

Putting R&D into higher gear in Hungary



Investing in Research and Innovation
Noordwijk, NL





- High GDP growth (3,8% in 2004)
- Industrial output growth 6.4%,
- Export growth (volume index 117.9)
- High FDI (3.4 B Euro)
- Unemployment rate 5.5%
- Privatization nearly complete



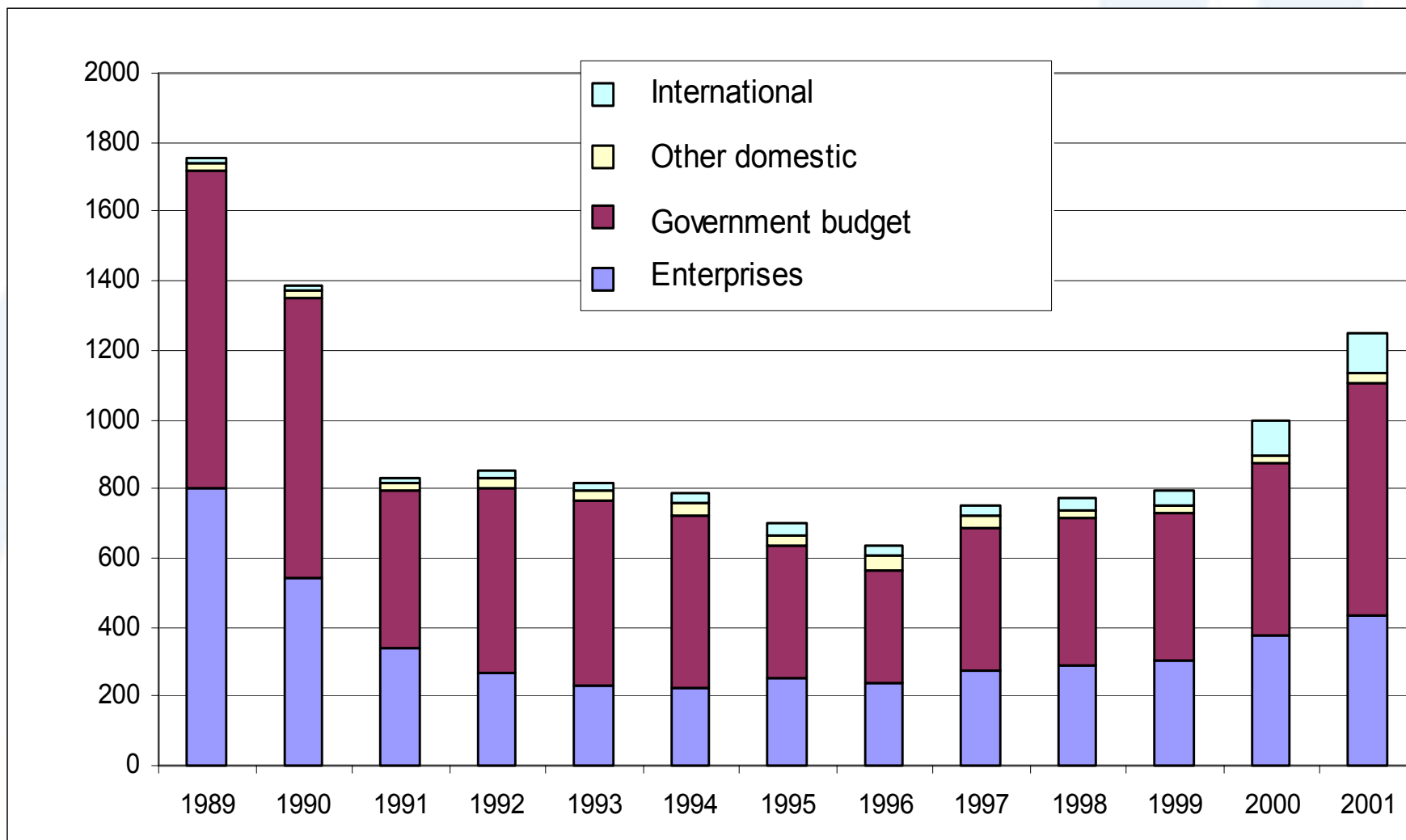
- **To promote and accelerate the economic growth of Hungary by investing in R&D and innovation**

Following the bandwagon or seeking new ways?



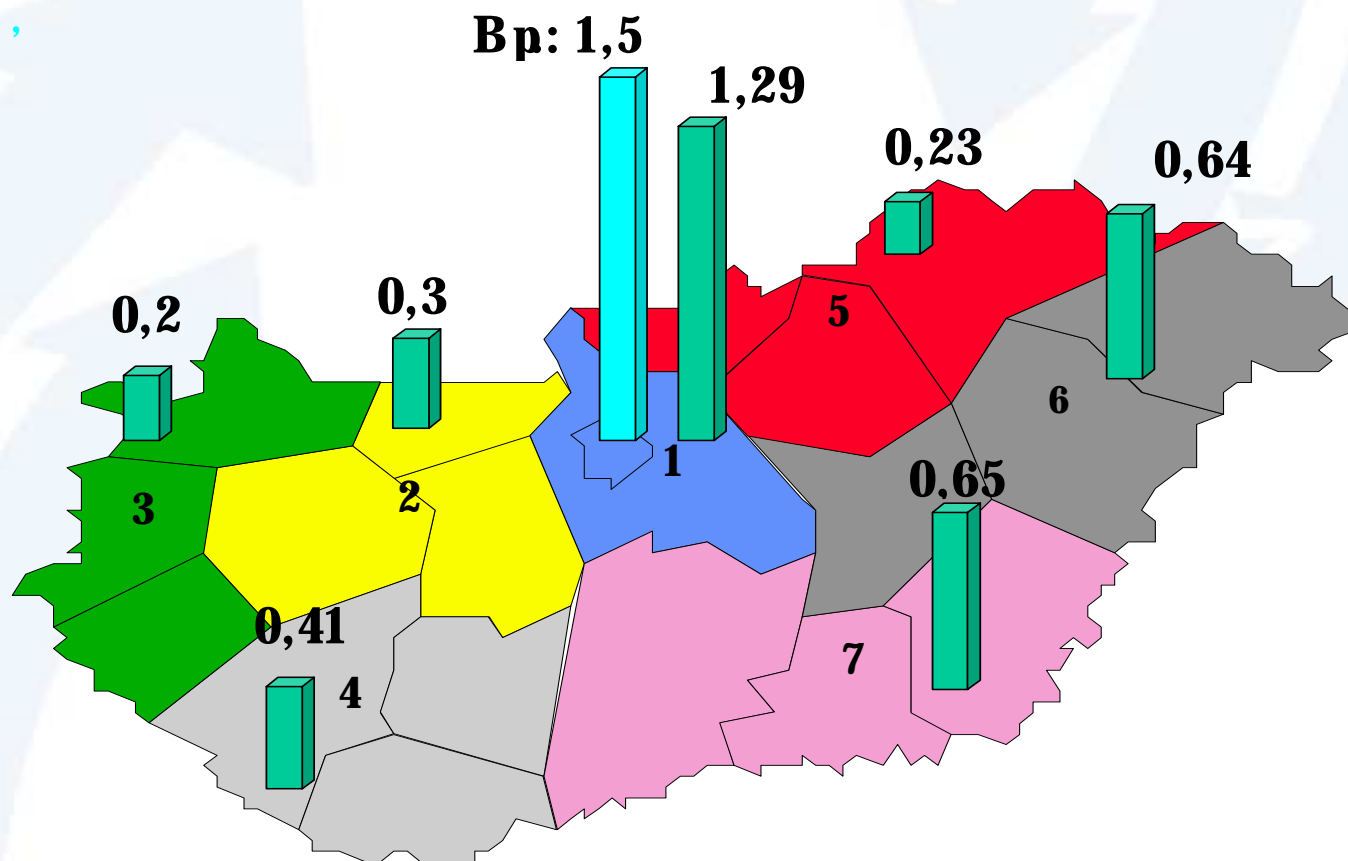
- Low R&D expenditure, predominated by public funding
- Low innovation intensity of companies, especially SMEs
- Strong science base, but with inadequate linkages to industry
- Weak commercialisation and exploitation of R&D results- lack of patenting and seed-,VC
- Small, aging research staff, brain drain
- Inadequate infrastructure
- Regional disparity

Where we stand? Spending on R&D: low entrepreneurial activity



Hungarian R&D expenditures, in 1989 dollars. Source: Central Statistical Office

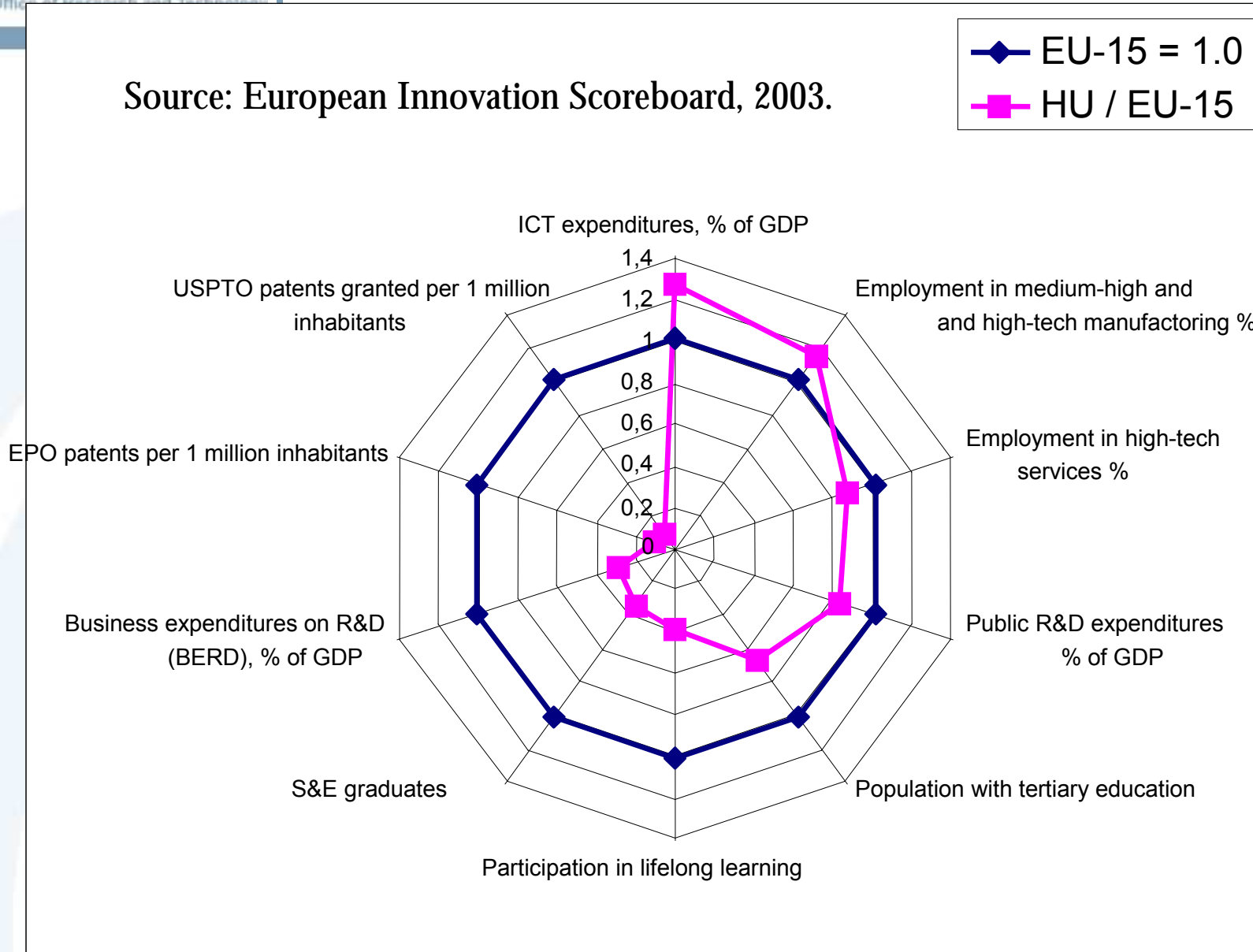
Regional distribution of R&D expenditures (GERD/GDP, %) Based on data of FY 2001.



Innovation indicators compared to EU-15



Source: European Innovation Scoreboard, 2003.





Internationally recognised, high level science base

High quality education system

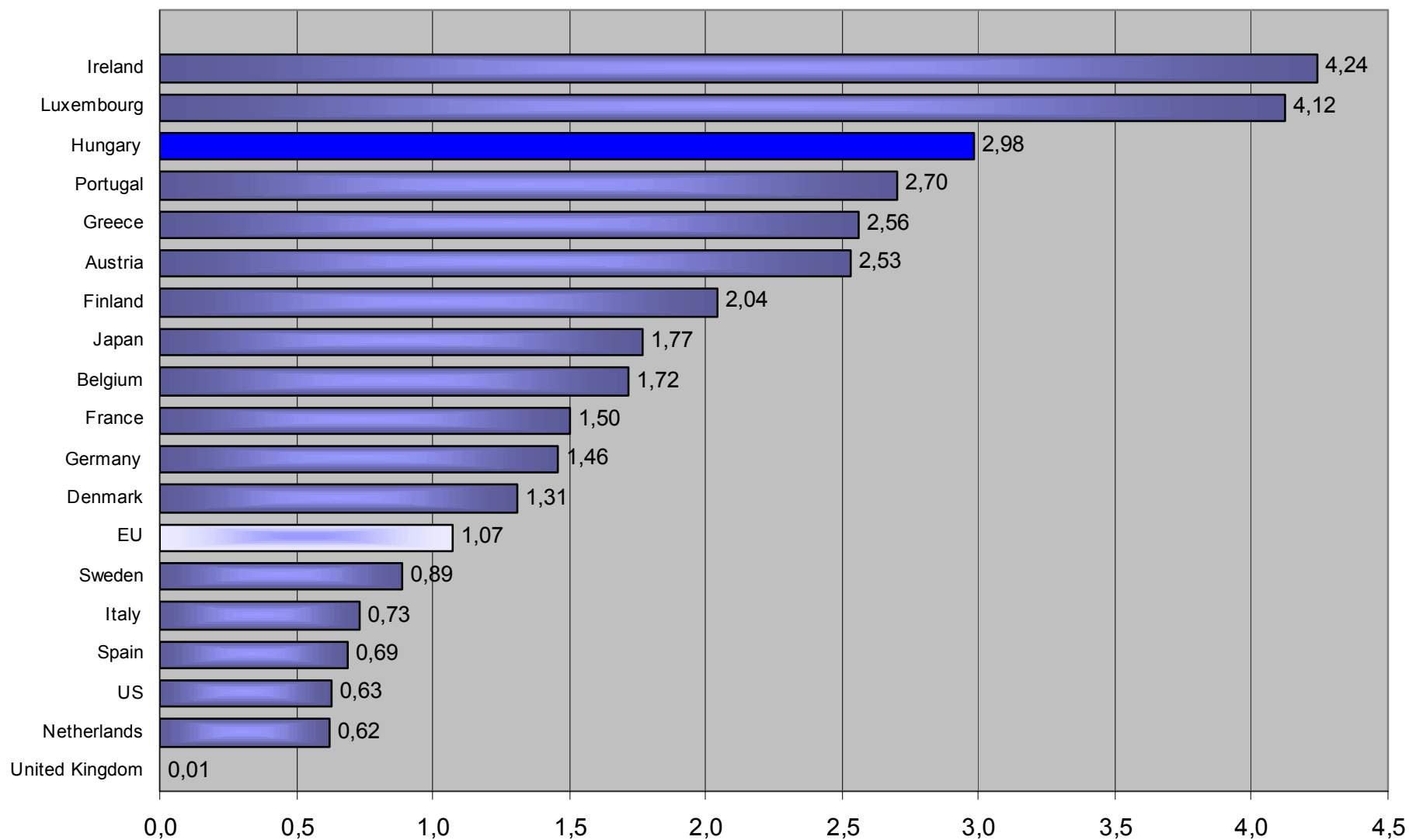
Highly qualified workforce, esp in natural sciences, engineering and medical sciences

Presence of MNEs with R&D units

Increasing weight of knowledge intensive sectors

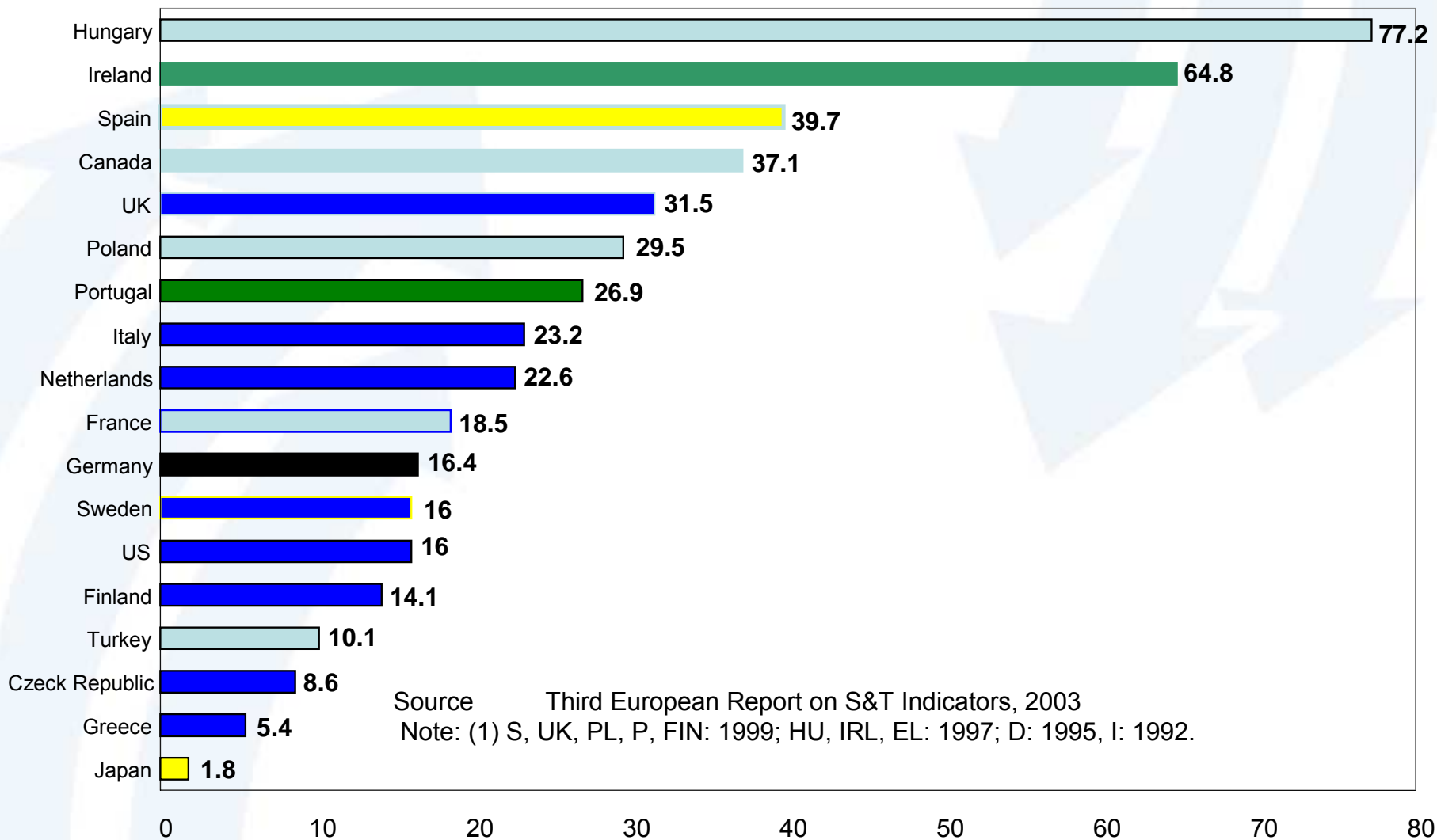
Productivity growth

Labour productivity (GDP per hour worked) - average annual real growth (%), 1995 to latest available year





Share of foreign affiliates in manufacturing R&D, %, 1998 or latest available year (1)





- Increase GERD/GDP to 1.8% by 2006
- Stimulate more business R&D expenditure
- Shift beyond R&D to innovation
- Increase commercialisation of R&D results
- Empower the regions
- Promote industry-academia relations
- Use SA for building innovation capacities

Recent developments in the National Innovation System

- 1. Financing system**
- 2. Institutional set-up**
- 3. Regulatory framework**

established on 1st January, 2004

AIM: to ensure predictable and reliable financing for the implementation of R&D, innovation policy

Right of disposal- delegated to NKTH president

Managed by implementation agency KPI

Monitored by Research and Innovation council

Project-based competitive funding schemes

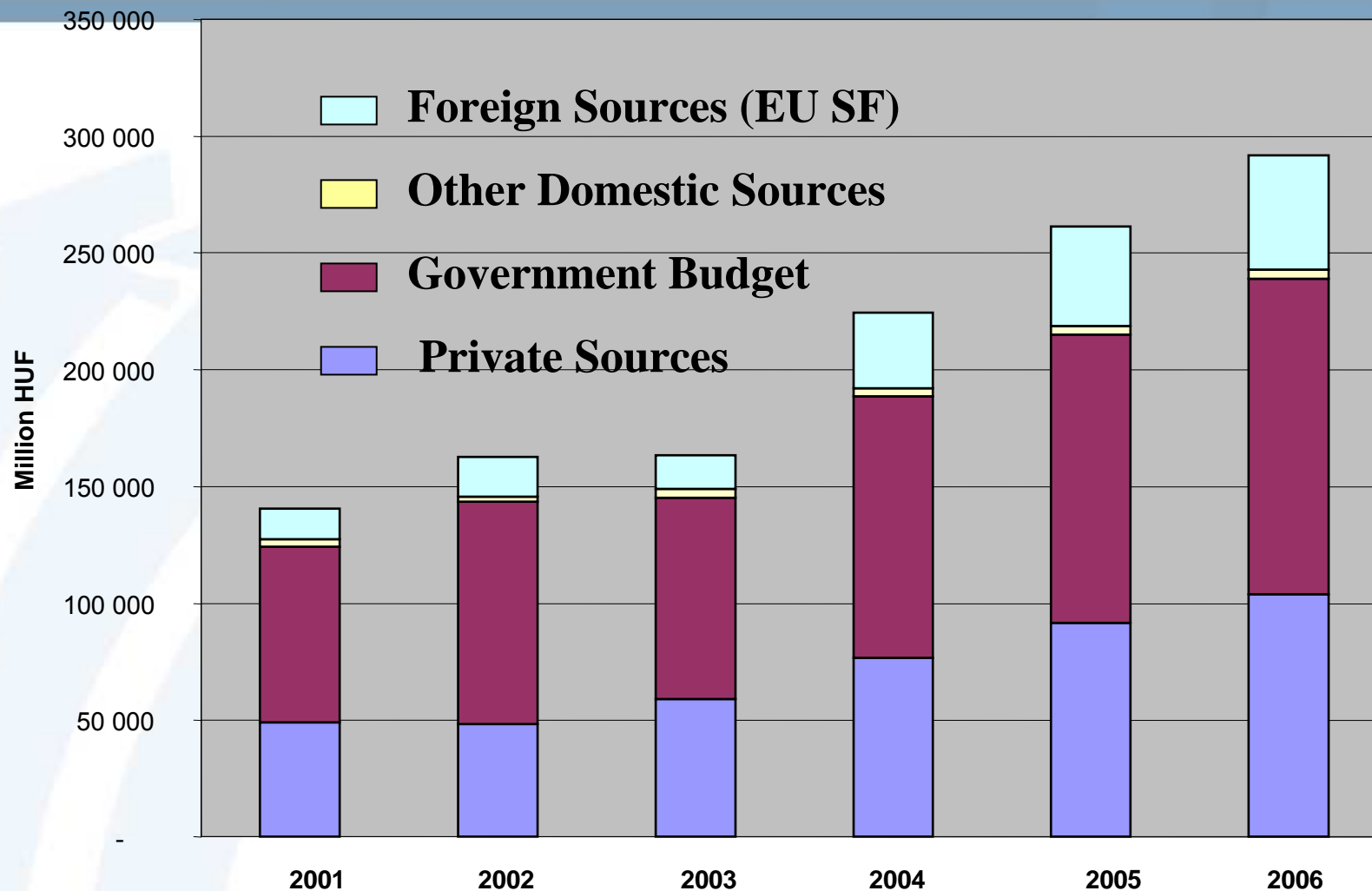


- **consists of mandatory contributions of enterprises calculated on tax base**
- **matching resources from state budget**
- **to be spent directly or indirectly on industrial R&D, innovation goals**
- **25°% dedicated to regional innovation objectives**
- **95% spent by merit based competitive applications**

- **Compulsory payments of the enterprises based on their annual net adjusted returns**
- **Compulsory support from the governmental R&D budget (matching fund)**
- **Voluntary contributions of enterprises and individuals**
- **International financial resources**
- **Other incomes**

	2004	2005	2006	2007
Small Enterprises (10-50 employees)	0,05 %	0,1 %	0,15%	0,2%
Medium and Large Enterprises (over 50 employees)	0,2 %	0,25%	0,3%	0,3%

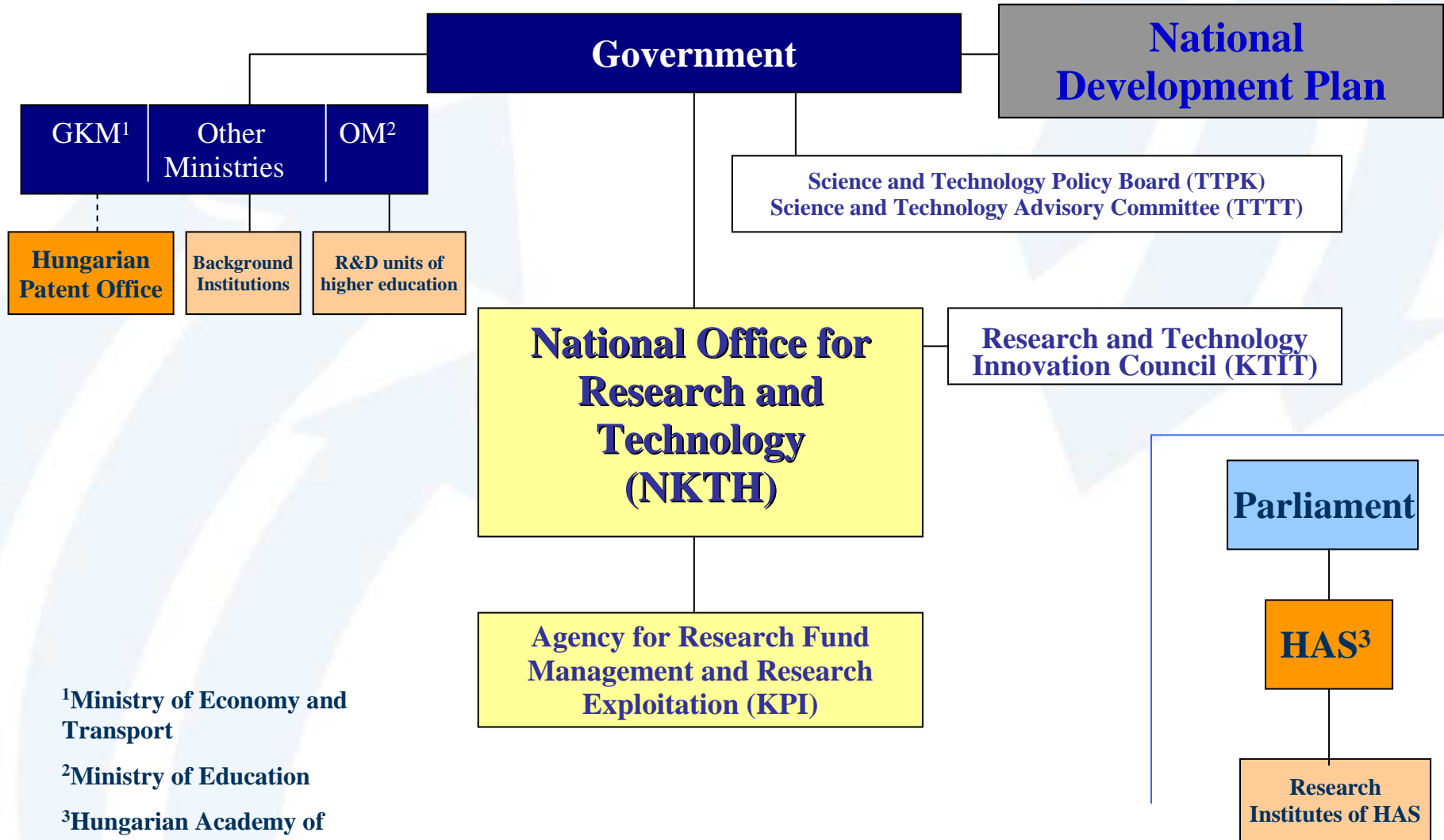
Small Enterprises (*less than 10 employees*) do not have to pay (*deductable with own or outsourced direct R&D costs*)





Cross-cutting, multidimensional nature of innovation requires new structures

- More transparent and effective- separation of policy-making and fund management
- Coordination and interaction with other policies
- Increased involvement of non-governmental stakeholders
- Strong leadership



¹Ministry of Economy and Transport

²Ministry of Education

³Hungarian Academy of Sciences

- **Responsibility: shape governmental science and technology policy**
- **Headed by the Prime Minister of Hungary**
- **Deputy Chairs :**
 - **Minister of Education and**
 - **President of Hungarian Academy of Sciences**
- **Members :**
 - **Ministers with different portfolios**
 - **Head of the National Development Office**
 - **President of the National Office for Research and Technology**

- **Develops and elaborates governmental research and innovation strategy**
- **Independent governmental organisation**
- **Financed by separate budget line**
- **Supervised by Minister of Education**

- Responsibility: strategic issues related to planning and monitoring the utilisation of Fund
- Headed by non-government representative
- Members
 - 8 non-governmental representatives
 - 7 government representatives

- **operates as the implementation agency since 1st July, 2003, supervised by the president of NKTH**
- **manages R&D call for proposals, evaluations and follow up activities**
- **promotes the public-private partnership**
- **provides support services**



Act on Innovation

planned for Parliament 2004. Q4

Vital elements:

- Enable the creation of innovative firms, e.g. spin-offs
- Strengthen research and technology adoption capacities
- Increase attractiveness of research careers
- Support industry- academy relationship building via regional centers & networks
- Support provision of innovation services, (lack of bridging institutions)



- Focusing – on breakthrough potentials
- Boosting corporate innovation by emphasis on commercialisation
- Promoting connections between academia and business
- Helping SMEs to catch up by regional innovation strategies- setting up of Regional Innovation Agencies
- Simplifying procedures
- Evaluation by international experts



- Regional concentration of skills & know-how over critical mass
- Securing postdoctoral jobs
- Fostering new roles of universities in the regions
- Interplay between industry –academia
- Encourage creation of innovative SMEs, start-ups, spin-offs
- Strengthen research and technology adoption capacities



Support for technology & knowledge intensive micro enterprises

- Early phase financing
- Technology transfer and acquiring IPR
- Experimental development
- Providing innovation services
- Campus enterprises
- Venture capital



- Funding –targeted
- Incentives
 - IPR
 - Rewards for entrepreneurship
 - Technical& financial risk sharing, reduction
- Culture change
- Long term sustainable support structures
 - Finding partners, management & marketing services



Academia

Government

Industry/Business



Innovation
[fuel]



Government
[steering wheel]
NOT BRAKES

Industry/Business
[engine]



Commitment and funding available for boosting corporate R&D and innovation, as well as business-academia linkages