

Chance for Central Eastern Europe: new pole of research and development

Regional Development in
Central and Eastern
Europe - International
Conference,
20-22 September,
Warsaw

György Kukely
Centre for Regional Studies
Hungarian Academy of Sciences
Budapest, Hungary
kukelygyorgy@yahoo.com

Central Eastern Europe (CEE)

Visegrad countries

- EU-members since 2004
- 64 millions inhabitants
- weight in EU-27
 - 13% of population
 - 5% of GDP
 - 5% of FDI
 - 3,5 % of R&D



Main questions

- New tendencies in FDI
- Growing role of R&D in FDI
- New structure of R&D
- CEE in the global R&D

Changing of FDI inflows

Region/Country	2000–2002 (2000=100%)	2003–2005 (2003=100%)
EU 25	44	166
EU 10	107	259
Czech Republic	170	523
Hungary	108	313
Poland	44	168
Slovakia	213	252
Russia	128	183
China	130	135
India	157	144

Internationalization of R&D

- R&D is the lowest internationalized activity
- R&D outsourcing is growing
 - Changed causes:
 - growing R&D costs
 - growing complexity of innovation – knowledge, skills, equipment
 - the firms need to bring out new products faster
- MNEs are the motor of internationalization

R&D for host countries

- R&D related FDI dynamize the economic growth
- Host countries profit directly by spreading the modern technical and management knowledge
- Or „brain-drain”, useful only for enterprises
- Embeddedness – separated islands or embedded units - cooperation

R&D facts in CEE

- GERD (Gross domestic Expenditure on R&D) is below 1-1,5% of GDP (1,42% in CR, 0,95% in Hungary)
- 3,5% of GERD in EU-25 by 4 CEE countries (13% of population)
- Shrinking former R&D structure, mainly on business part - R&D system underwent a major transformation
- Rare cooperations between universities and enterprises
- High level of education system – well educated and skilled manpower

Main processes

- Dynamic increase of foreign companies in BERD
- Growing but still low share of industry in GERD
- Growing R&D in high-tech and medium-tech industry
- Most of the business R&D is concentrated in high and medium-technology industries
- In pure R&D activities foreign affiliates play a limited role – a few big laboratories

Business R&D expenditure in GERD

	1991	2000	2004
OECD	68,2	69,5	67,9
Korea	..	74	76,7
Japan	70,7	71	75,2
USA	71,1	74,7	70,1
EU	63,4	64,5	64,1
Germany	69,3	70,3	70,4
Czech Republic	69,4	60	63,7
Slovakia	74,6	65,8	49,2
Hungary	41,4	44,3	41,1
Poland	..	36,1	28,7

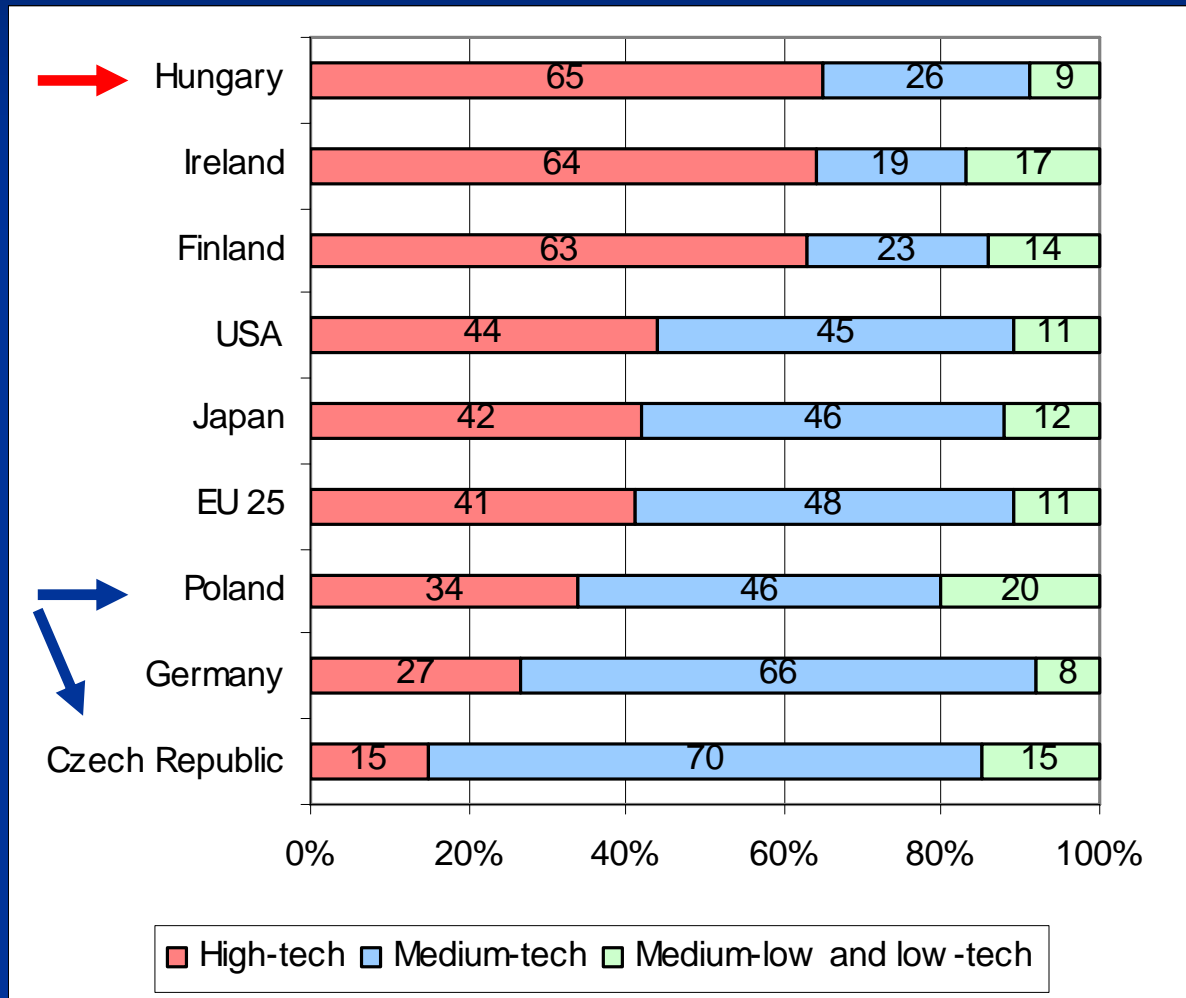
Source: OECD

Business enterprise R&D expenditure (BERD) in millions EUR

	2000	2005	growth (%)
Hungary	136	281	207
Czech Rep.	360	738	205
Poland	286	365	128
Ireland	834	1160	139
Finland	2992	3511*	117
Germany	32333	35449*	109
France	15671	17736*	113

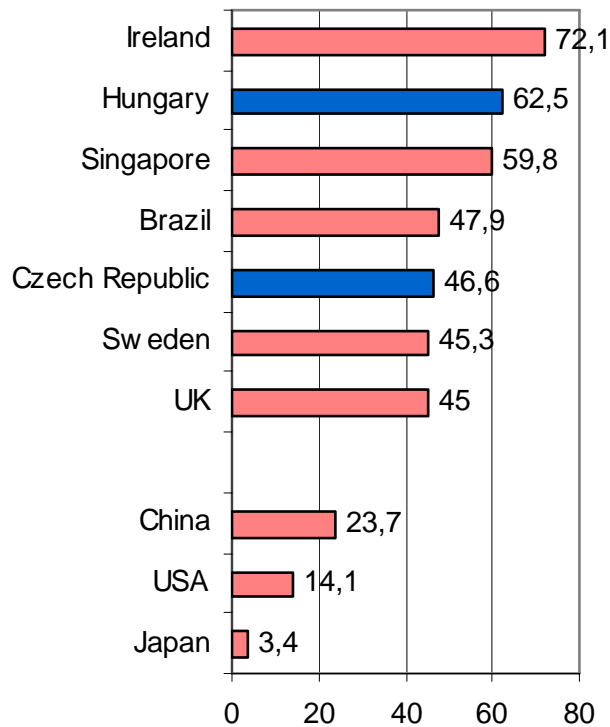
Source: Eurostat *2004

Manufacturing BERD by type of industry, 2002

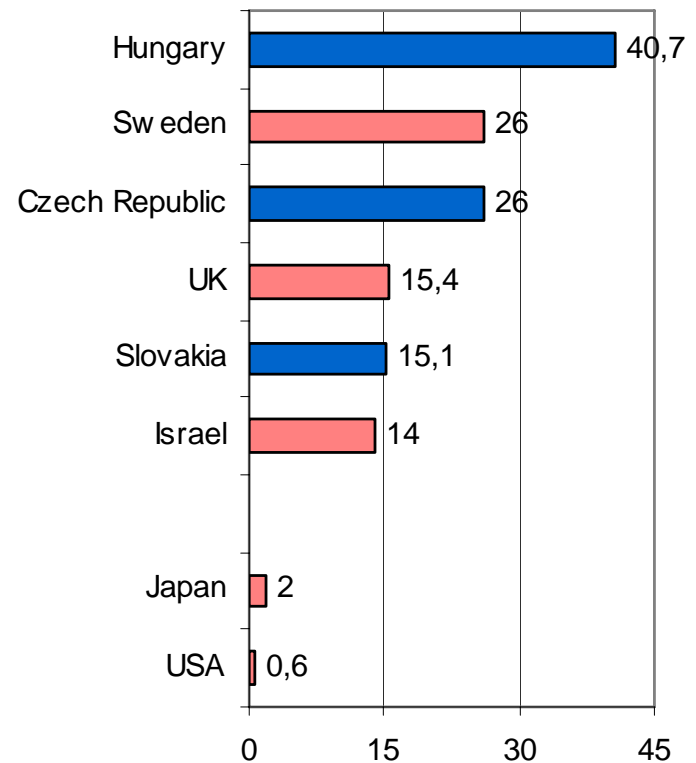


R&D expenditure by foreign affiliates

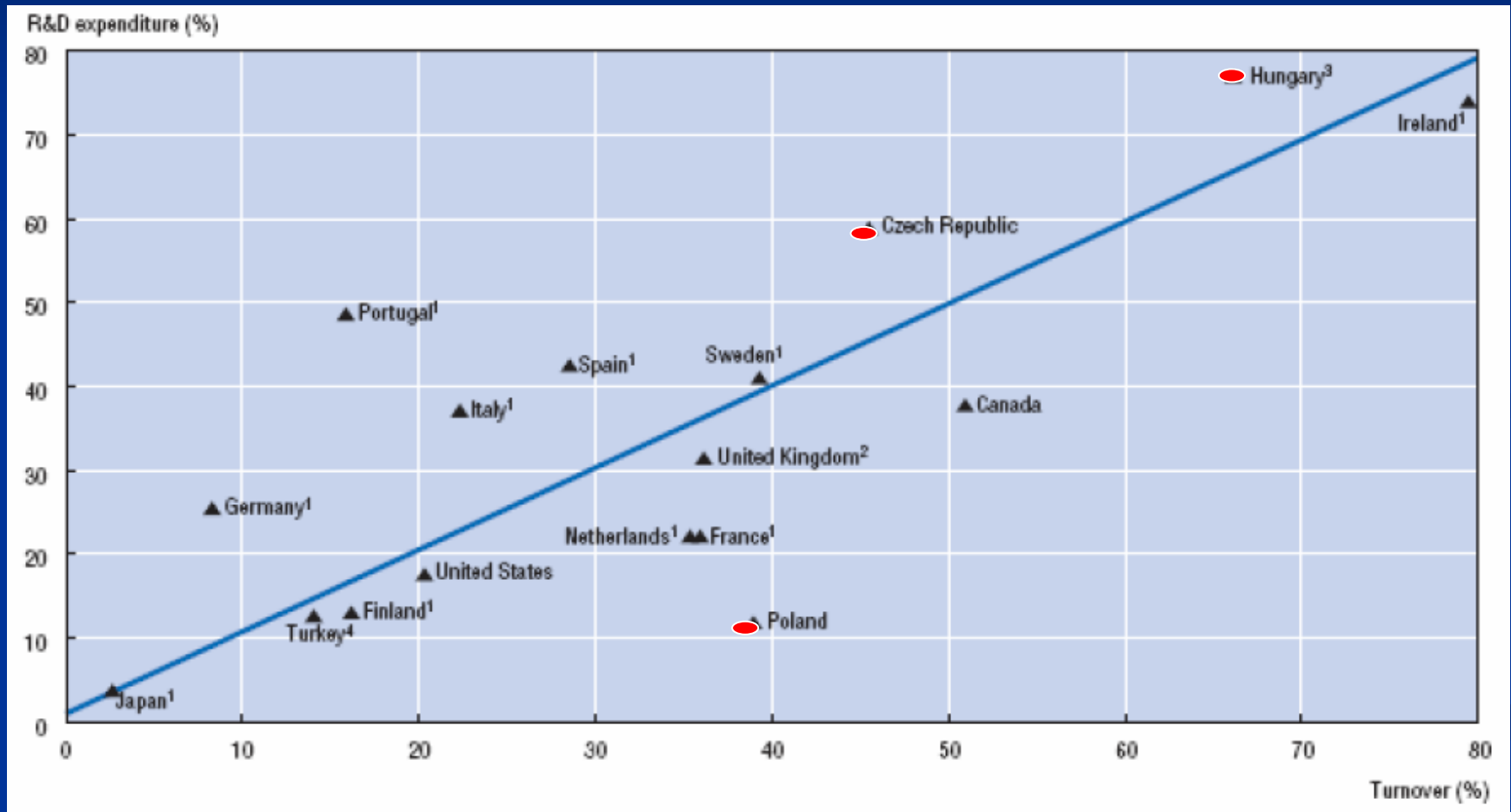
Share of foreign affiliates in business R&D, 2003



Change between 1995-2003

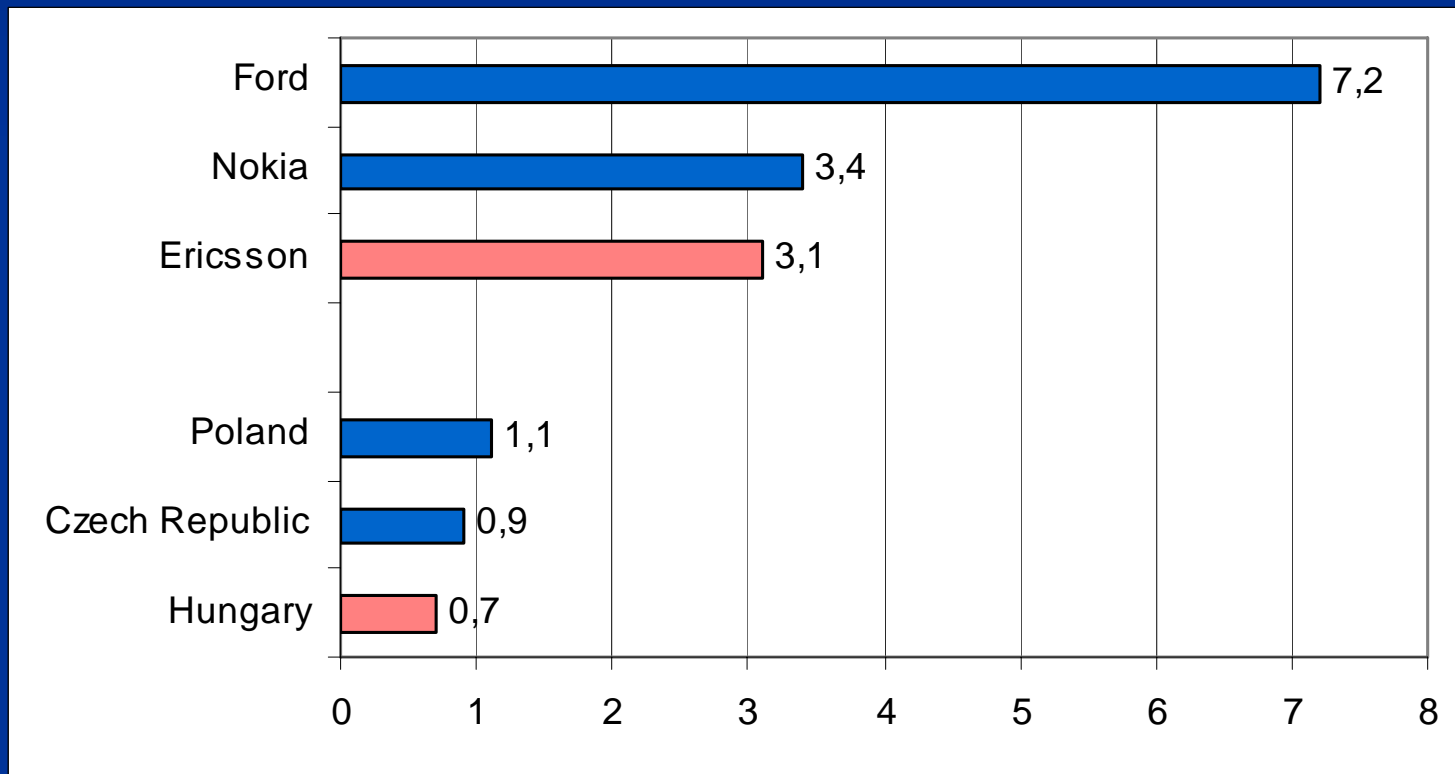


Share of foreign companies in manufacturing revenue and R&D expenditure, 2002



Source: OECD STI Scoreboard, 2005

R&D expenditure (billion USD, 2002)

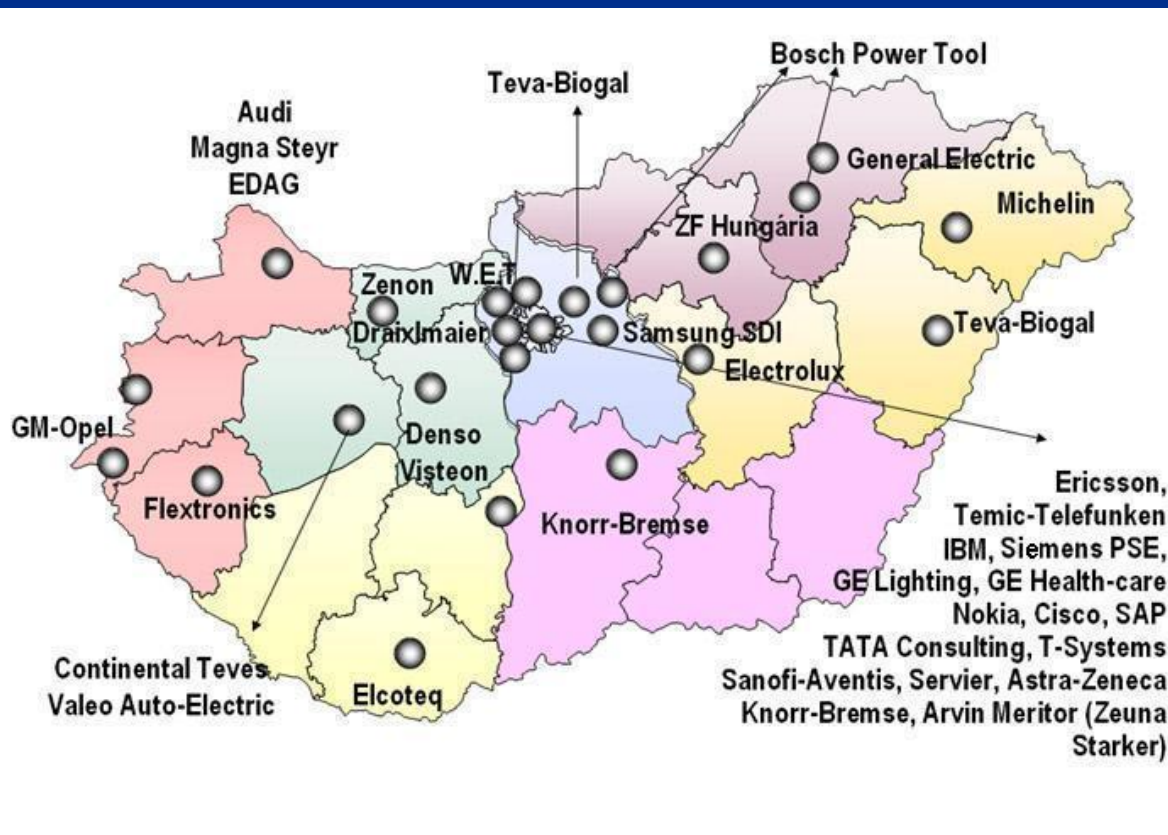


Source: UNCTAD

Case of Hungary

- The most progressive growth by foreign affiliates
- Some big foreign laboratories
- The Hungarian research units are very small and not increasing compared to the foreign units which are 6-times bigger!
- The difference in capital equipment is 15-fold.

R&D of TNCs in Hungary



- **Pharmaceuticals**
- **Information and telecommunication**
- **Automotive industry**
- **Lighting technique**
- **Medical equipment**
- **Agri-food**
- **Household chemicals**
- **New materials**

Strategic government objectives concerning R&D (2005-2013)

- Strengthening the R&D activity of companies
- Creation of globally competitive R&D and Innovation Centres, research universities
- Strengthening research-technology-development and innovation capacities of regions

New Policy: Development Poles

- Focus on innovation-driven economic development and development of knowledge economy
- Strategic aim: encouraging cooperation among the actors of the knowledge economy to create more innovative products and services

Thank you for your attention!

György Kukely
Centre for Regional Studies
Hungarian Academy of Sciences
Budapest, Hungary
kukelygyorgy@yahoo.com