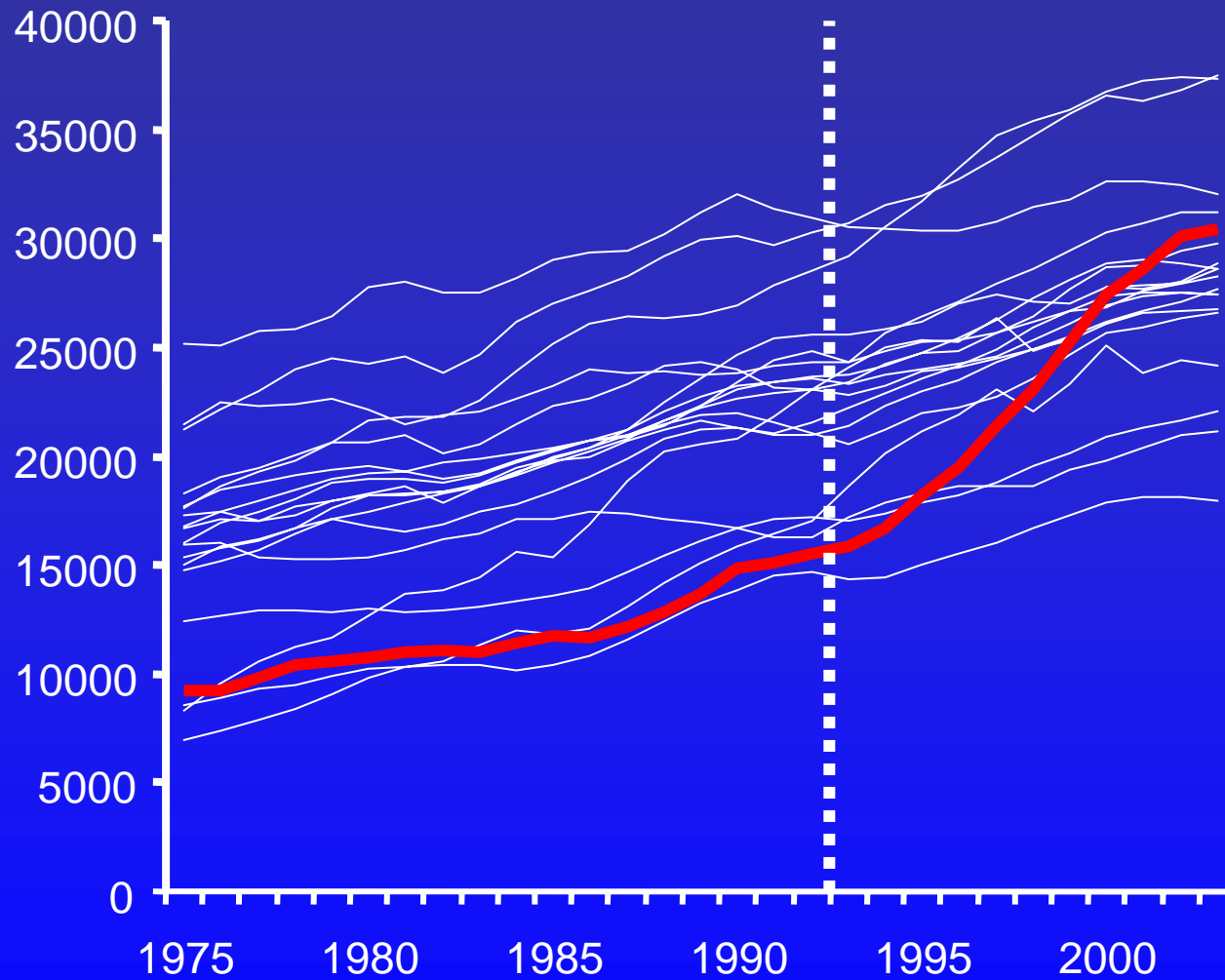


**Guardians of Knowledge,
Drivers of Change –
Universities Serving
Society**

Patrick Cunningham
Chief Scientific Adviser to the Government

GNP per capita 1975-2003: Ireland and other advanced economies

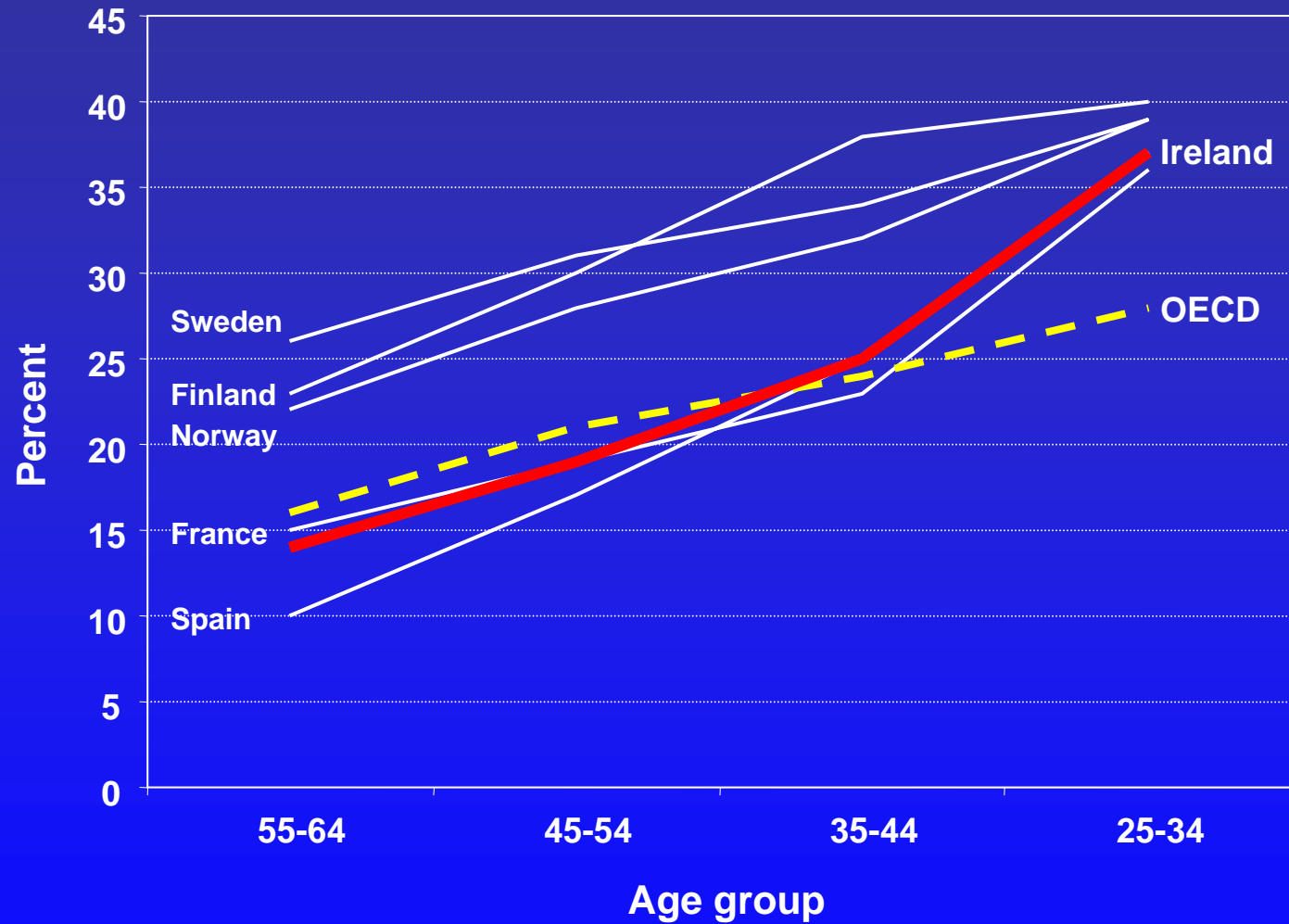


Source: World Bank, 2003

Roots of Development

- I. History; Geography; Demography; Language**
- II. Change in Economic Policy (1958)**
- III. EU Membership (1972)**
- IV. Investment in Education (1967, 1970 ...)**
- V. Social Partnership (1987)**
- VI. Tax Policy (1980-90s)**
- VII. Infrastructure; Banking; Legal**

Percentage with tertiary education



Source: *Education at a Glance* (OECD, 2004) Table A3.3

The Strategic Issues

1. The Mission

- Transmission of knowledge – teaching
- Creation of knowledge – research

The purpose of that mission:

Competence in the economy
Fulfilment in and of society

The Strategic Issues

2. The Structures

7 Universities

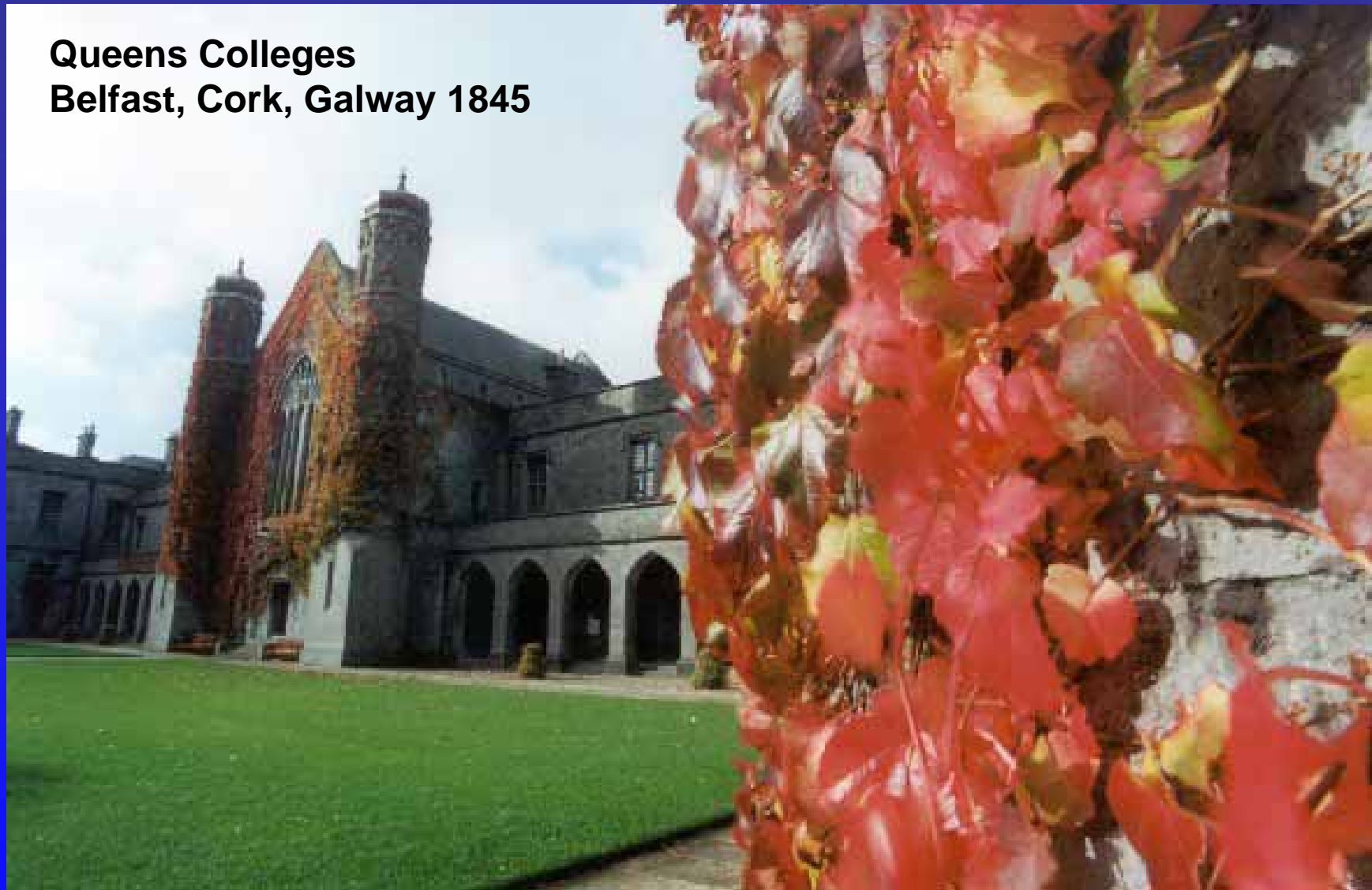
+

14 Institutes of Technology

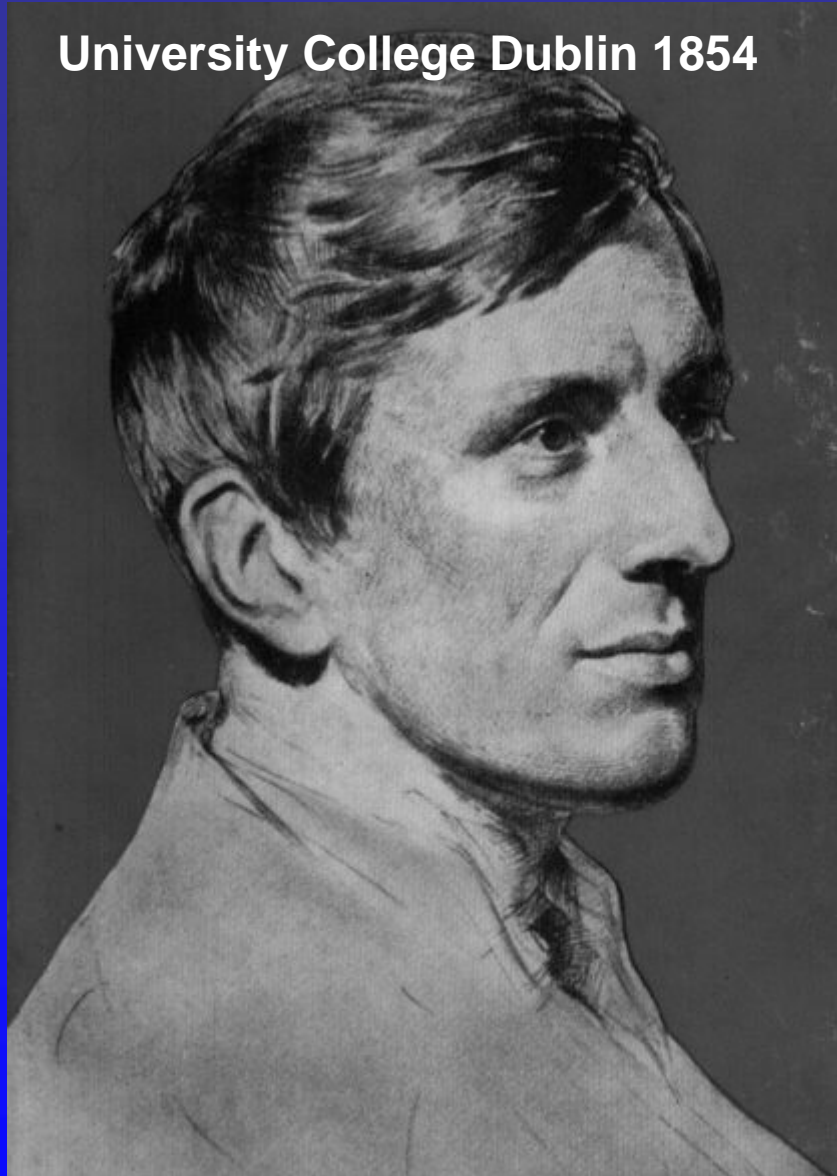
Trinity 1592



**Queens Colleges
Belfast, Cork, Galway 1845**



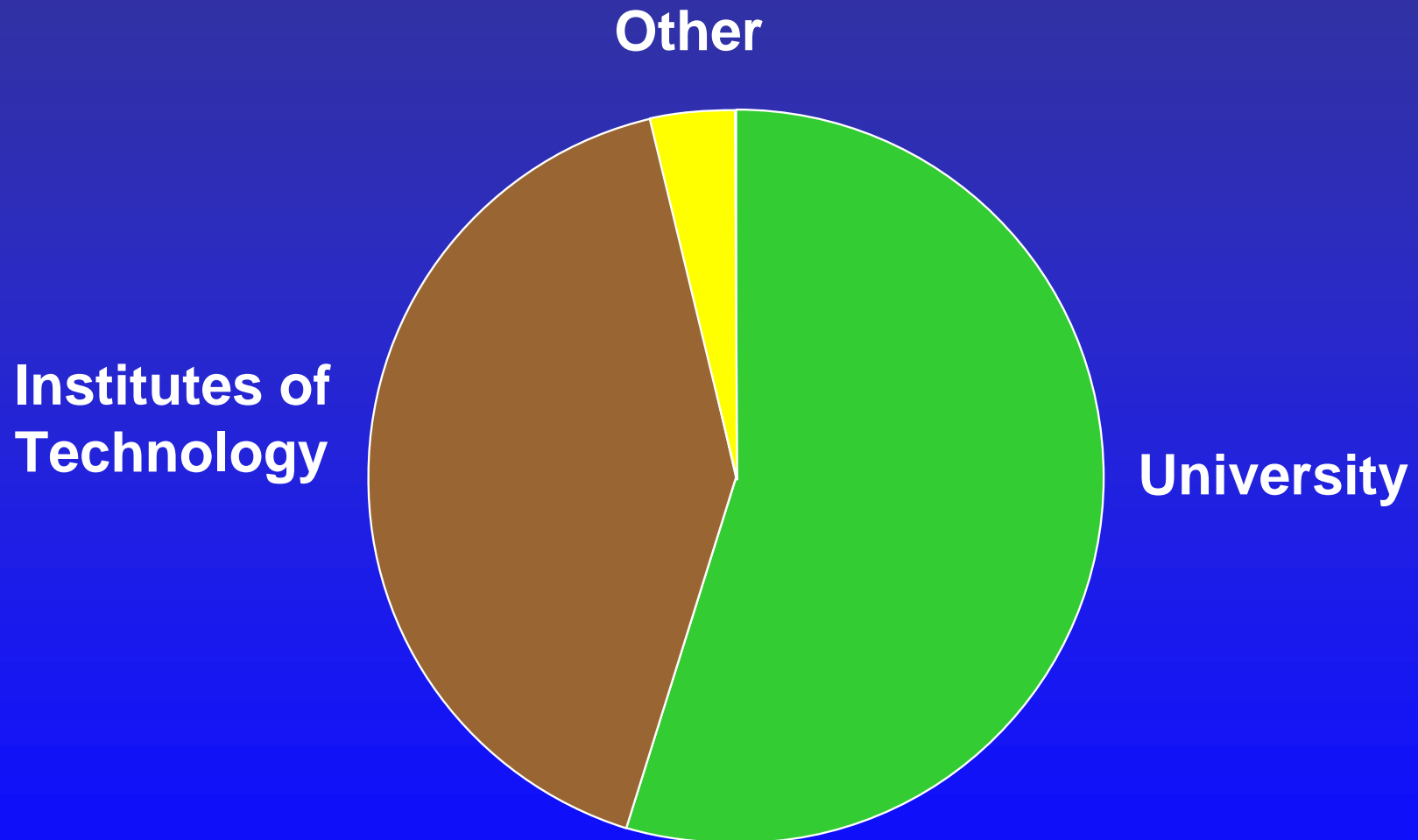
University College Dublin 1854



14 Institutes of Technology 1970+



Total Student Enrolments in Third Level Courses by Sector 2002-3



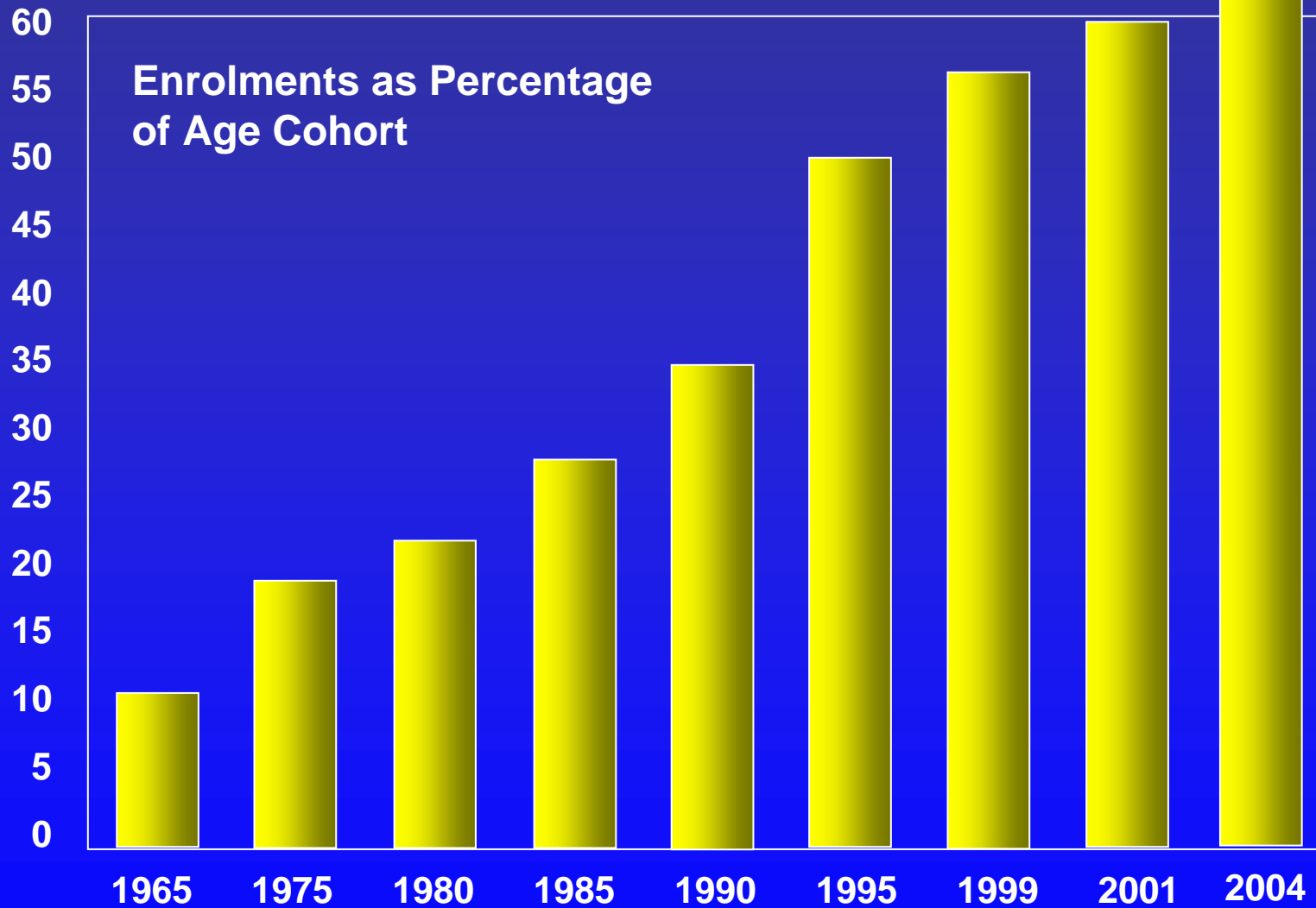
Source: HEA

The Strategic Issues

3. The Students

- Participation rates
- Access
- Retention
- Quality
- Flexibility

Estimated Rate of Transfer to Third Level



Source: DES, 2004

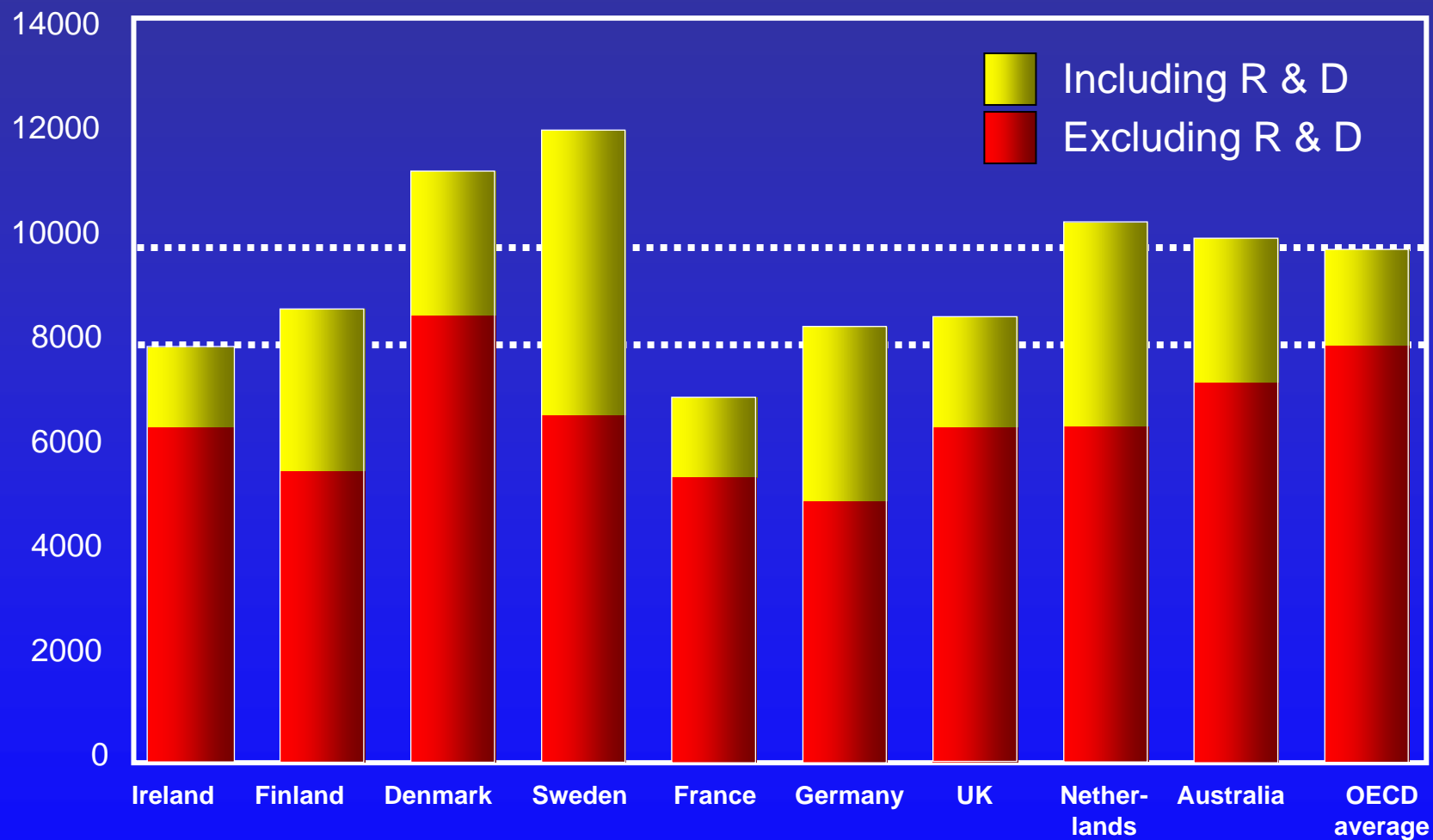
The Strategic Issues

4. Funding

- Scale

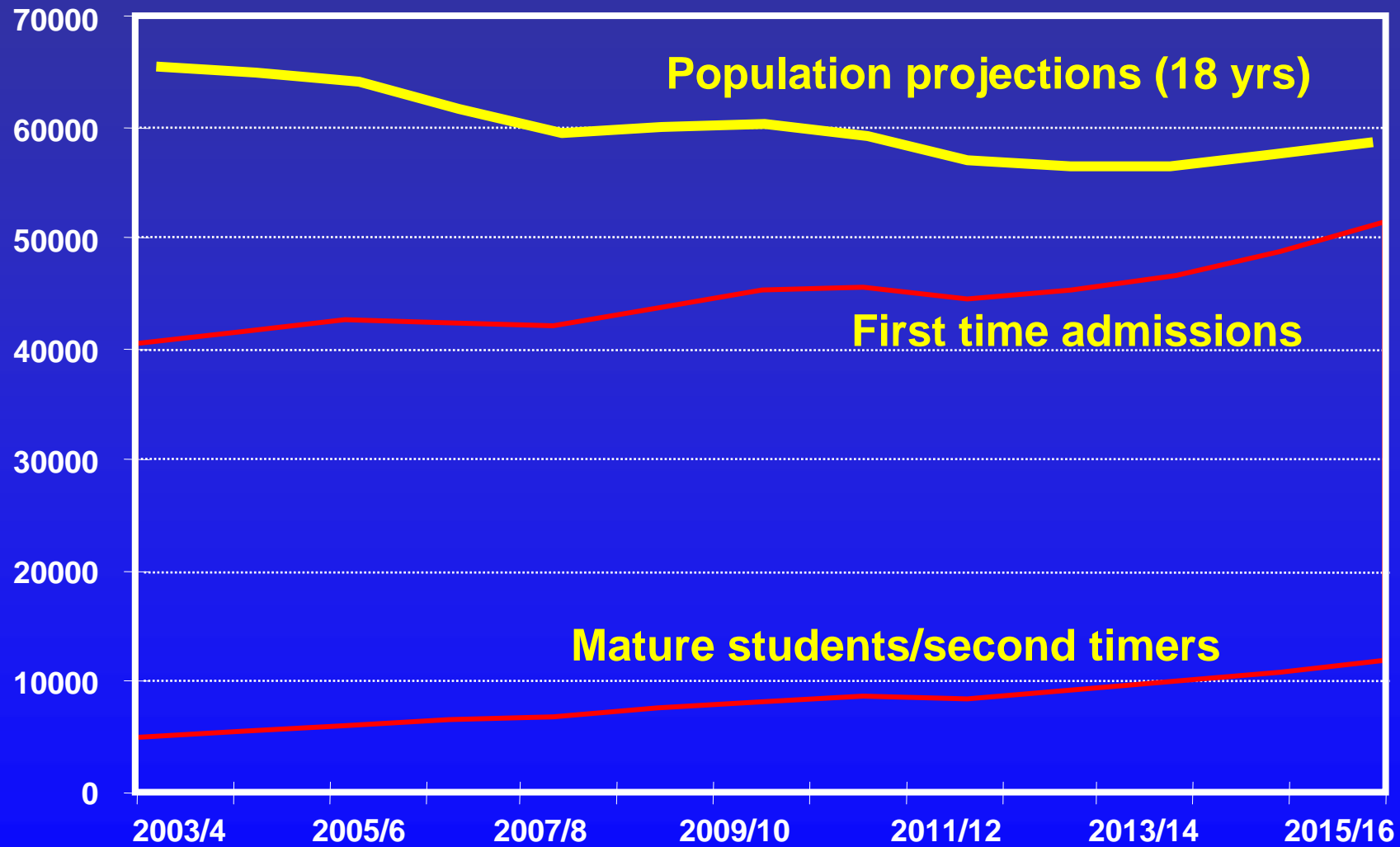
- Sources

Expenditure per student in Higher Education



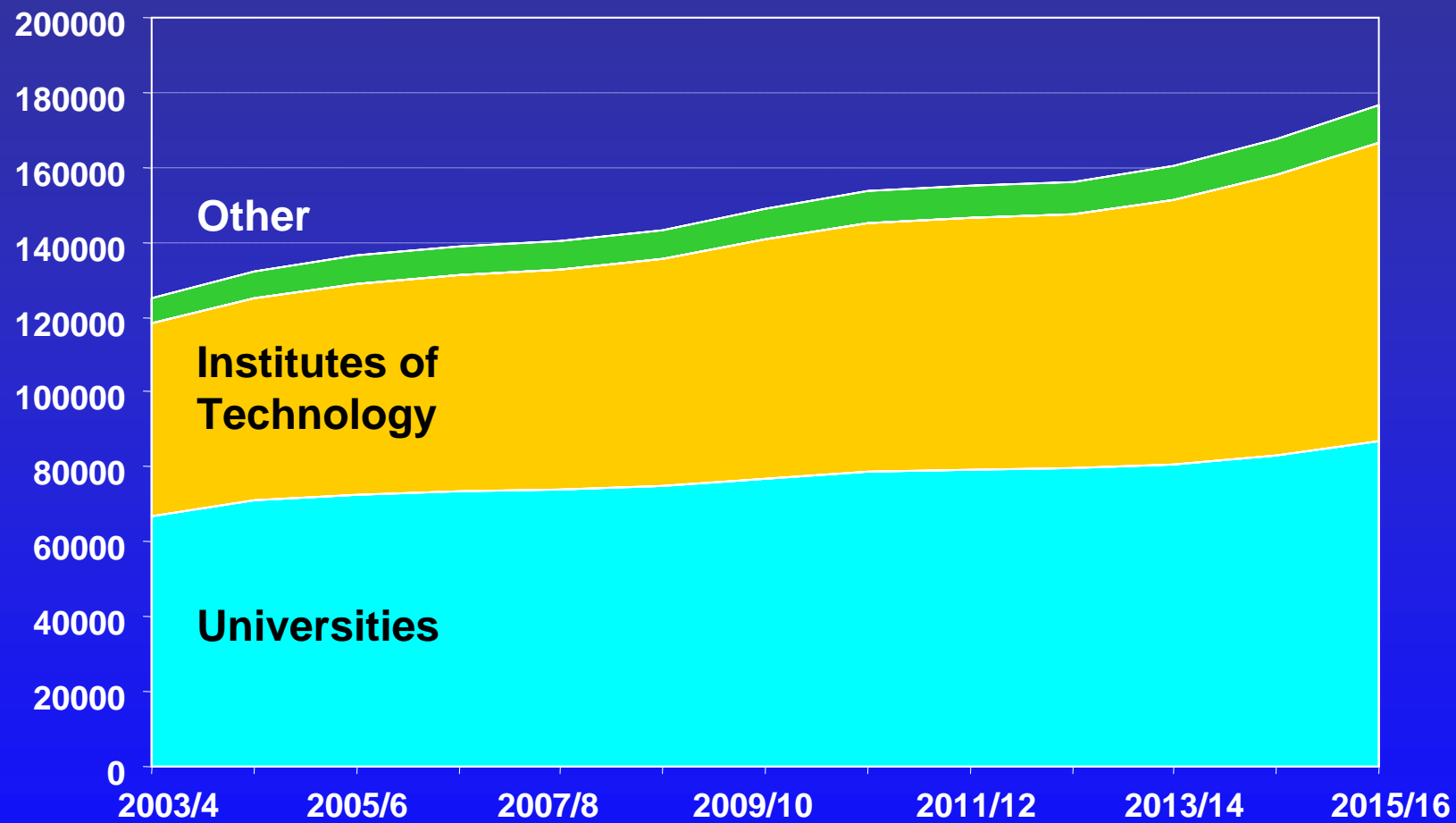
Source: *Education at a Glance (OECD 2004, Table B1.1)*

Projected student entry, 2003/4- 2015/6.



Source: HEA
CHER 2007

Projected student stock, 2003/4- 2015/6.



Source: HEA (2004)

The Strategic Issues

5. Governance

- Academic freedom
- Academic accountability

The Strategic Issues

6. Research

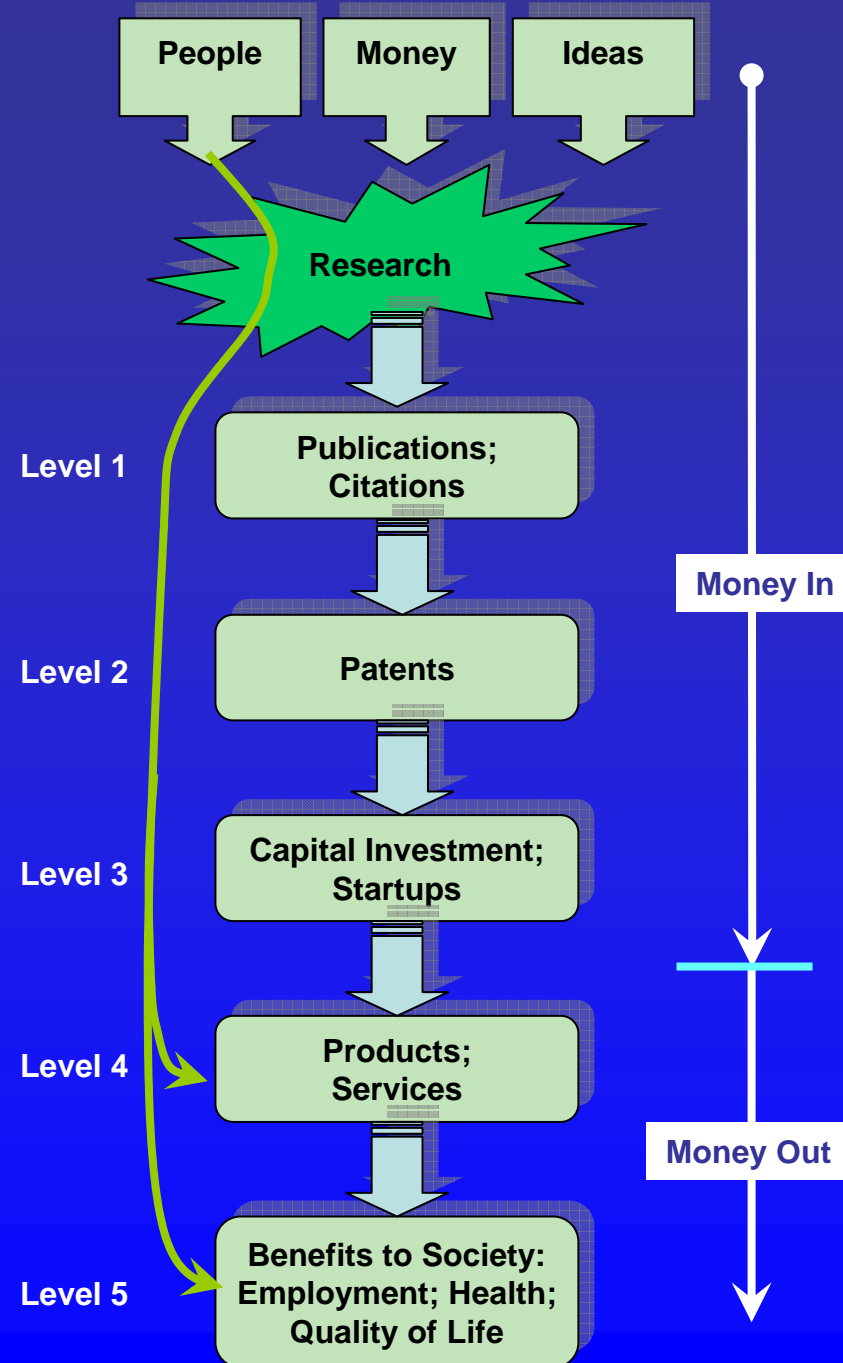
- Setting the agenda
- Paying the costs
- Measuring the returns

“Ireland by 2013 will be internationally renowned for the excellence of its research, be at the forefront in generating and using new knowledge for economic and social progress, within an innovation driven culture”.

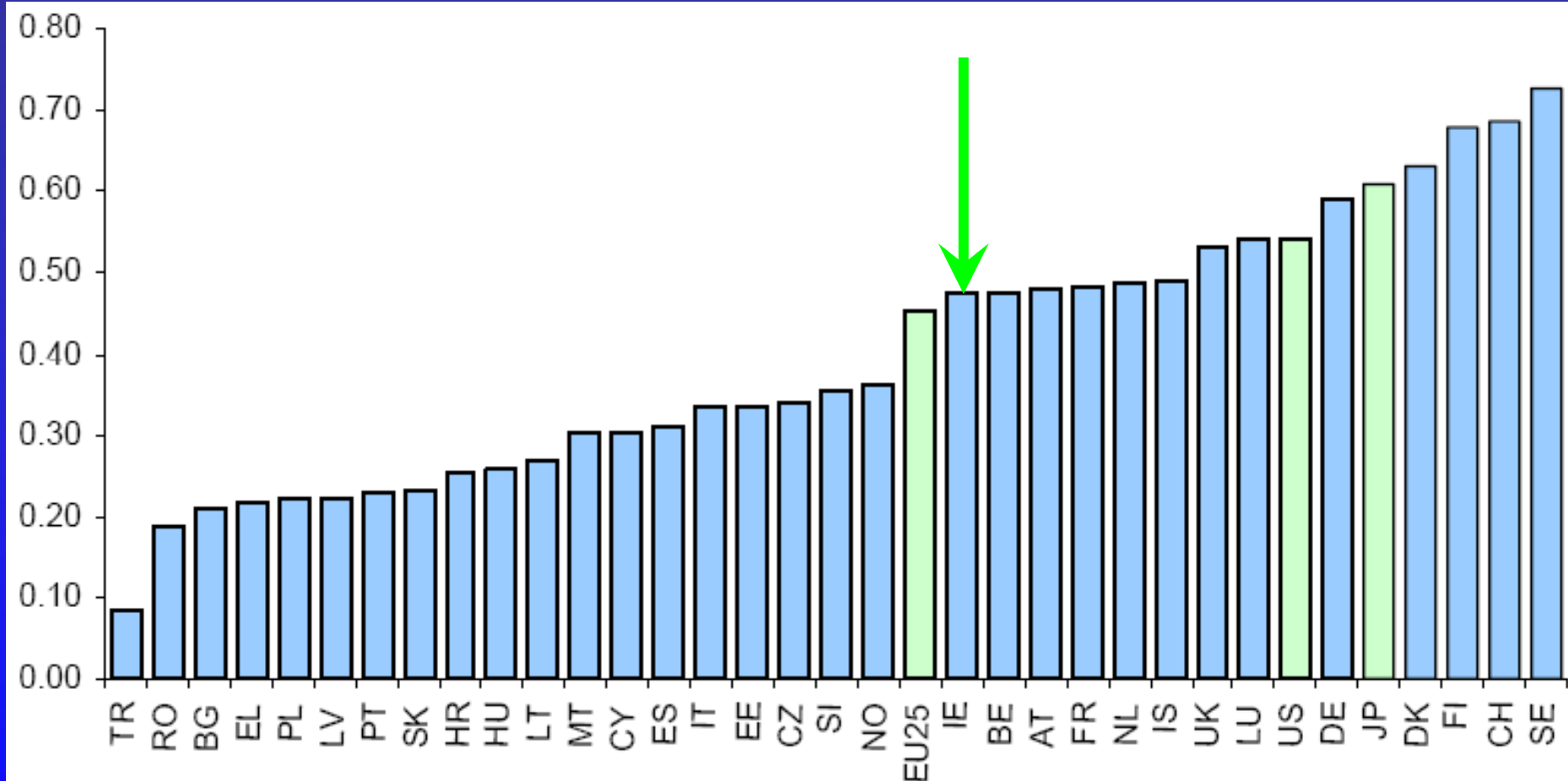
Micheál Martin T.D.

Minister for Enterprise, Trade and Employment

Returns on Research

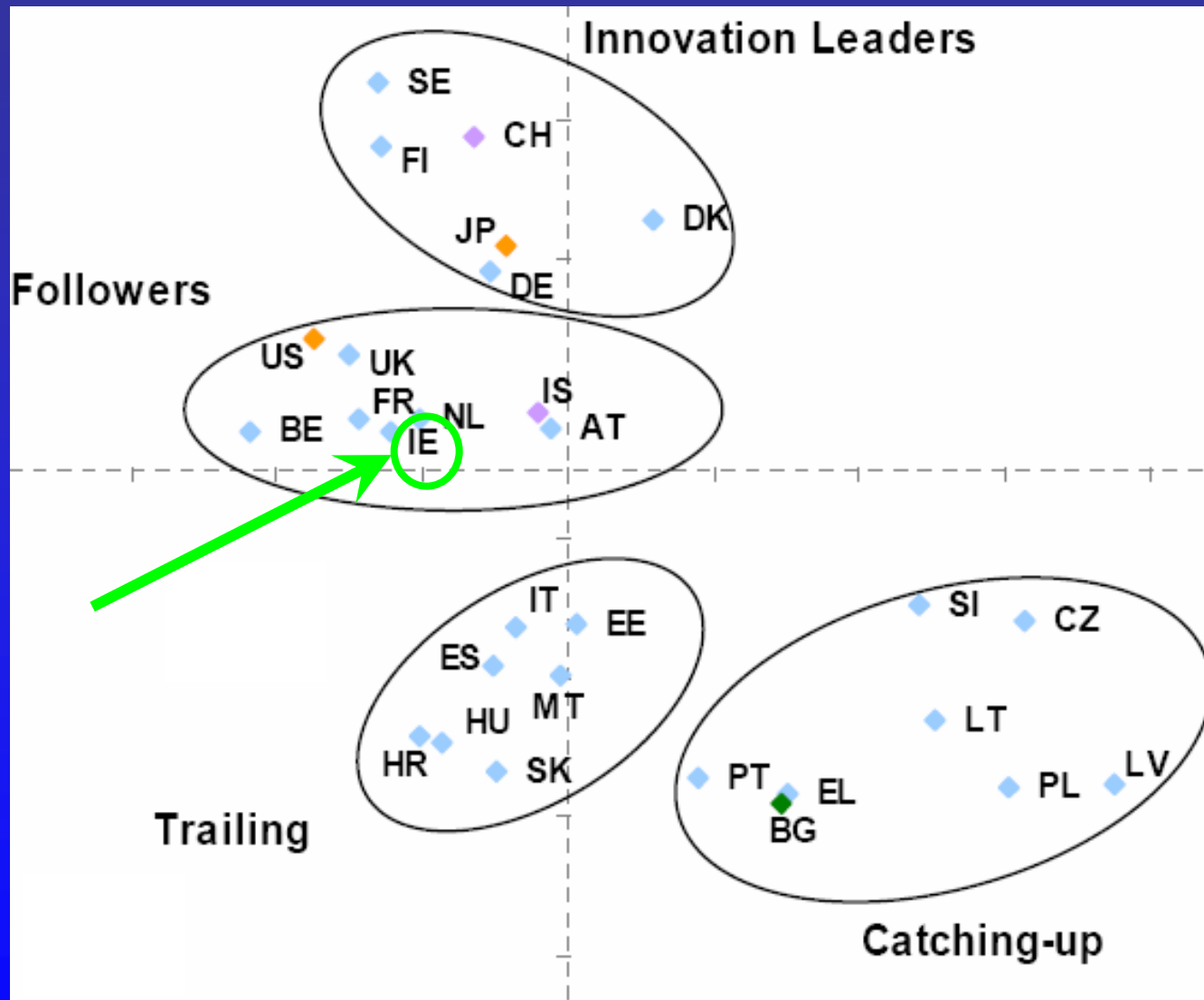


Benchmarking Innovation Performance

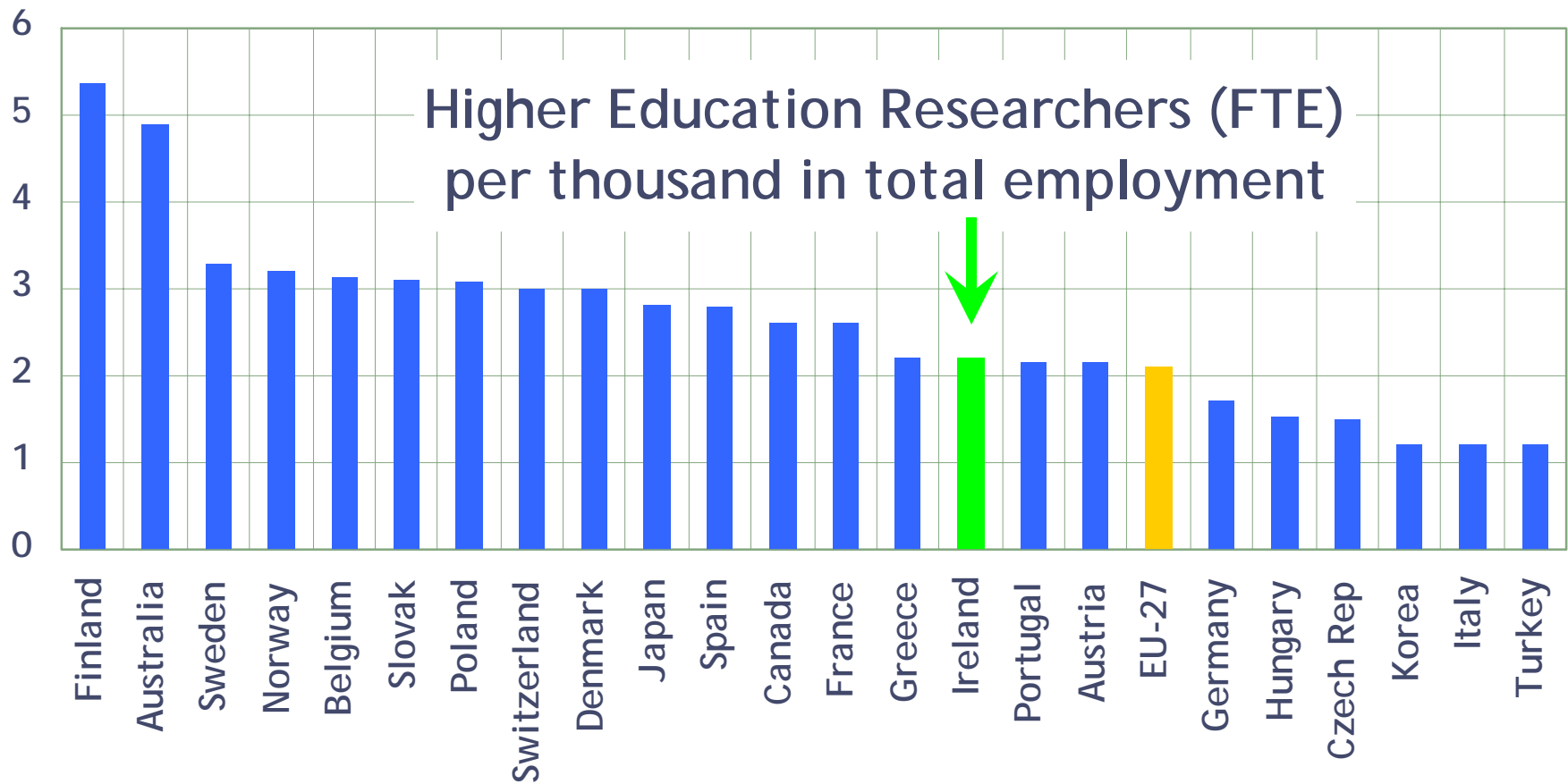


Source: *European Innovation Scoreboard 2006*

Innovation Index Vs Growth Rate

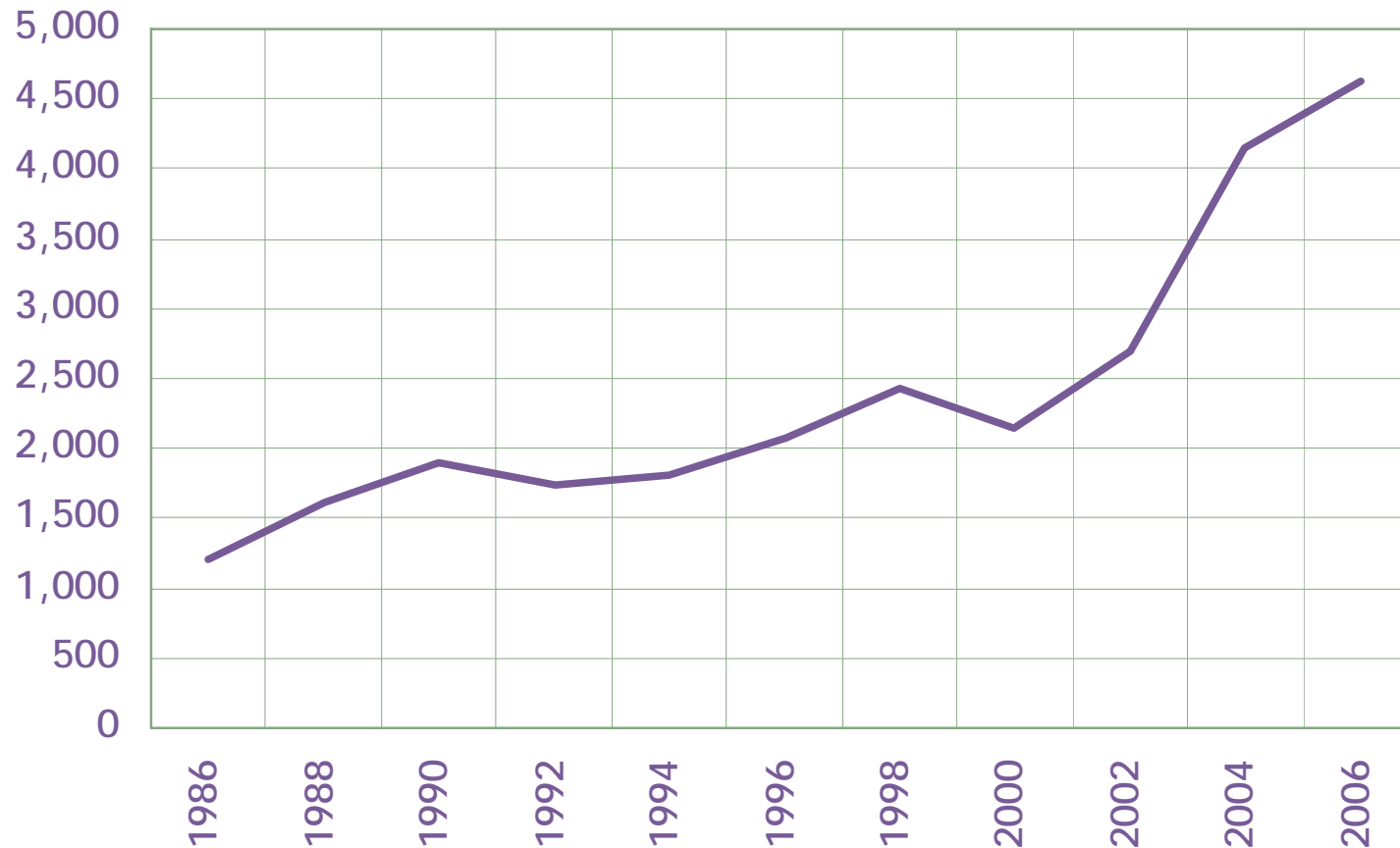


Source: European Innovation Scoreboard 2006





Source: Higher Education R&D Survey, 2006, Forfás

Higher Education Researchers (1986-2006) Full-Time Equivalents



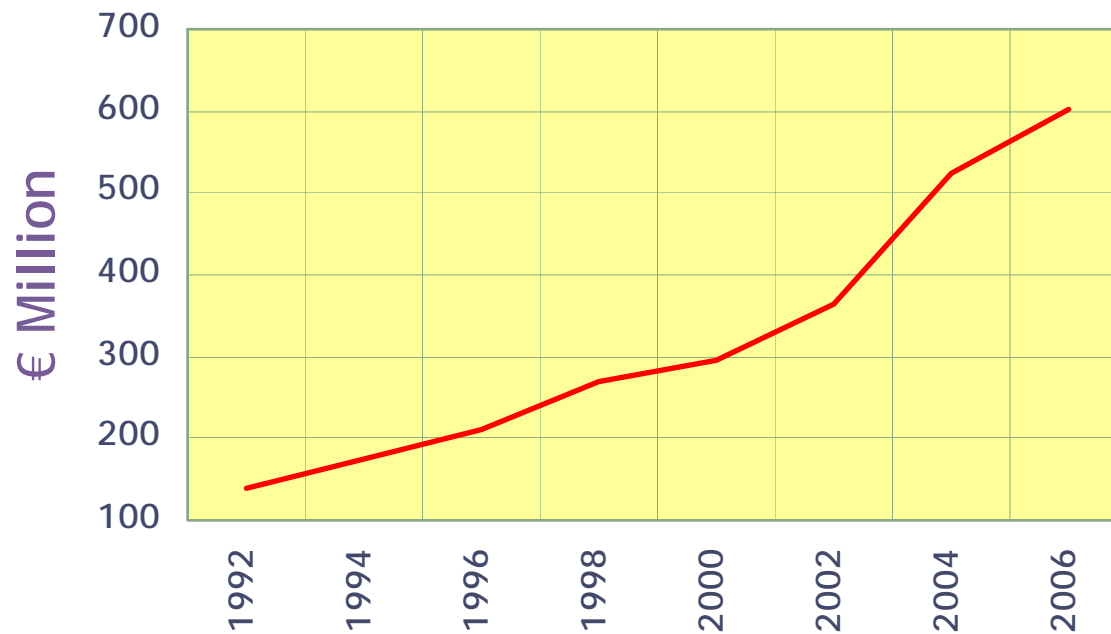
Source: Higher Education R&D Survey, 2006, Forfás

Projected Increases in H.E. Researchers

	2006	2007	2008	2009	2010	2011	2012	2013
Additional PIs	40	80	120	160	205	250	295	350
Additional PhD places	235							1775
SET PhD Graduating	543							997

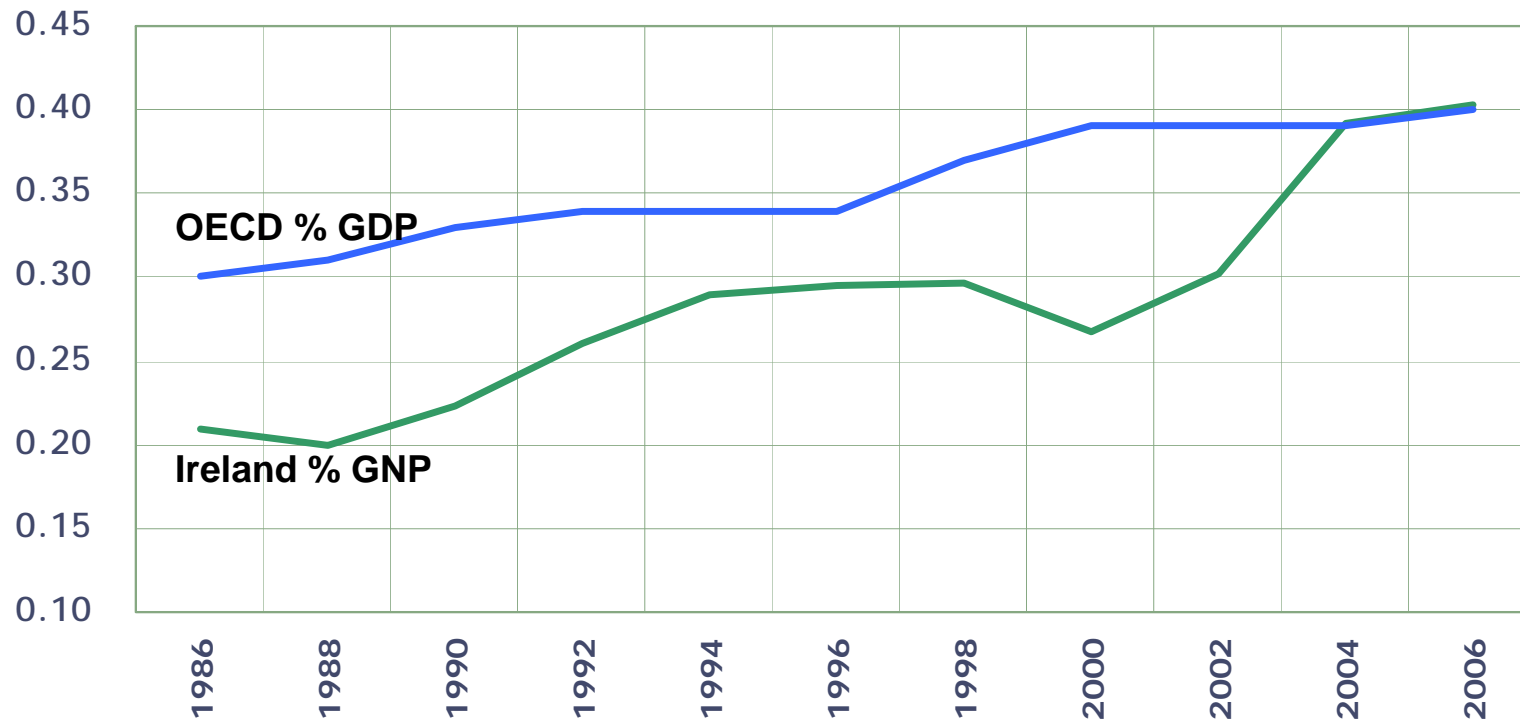
Source: SSTI 2006-2013.

R&D Expenditure in Higher Education (constant 2006 prices)



Source: Higher Education R&D Survey, 2006, Forfás

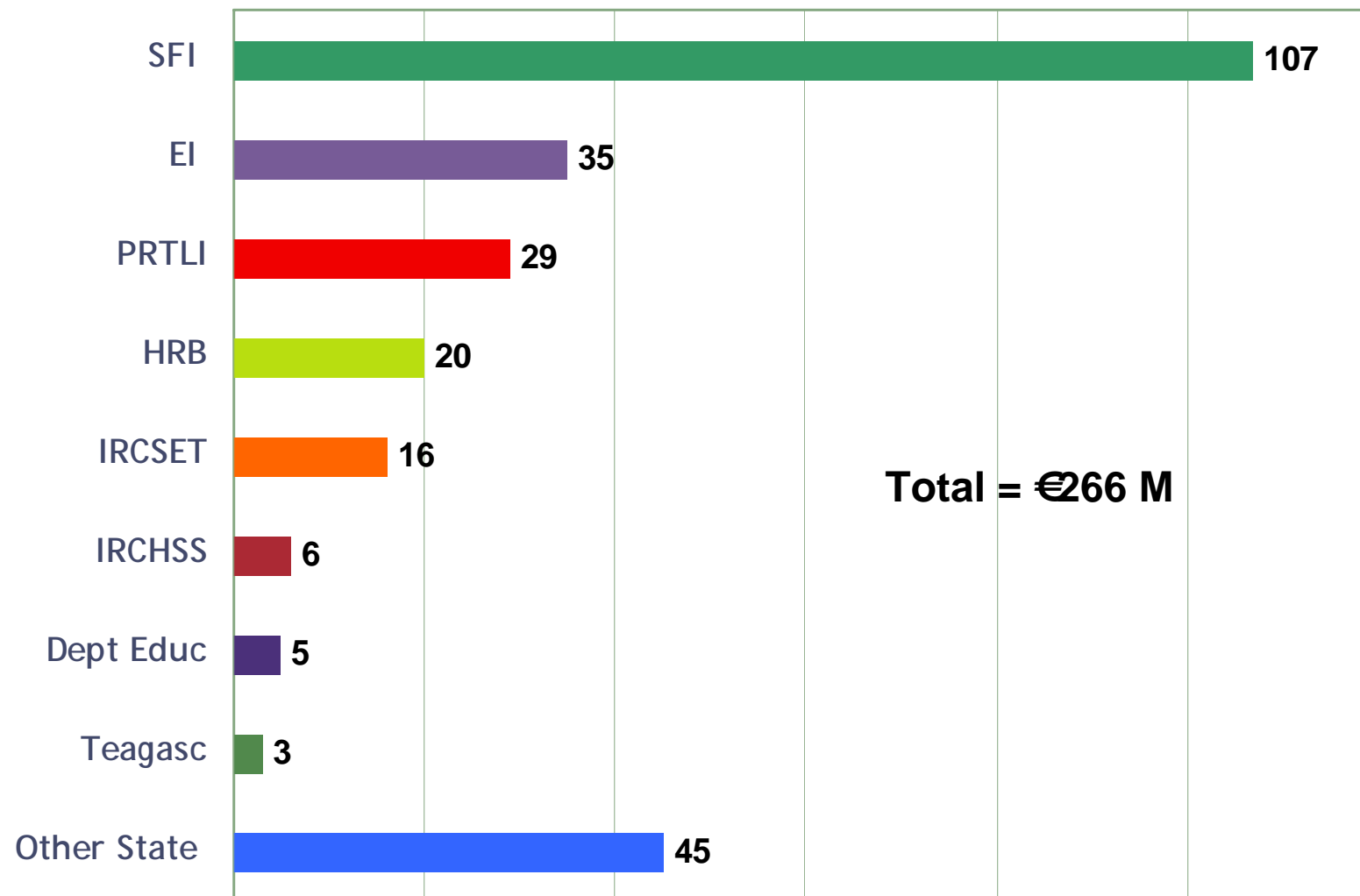
Higher Education R&D spending intensity 1986-2006 (% GDP, % GNP)



Source: Higher Education R&D Survey, 2006, Forfás

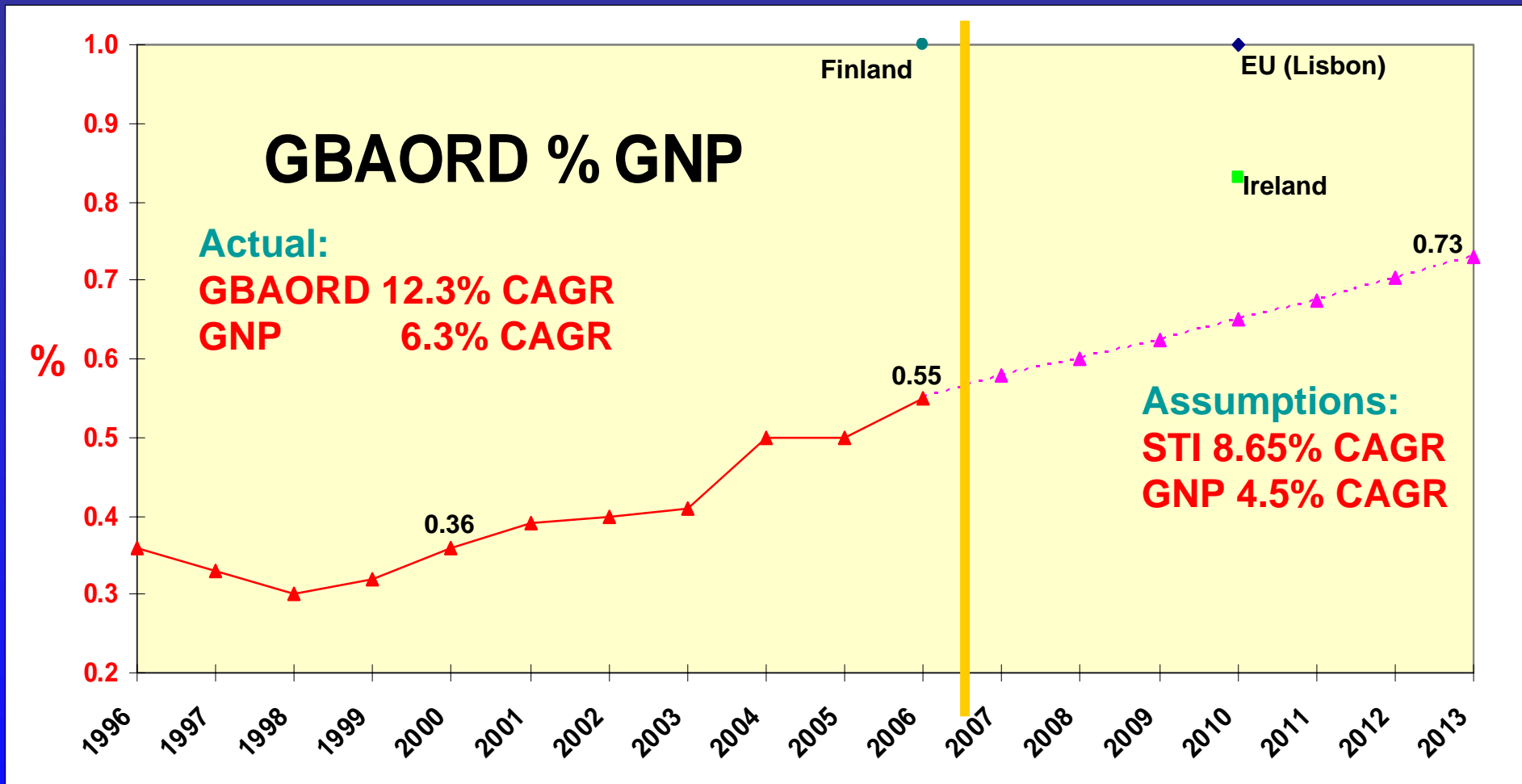
Source of HE Public Research Income (2005/6)

€M



Source: Higher Education R&D Survey, 2006, Forfás

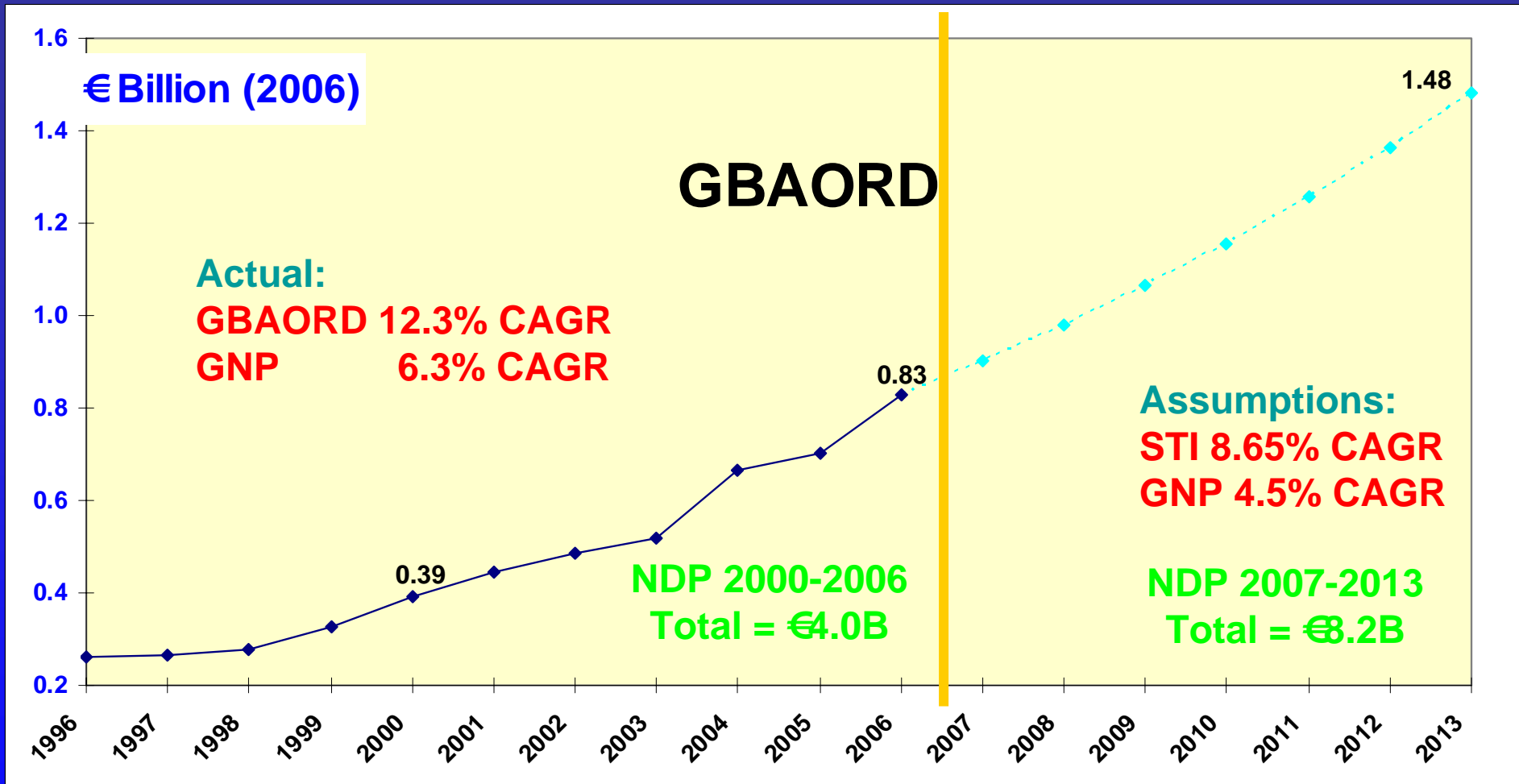
Historical: Public funding of R&D (GBAORD) Future: Investment in STI under the NDP.



Sources: Historical - State Expenditure on R&D 2005-6, Forfás.
Future – CSA estimates based on NDP.

Historical: Public funding of R&D (GBAORD)

Future: Investment in STI under the NDP.



Sources: *Historical - State Expenditure on R&D 2005-6, Forfás.*
Future – CSA estimates based on NDP.

