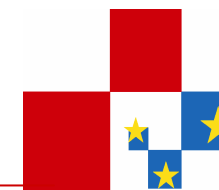


Croatian research capacity



26	Public institutes	1.400	M.Sc./D.Sc.
6	Universities	7.219	M.Sc./D.Sc.
<hr/>			
	Total	8.619	M.Sc./D.Sc.
		1.542	Other

Registered researchers in public institutes and universities

M.Sc. 3.084

D.Sc. 5.535

Registered researchers in industry and private firms

M.Sc. 2.703

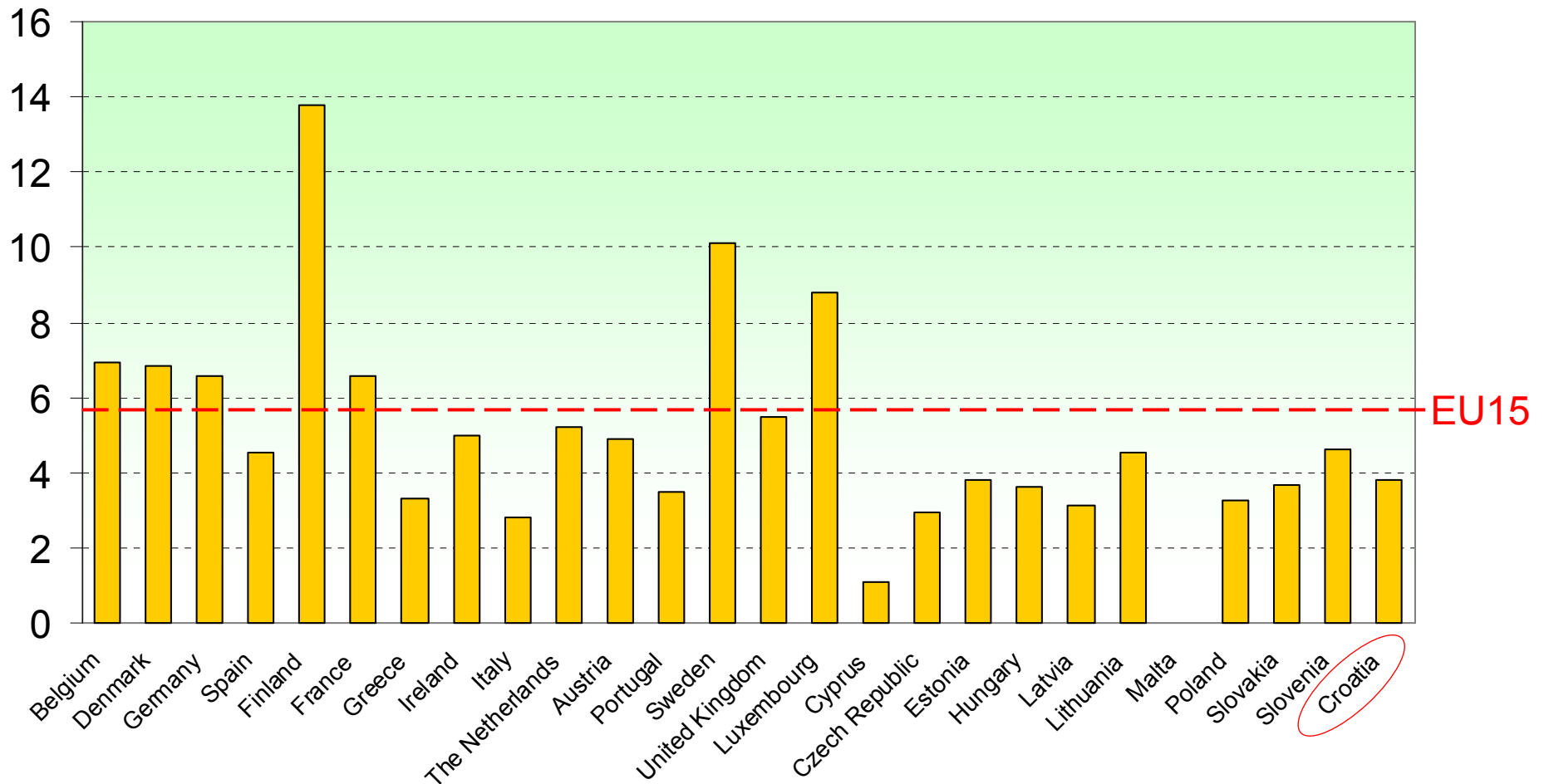
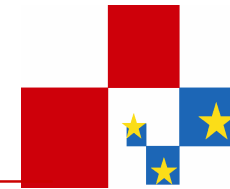
D.Sc. 976

Source: MZES, 2005



Number of researchers

(FTE) per 1000 labor force

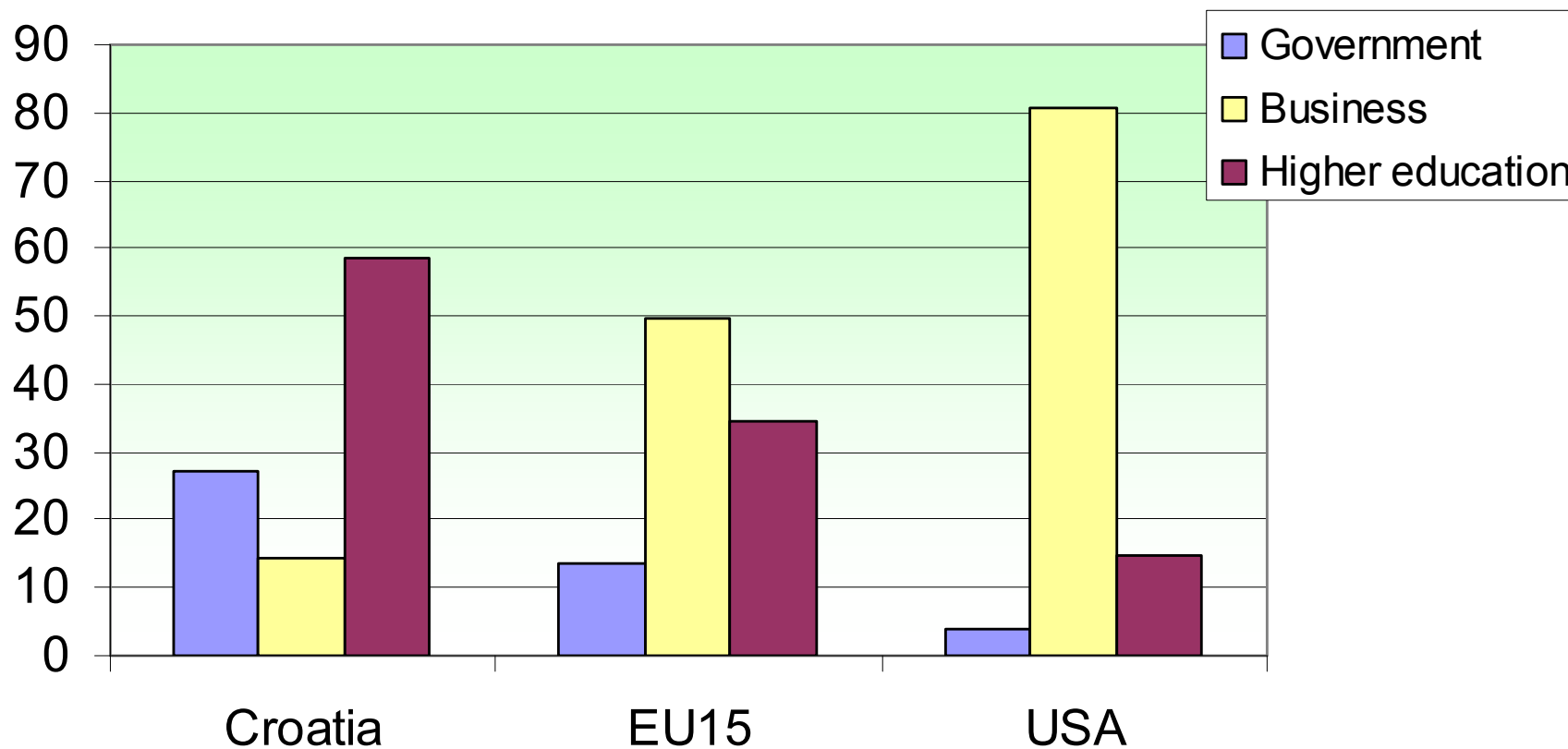
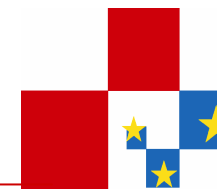


Source: CBS, Eurostat – 2001



Research capacity

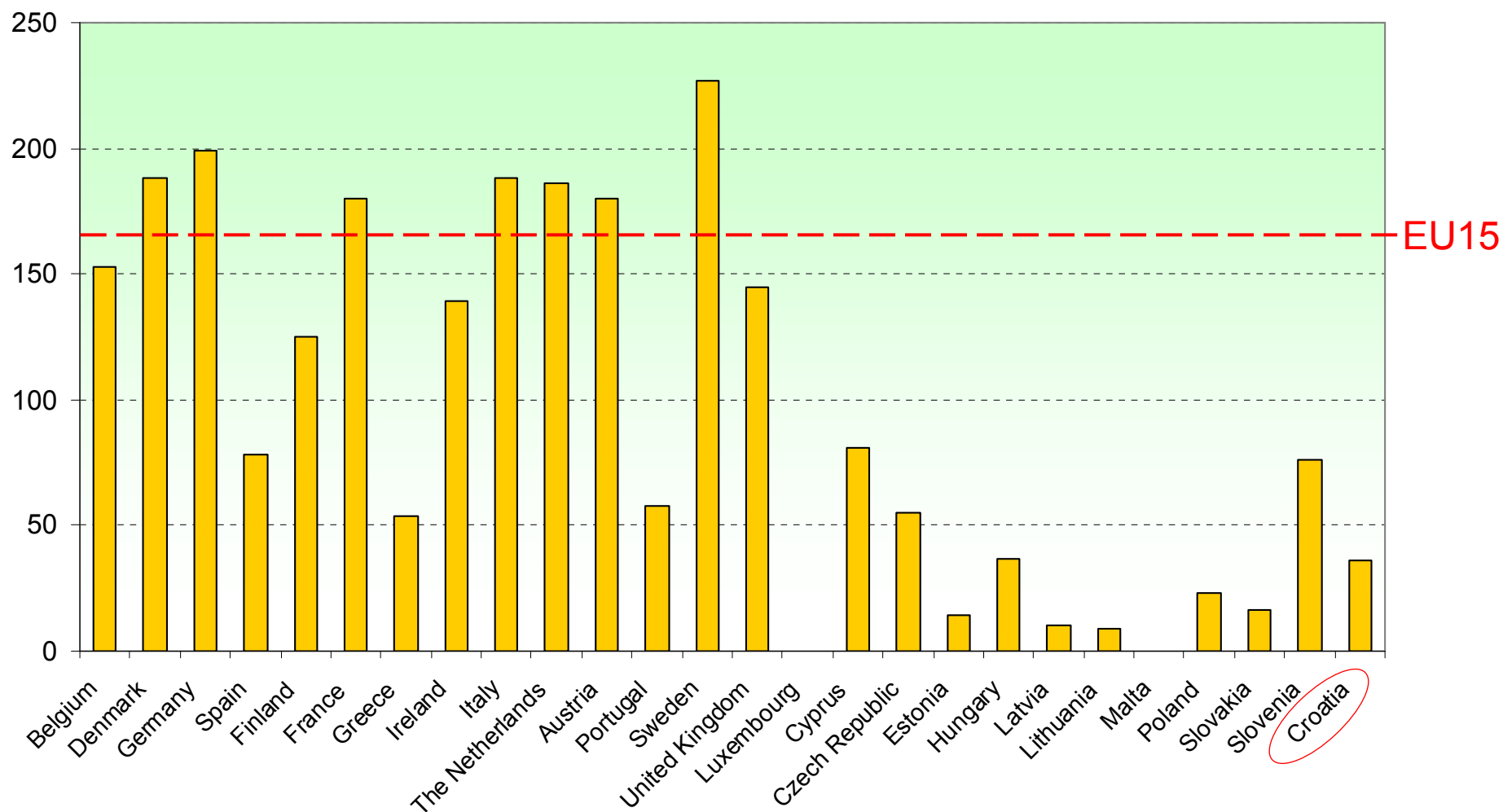
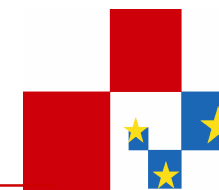
FTE by sectors (%)



Source: CBS, Eurostat – 2001



Average expenditure per researcher (in 1000 €)

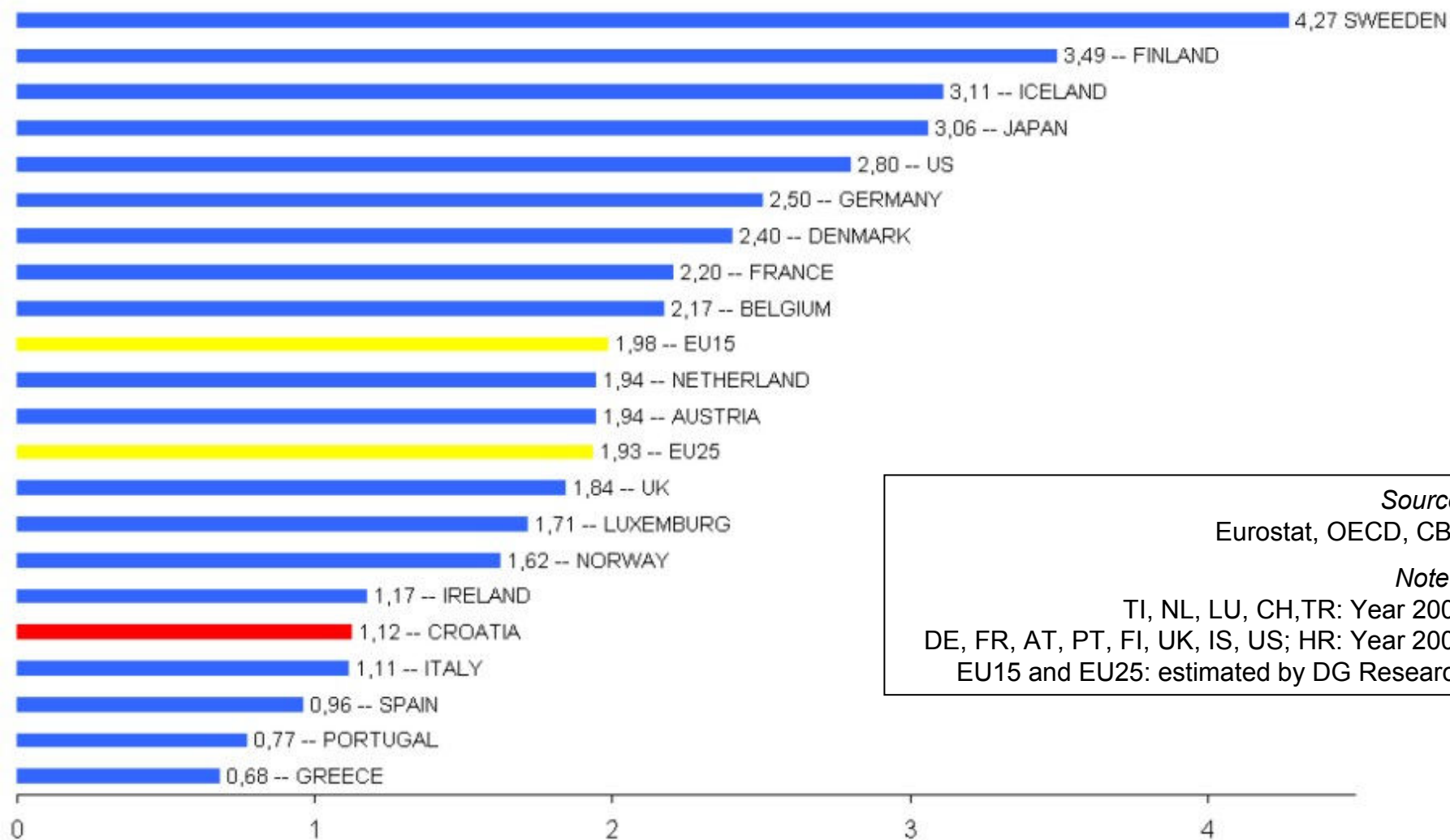
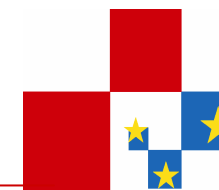


Source: CBS, Eurostat – 2001



R&D intensity

GERD as % of GDP



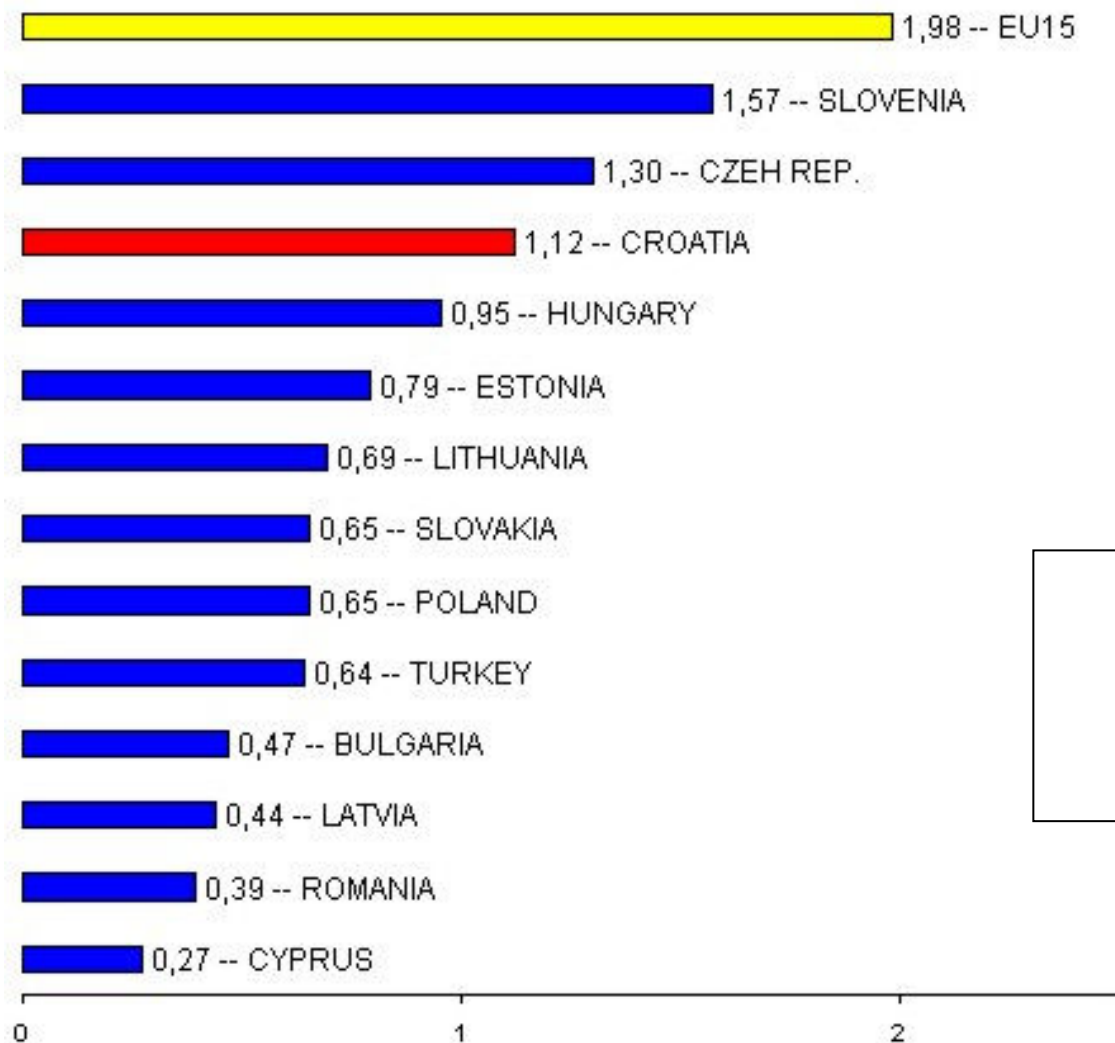
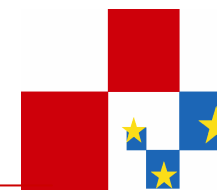
Source:
Eurostat, OECD, CBS

Notes:
TI, NL, LU, CH,TR: Year 2000
DE, FR, AT, PT, FI, UK, IS, US; HR: Year 2002
EU15 and EU25: estimated by DG Research



R&D intensity

GERD as % of GDP (accessing countries* 2001)

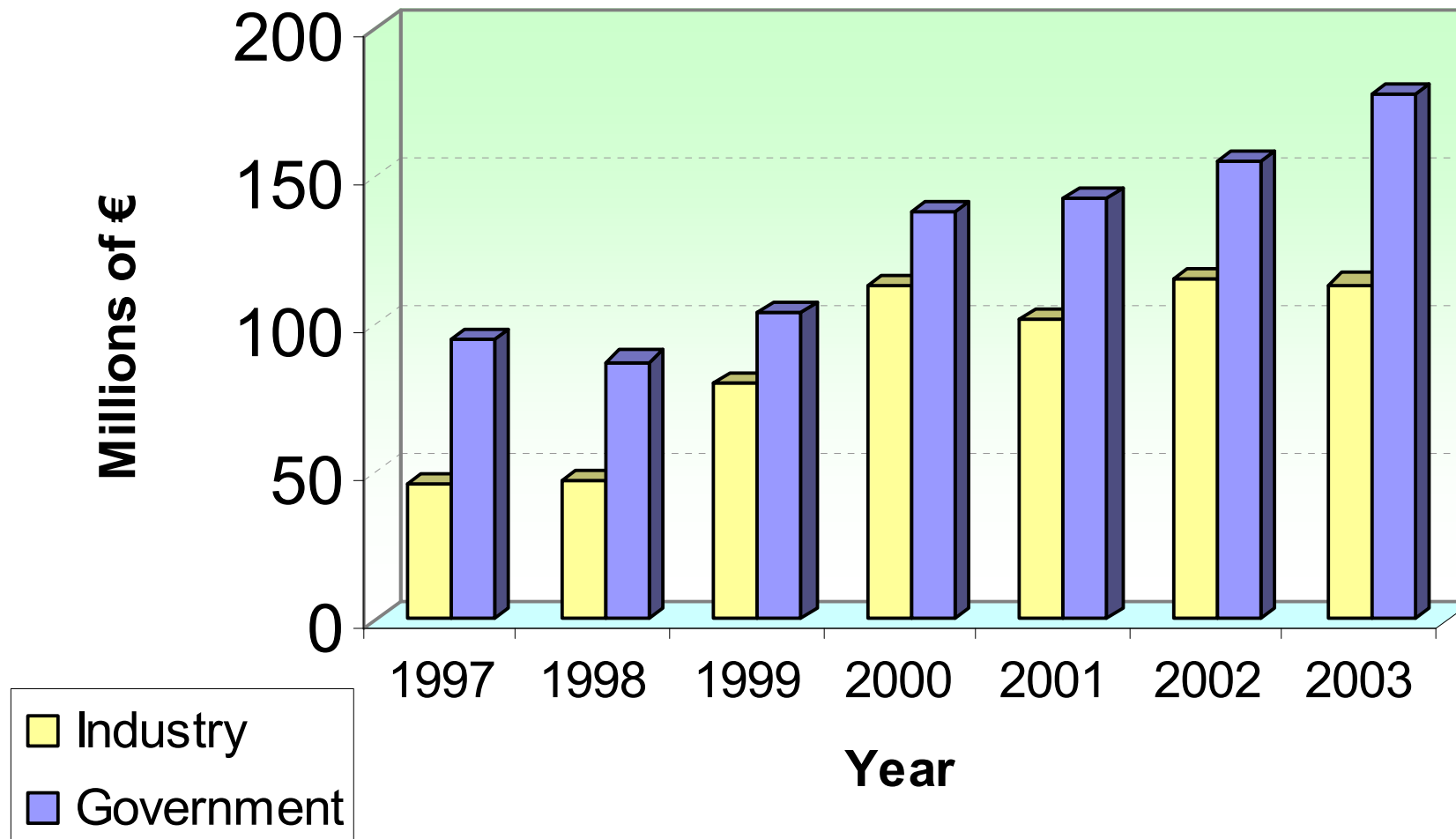
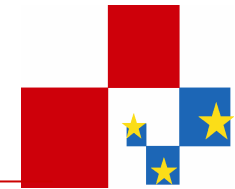


Source:
Eurostat, OECD, CBS

Notes:
* Year 2001 or latest available
Croatia: Year 2002
EU15: estimated by DG Research



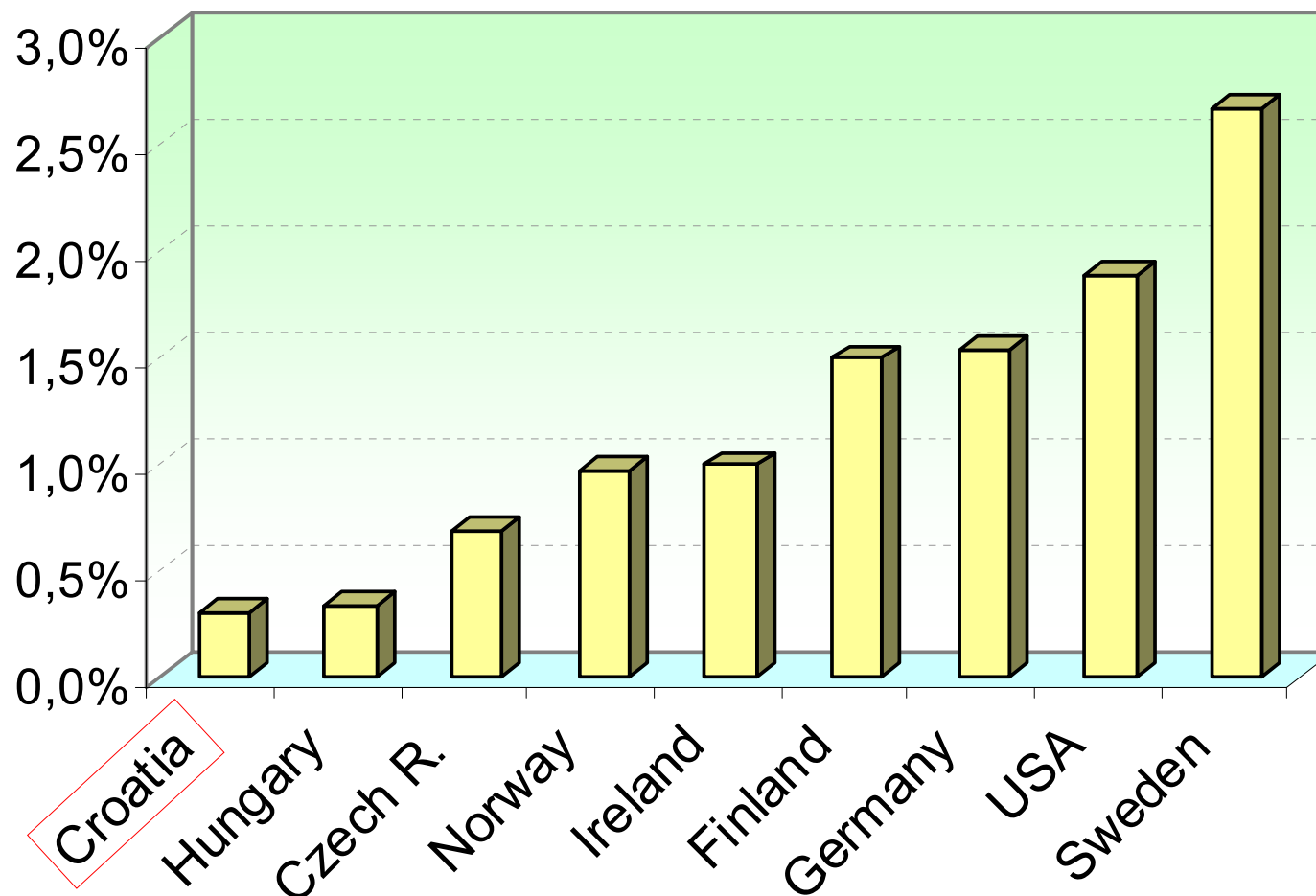
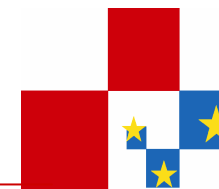
Industrial and government investment in R&D



Source: CBS



Industrial R&D funding

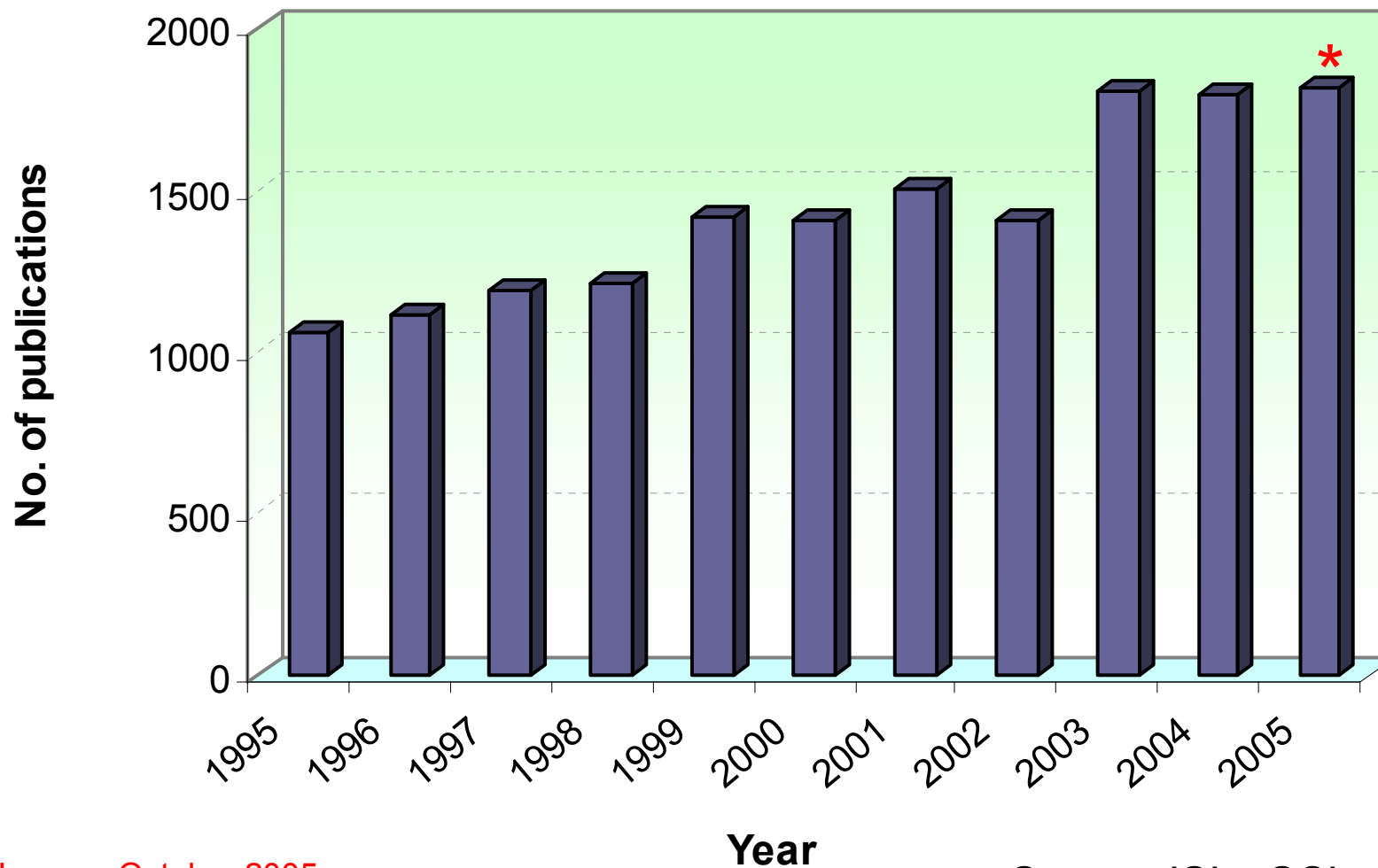
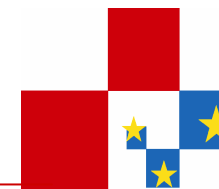


Source: Eurostat and CBS, 2001



Croatian scientific output

No. of SCI publications



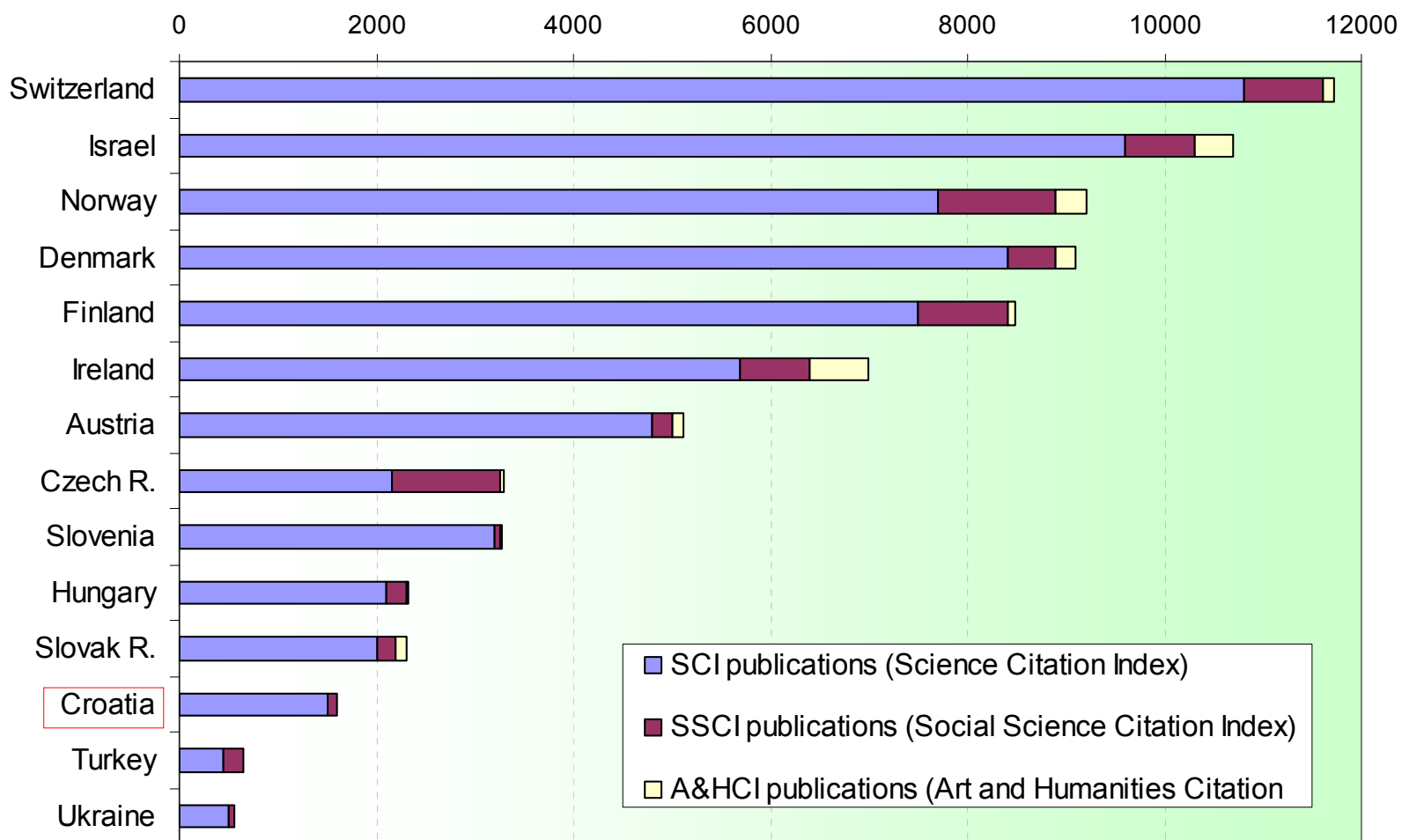
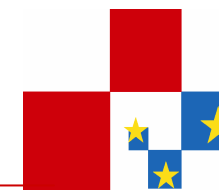
* January-October 2005

Source: ISI – SCI expanded



Croatian scientific production

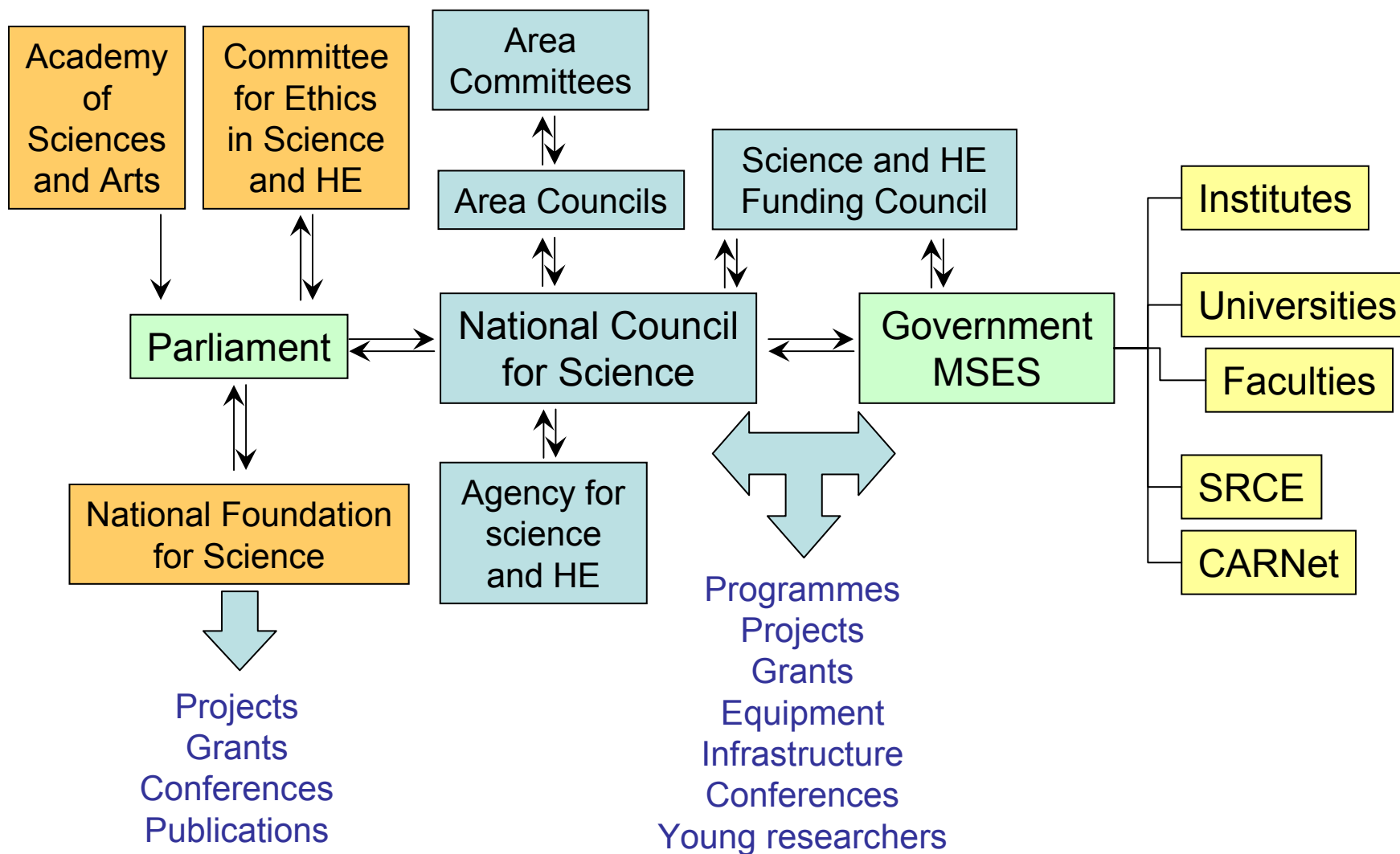
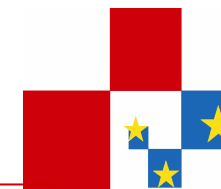
No. of cited scientific publ. per million population (1996-2000)



Source: National and University Library

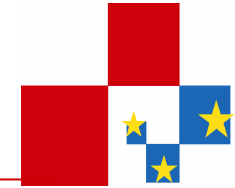


Decision-making structure in science and research



Croatian S&T priorities

short-term (2005–2008), NCS

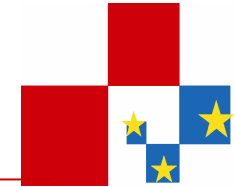


- ★ **Environment**
- ★ **Health**
- ★ **Energy and materials**
- ★ **Croatian identity**



Croatian S&T priorities

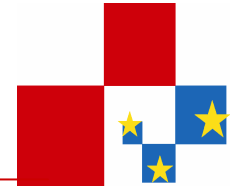
long-term (2005–2010), NCS



- ★ Knowledge-driven basic research
- ★ Environment protection and economy, development of Karst regions, Adriatic coast, sea and islands
- ★ Agriculture, biotechnology and food
- ★ Health
- ★ Information and communication technologies
- ★ Nanoscience, new materials, constructions and new production processes
- ★ Energy, alternative and renewable energy resources, transport, security
- ★ Social and human sciences and Croatian identity
- ★ Social integration, learning and education, lifelong (continuous) learning



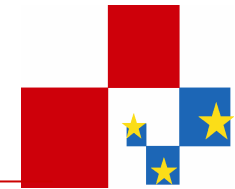
Funding bodies in Croatia



- ★ **Ministry of Science Education and Sports (MSES)**
 - traditional funding body
- ★ **The National Foundation for Science, Higher Education and Technological Development (NFS)**
 - Founded by a special law in 2001



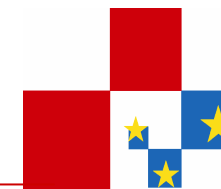
MSES Funding Instruments



- ★ **Research grants**
 - Periodic calls, peer review
- ★ **Equipment grants**
 - Annual calls, reviewed by evaluation group
 - Introduced in 2001 to reinforce research infrastructure
- ★ **Fellowships for early-stage researchers**
 - Research novices
 - Salary for up to 10 years, linked to research grants
- ★ **International mobility grants**
 - For junior researchers
- ★ **ICT funding**
 - Infrastructure, databases, grants,
- ★ **Technology-development grants**
 - For applied research



Research grants, 2005*

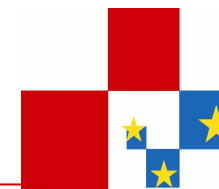


Type of institution	No of projects	%	Amount (million HRK)	%
Universities	1,271	70.5	82.1	65.0
Public institutes	324	18.0	31.1	24.6
Other institutions	200	11.1	12.9	10.2
Polytechnics	8	0.4	0.2	0.2
Total	1,803	100.0	126.4	100.0

*The level of research grant funding in 2004 and 2003 was almost exactly the same

Source: MSES

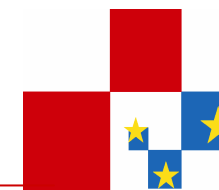




The average annual research grant is below €10,000.



Regional distribution of HE research grants

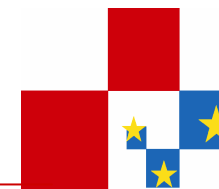


University	No of projects	%	Amount (million HRK)	%
Dubrovnik	3	0.2	0.1	0.2
Osijek	110	8.7	6.2	7.5
Rijeka	152	12.0	8.7	10.6
Split	111	8.7	6.0	7.3
Zadar	44	3.5	1.7	2.0
Zagreb	851	67.0	59.5	72.4
Total	1,271	100.0	82.1	100.0

Source: MSES



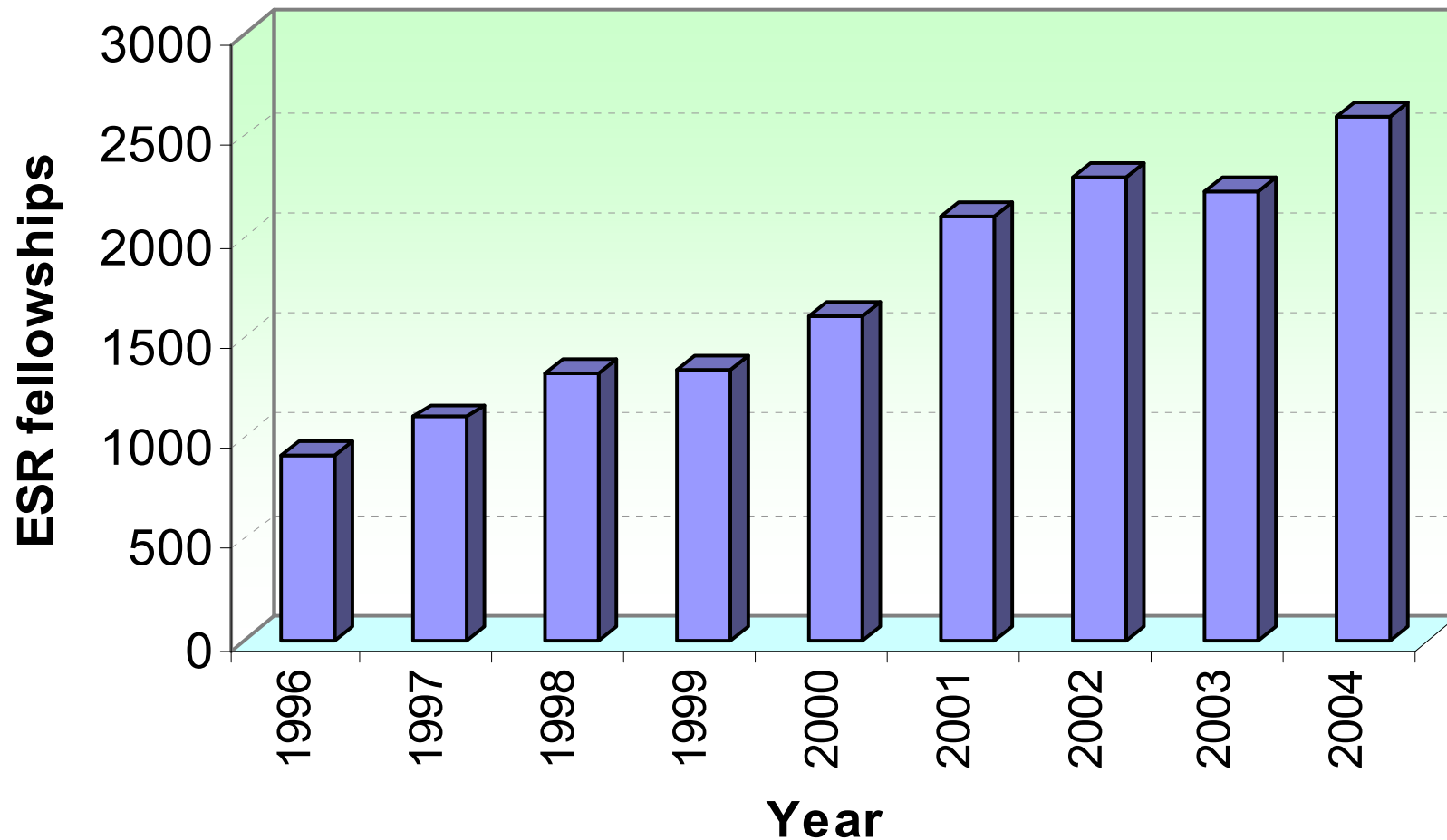
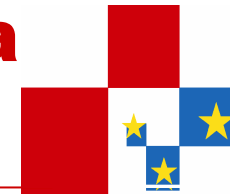
Weaknesses in research grant policy



- ★ **Harmonised application cycles**
 - >90% of grants are awarded at the same time
- ★ **High success rate**
 - 85% for 2001 review cycle
 - Problems with peer review (small community)
- ★ **Too many small grants**
- ★ **Lack of career development grants**
- ★ **Regional imbalance**



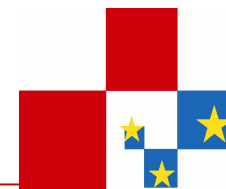
Early-stage researcher fellowships are a very successful instrument



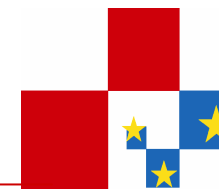
Source: MSES



Regional distribution of early-stage researchers



Instruments for Technological Development



★ **TEST**

- Technology development grants
- JEZGRA - establishment of centres of excellence

★ **BICRO**

- Business and innovation centre

★ **RAZUM**

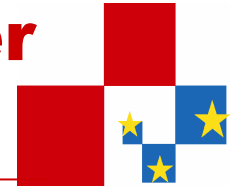
- Loans and start-up grants for SME

★ **Technology and Innovation Centres**

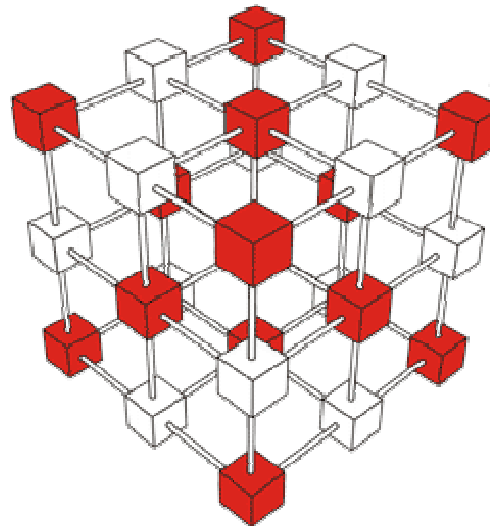
- Support spin-off companies



The National Foundation for Science, Higher Education and Technological Development



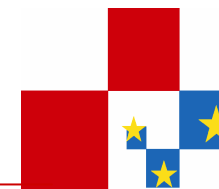
NFS



www.nzz.hr



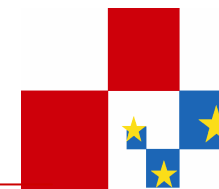
NFS strategic values



- people
- ideas
- collaboration
- excellence



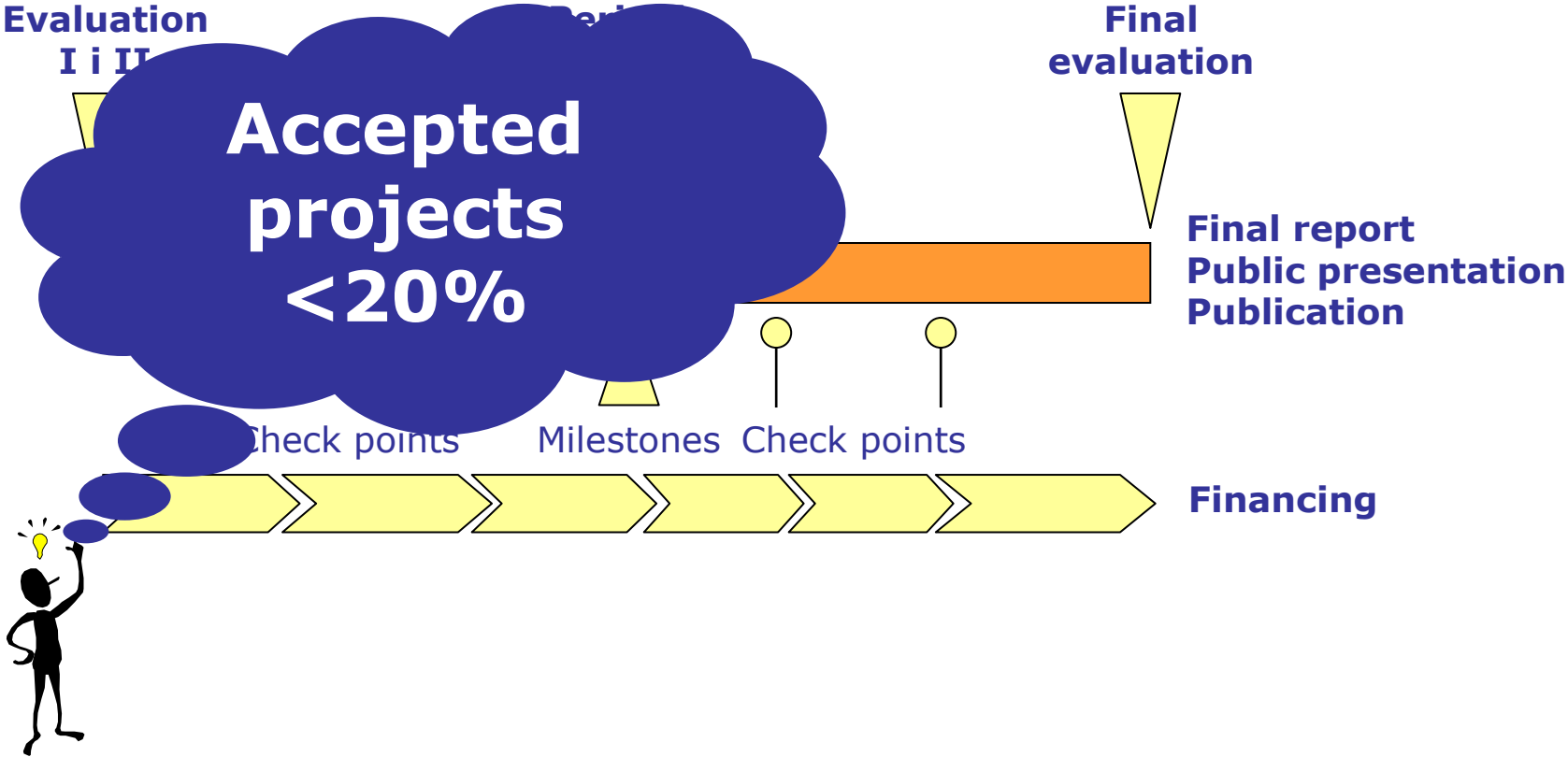
Strategic focus of the NFS



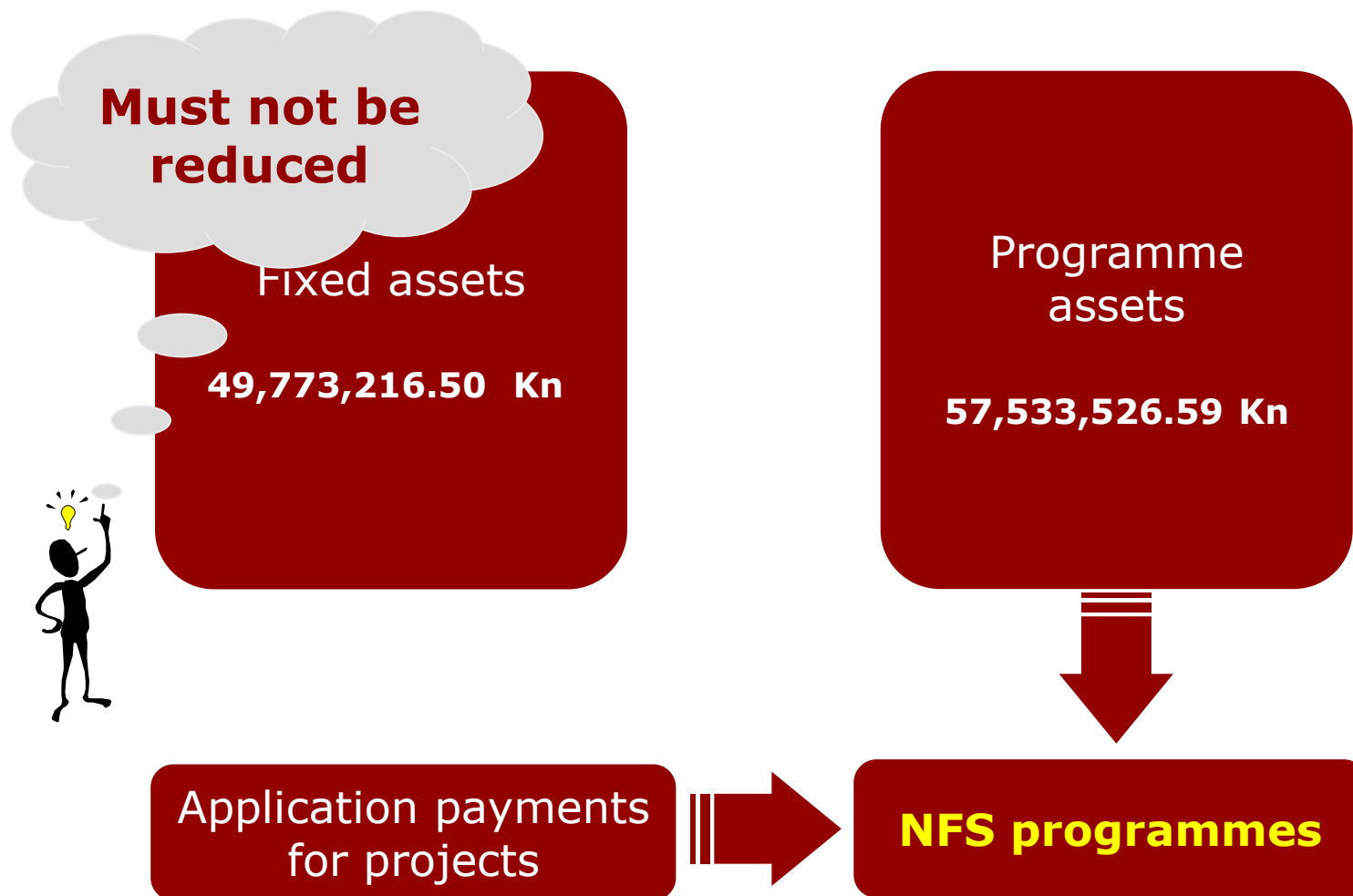
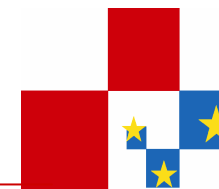
- ★ Reform of higher education system in Croatia
- ★ Brain-gain
- ★ Information and communication technology
- ★ Biotechnology
- ★ New materials and new production processes
- ★ Environmental sciences and sustainable development
- ★ Socio-cultural transition from industry to knowledge – based society



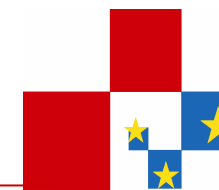
Evaluation, check points and milestones



NFS assets (December 2006)



NFS Programmes

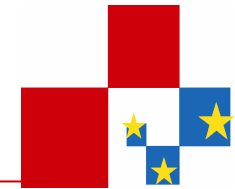


year programme	2004.	2005.	2006.	2007.	2008.
Higher Education Reform 7.5 M		Doctoral studies 2M Quality assurance 2M Joint studies 2M	Integrated university 1.5M		
Brain Gain 18 M		Senior 2M annually Visitor 2M annually PostDoc 2M annually		Homing-programme	
Training of doctoral students 15 M			Fellowships for doctoral students 2M annually National courses and summer schools 1M annually Fellowships for employed 2M annually		
Partnership 15 M			Partnership in basic research 5M annually		
Awards 100.000			SCIENCE- Novi list Science popularisation – Glas Slavonije Award – Slobodna Dalmacija		
		12 M	17.5 M	16 M	10 M



Research capacity for FP

in terms of previous participation in framework programs

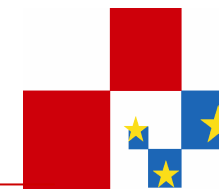


- ★ **FP5** (third country status)
 - ★ 9 projects with Croatian participation
- ★ **FP6** (third country status)
- ★ Between 2002 and September 2005, Croatian partners have been included in:
 - ★ 417 project proposals
 - ★ 98 positively evaluated projects
 - ★ 47 signed contracts

★ **Source:** Ministry of Science, Education and Sport



Research capacity for FP6



★ Structure of the FP6 projects with Croatian participation with respect to Thematic Areas

Life sciences, genomics and biotechnology for health	5
Information society technologies	15
Nanotechnologies and nano-sciences	1
Food quality and safety	4
Sustainable development, global change and ecosystems	4
INCO Infopoint on international co-operation activities	10
Citizens and governance in a knowledge-based society	2
Marie Curie Actions - Human resources and mobility	2
Coordination of research activities	1
Research infrastructures	1
New and Emerging Science and Technology (NEST)	1
Development of research/innovation policies	1
Science and Society	1

★ Source: Ministry of Science, Education and Sport

