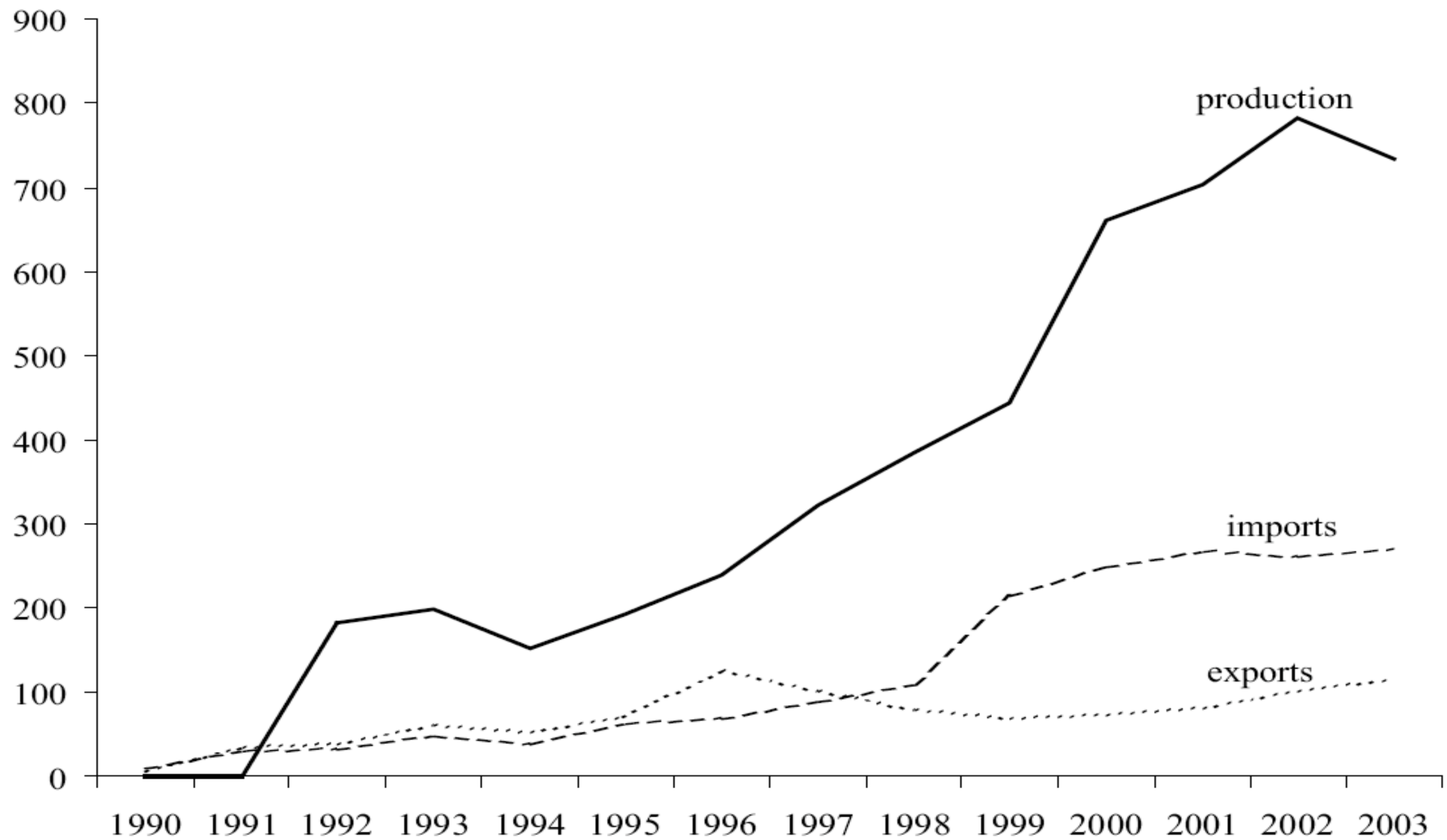
Figure 6: Trade Balance[a] for Engines and Other Autoparts: Germany vis-à-vis Central and Eastern European Countries, 1995 and 2003 (million €)



[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[a] and German Imports and Exports from/to Central Europe, 1990-2003 (1000 units)



[a]Czech 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

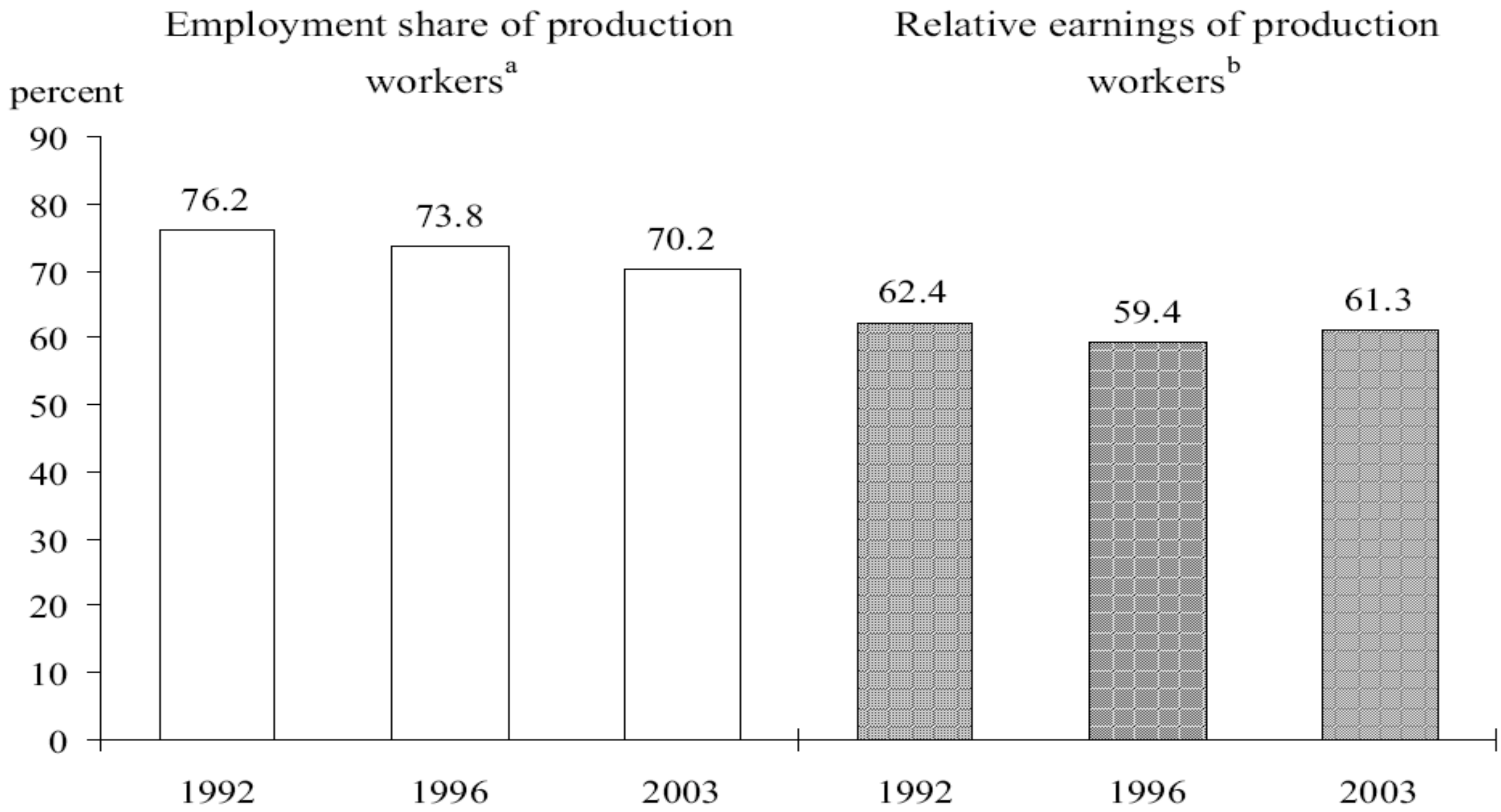
- Financial and corporate governance changes
  - More mergers
  - Expansion outside of Germany
  - Globalizing Corporations
- Continuing institutional support for cooperation
  - In R&D
  - Market ordering: support for exports, specialization
  - Training
- Weakening unions/works councils at home
  - 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

Country	2003	2004	2005	05 1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	2006 1st Qtr	2nd Qtr
Germany	2.5	1.3	0.4	0.3	-0.1	0.8	0.7	1.1	1.6
Euro Area	3.3	2.6	2.4	2.7	2.6	2.2	2.3	2.2	2.2

Auto Worker Wages 1992-2003

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



[a]Percent of total employment of production and non-production workers. [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?

German Passenger Car Production in CE, China, Brazil /Mexico

Table 1: Passenger Cars: Foreign Production by German Companies and German Imports and Exports, 1990–2003 (1000 units)

	Central Europe[a]			China			Brazil and Mexico		
	prod.	imp.	exp.	prod.	imp.	exp.	prod.	imp.	exp.
1990	0.0	11.0	6.6	0.0	0.0	2.8	425.8	1.3	1.1
1996	240.1	68.9	126.2	226.4	0.0	4.0	735.0	6.9	11.9
2002	782.4	261.6	100.7	437.6	0.3	22.9	799.8	24.0	33.9
2003	733.9	270.6	115.8	624.8	3.5	44.2	716.4	45.5	28.4

[a]Czech Rep., Hungary, Poland and Slovak Rep.

Source: VDA (a).