



Policy Mix for Knowledge Transfer in a non high - tech industrial background: The case of Greece

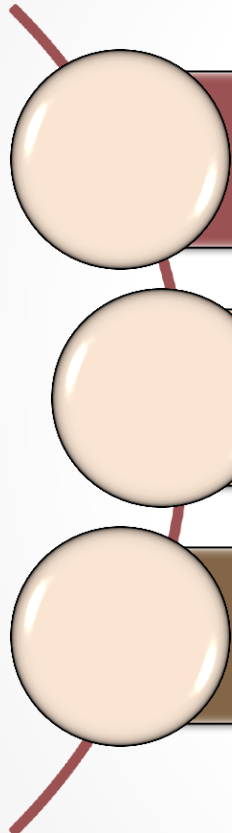
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Lisbon, November 8, 2017



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Setting the Scene: the **business** sector

A non high - tech industrial background

- △ Greece is a **service economy** dominated by **tourism** and **public services** - Manufacturing counts for 8% of Gross Domestic Production Value. B2B services are still lagging behind
- △ **Traditional sectors** occupy the major part of the Greek production fabric (agro-food, tourism, commerce, construction)
- △ Business sector composed mainly by **small and very small firms**: 95,5% of the Greek firms have less than 10 employees
- △ Greek firms used to **import mature technology** from abroad and perform relatively well in non technological innovation

Greek enterprises perform mostly organizational and marketing innovations

CIS 2010-2012

Greece
in 11th place
of innovative
enterprises
in EU-28

1.9 billion Euros
expenditures for
innovation
activities

52.3%
innovative enterprises
34.3%
innovation in
product/process
45.4%
innovation in
organisation/marketing

19.5%
Product innovation

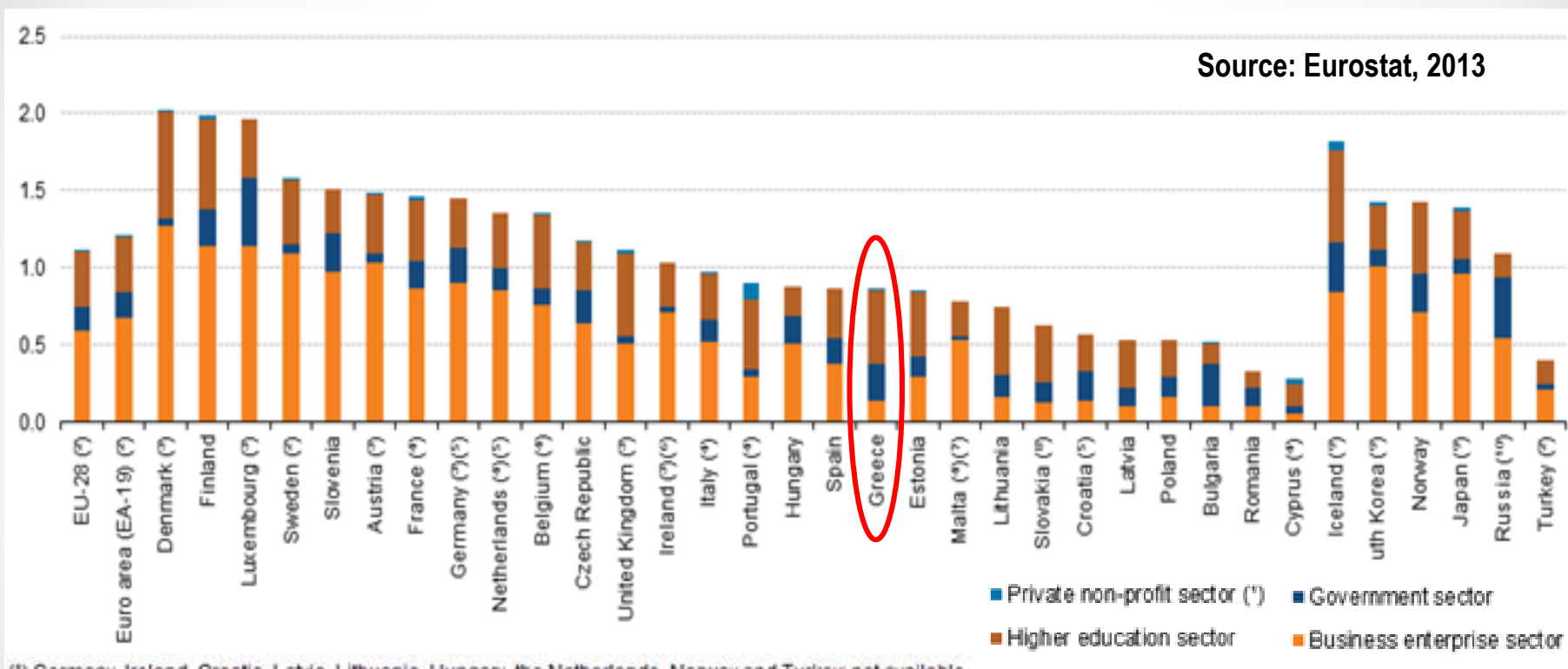
25.6 %
Process innovation

30.2%
Organisational innovation

36.8%
Marketing innovation

Setting the scene: the research sector relatively small...

(regarding R&D personnel as % of labour force)



(*) Germany, Ireland, Croatia, Latvia, Lithuania, Hungary, the Netherlands, Norway and Turkey: not available.

(*) Includes estimates.

(*) Includes estimates and provisional data.

(*) Includes provisional data.

(*) Government and private non-profit sectors: definition differs.

(*) Business enterprise sector: 2012.

(*) Private non-profit sector: 2012.

(*) Government sector: definition differs.

(*) 2011.

(*) 2012.

Note: when definitions differ, see http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/EN/rd_esms.htm.

Source: Eurostat (online data code: tsc00002)

...but highly competitive human research potential...

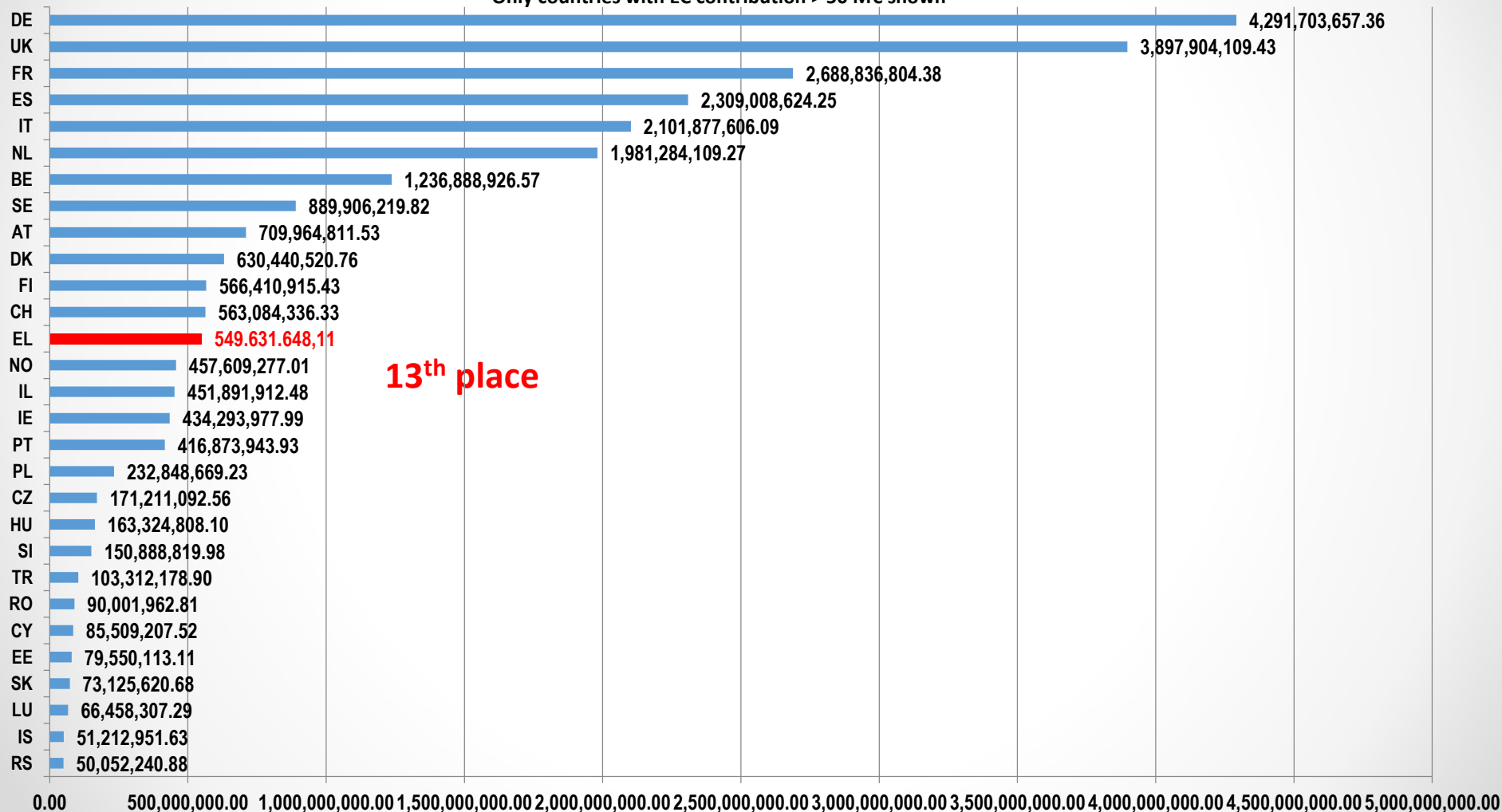
(regarding EC financial contribution from H2020)

EC Financial Contribution per Country

Data: EC CORDIS, Reference date: 12/10/2017

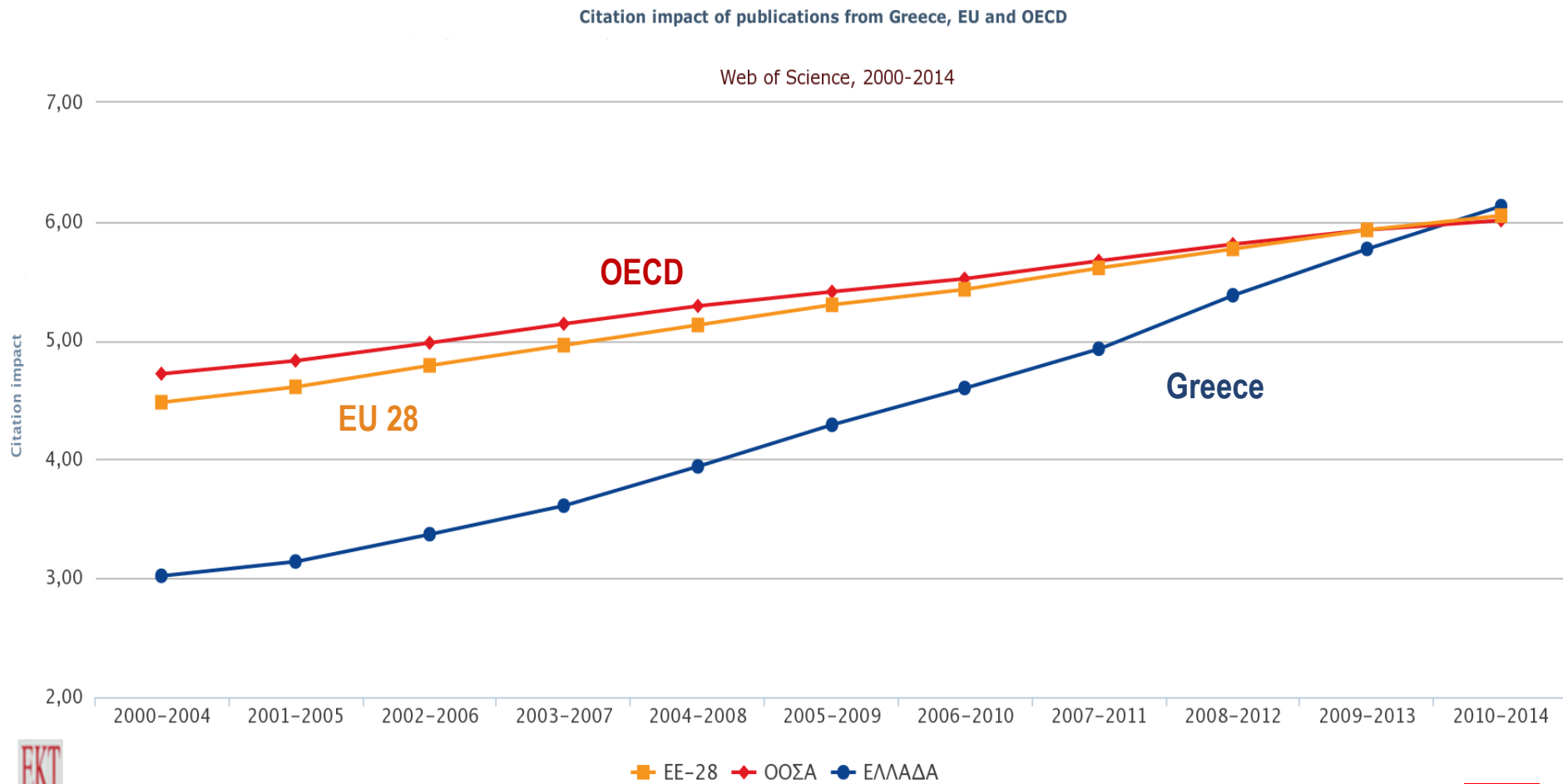
Analysis by V. Gongolidis, General Secretariat for Research and Technology, Greece

Only countries with EC contribution > 50 M€ shown



...and also excellent...

(regarding citation impact of publications)

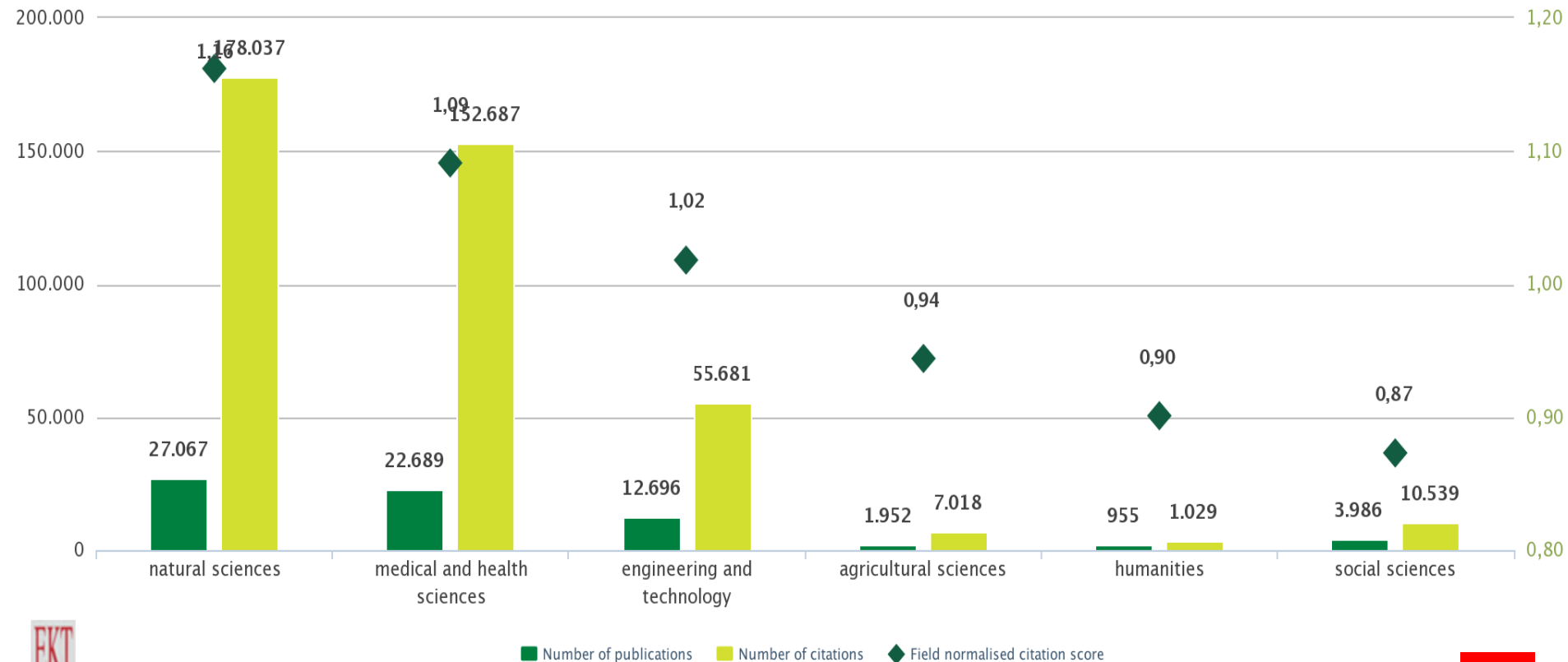


...even when compared with the rest of the world

(regarding publications and citations)

Publications, citations and field normalised citation score of Greek publications relative to the world

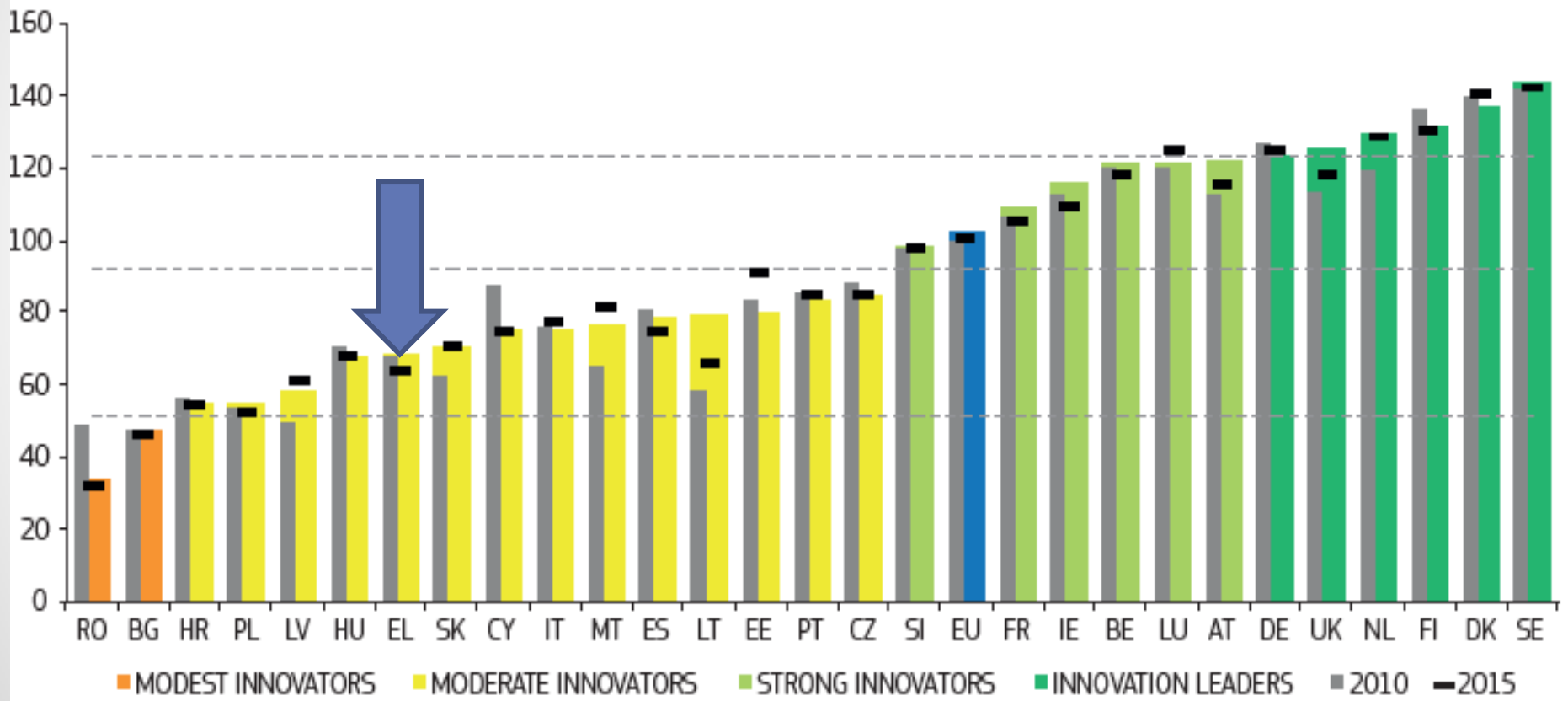
Web of Science, 2000-2014



The Innovation Gap

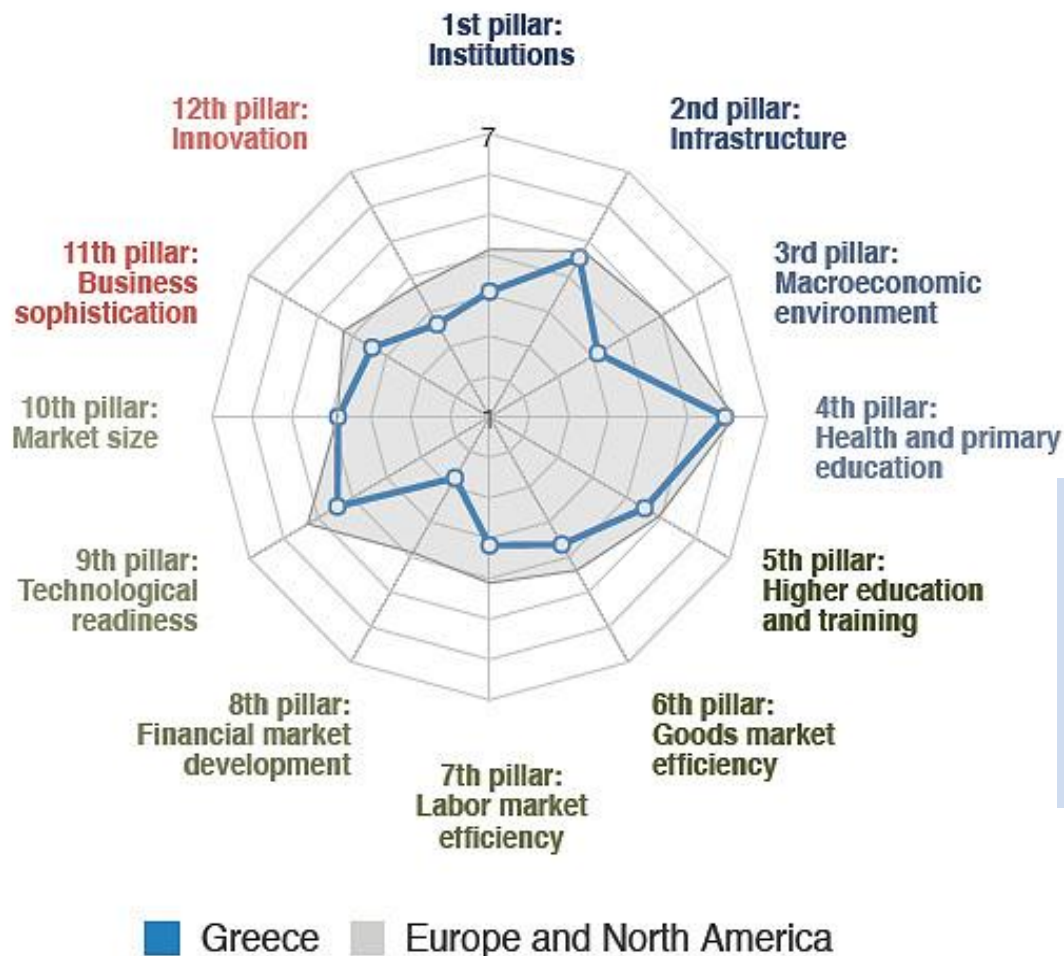
Overall Greece is a moderate innovator despite the good performance in academic scientific indicators

Figure 1: Performance of EU Member States' innovation systems



....is linked to a competitiveness gap

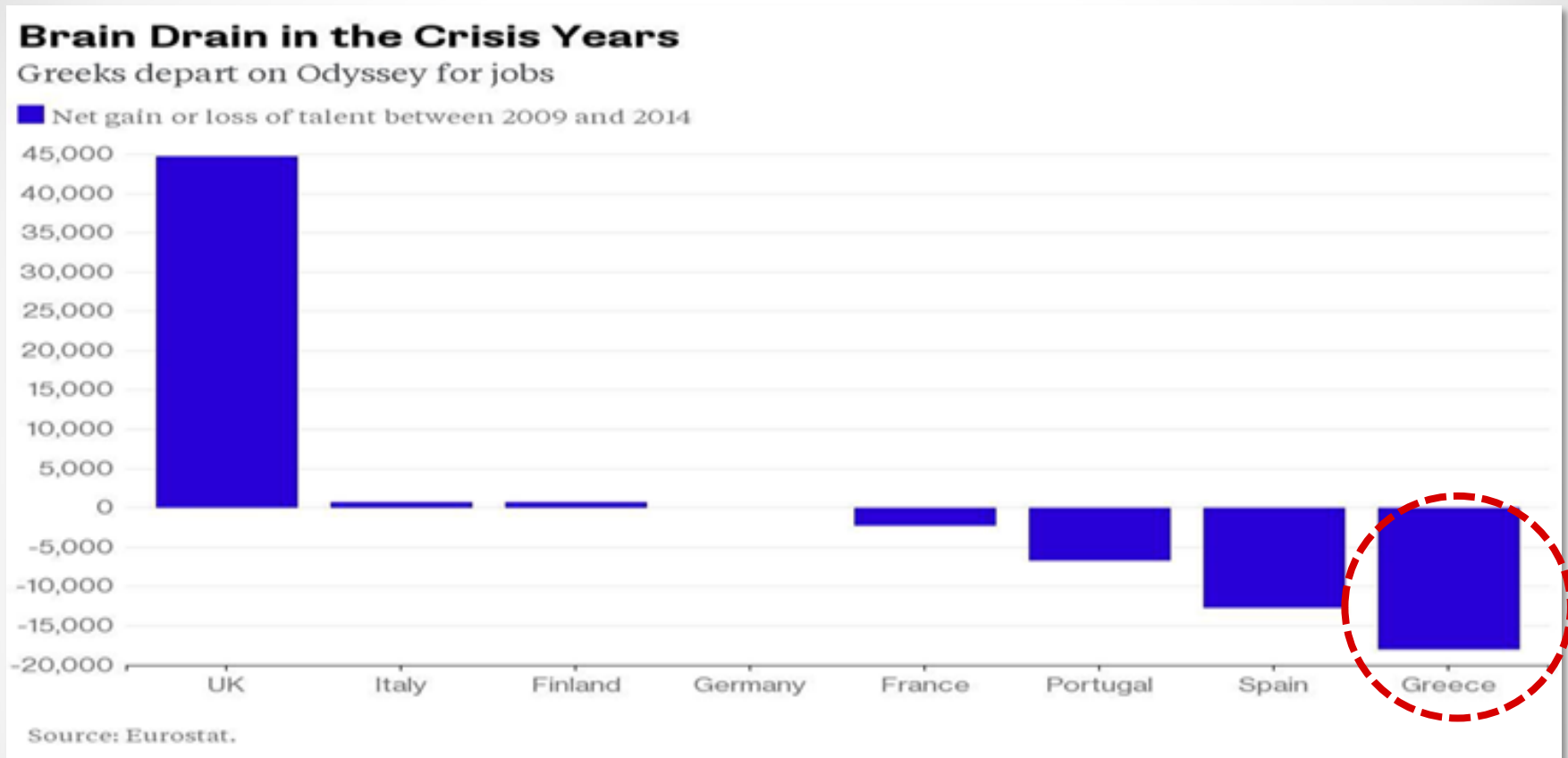
Greece is stacked in between knowledge intensive and low cost economies



Source:
World Economic Forum
Global Competitiveness Report, 2017-18

Greece ranks in the 87th place among
137 countries

.... combined to the impact of the economic crisis.....



* The chart calculates the difference between professionals seeking to leave the country and professionals seeking to come into the country. A negative number indicates more people seeking to leave than those seeking entrance.

Source: Bloomberg, June 2015

2000-2005:
2009-2014:

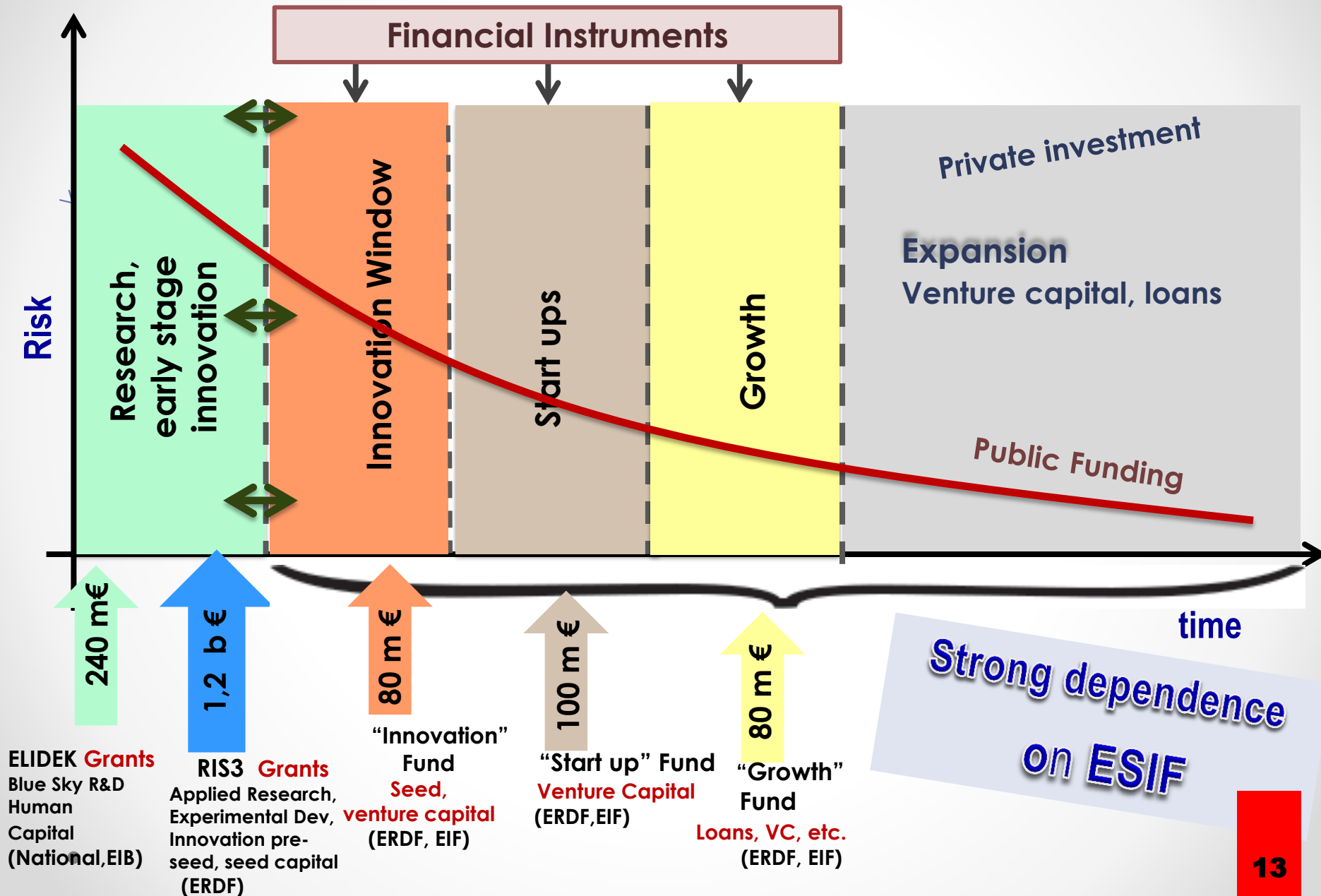
emigrated

2.552 young scientists
20.281 young scientists

Creates major policy challenges and dilemmas

- △ Radically **transform the production** model towards higher added value products and services: need for new business models
- △ Reduce the **gap** between technology **supply and demand**
- △ Safeguard **excellence** of the research potential, combat **brain drain** and upgrade research **infrastructure**
- △ Create **favorable framework conditions** for R&D and Innovative investments, despite the rigid fiscal consolidation measures

Need for policy intervention in every part of the innovation chain



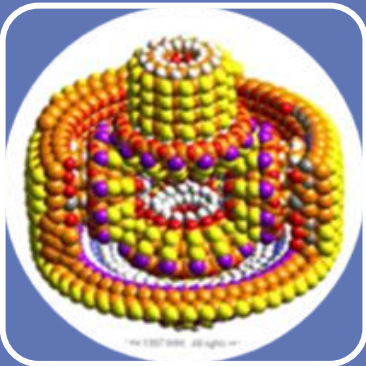
Challenge: Transformation of the production model, balance supply and demand



Upgrade the technological profile of existing companies

In Greece, firms employ **1,31** researches / 1.000 inhabitants versus an average of **4,48** in OECD countries

(Source: A. Cenci, *Innovation: the European Journal of Social Science Research*, 28, 443, 2015)



“RESEARCH and INNOVATION” 410 m€

- Industrial research in SMEs
- Industry – Academia Collaborative Projects
- Experimental development for R&D results in firms
- Young researchers in firms’ R&D departments



“SPECIFIC ACTIONS IN SELECTED SECTORS” 30 m€

- Cultural Heritage
- Aquaculture
- Industrial Materials

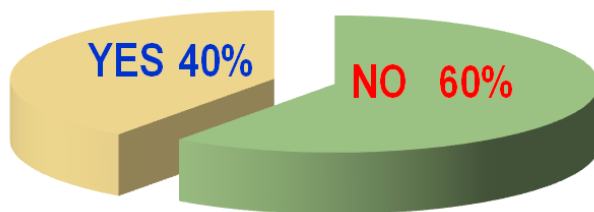
Create new innovative firms in high – tech sectorsspin-offs, spin-outs, innovative start -ups...

Data based on external
evaluation of the
programme

45 spin-offs
established

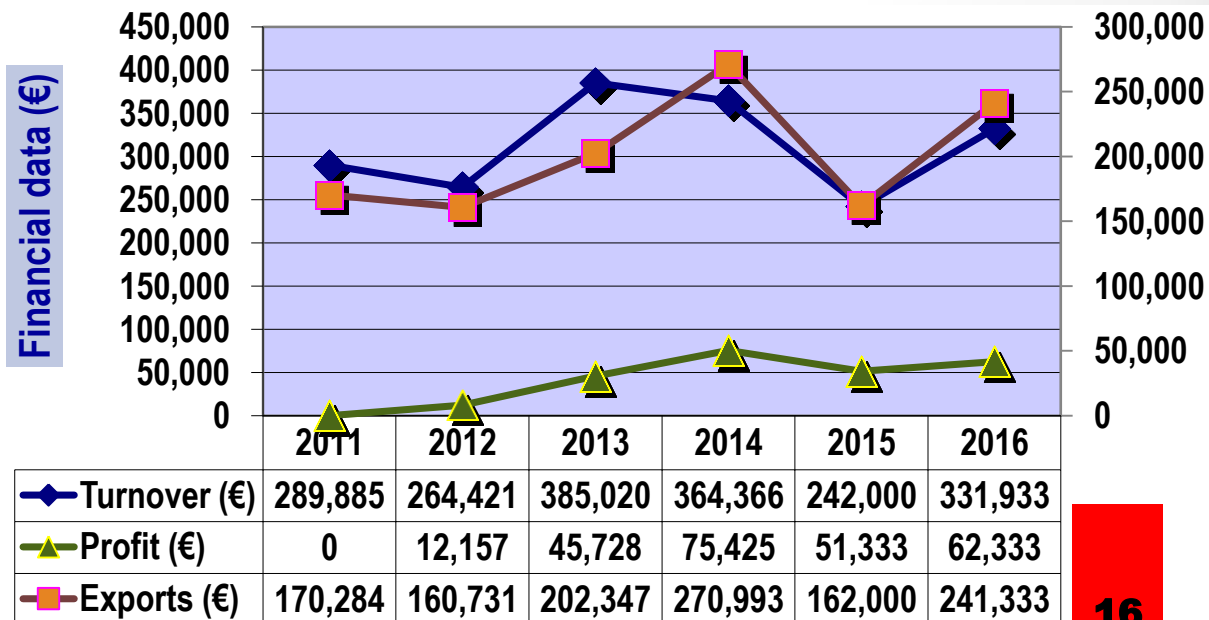
12,2 M€ public
funding invested
in 2007-2015 for
the promotion of
spin-offs

The activities of the spin-off have
resulted to new patents ?



40% of spin-offs
already export

Increased
turnover and
exports expected
in 2017



Support intermediaries: innovation clusters and competence centers



gi-cluster
a corallia initiative

**Gaming and creative
technologies & Applications**
(est. 2011)



mi-cluster

**Nano/Microelectronics-based
Systems & Applications**
(est. 2006)



si-cluster
a corallia initiative

**Space Technologies and
Applications**
(est. 2008)

All cluster initiatives facilitated by **Corallia** unit of “Athena “ Research Centre and aim to become world-class sustainable innovation ecosystems.

- ✓ ESCA gold-labeled **cluster**
- ✓ **6000** talented professionals
- ✓ **€2 bil.** turnover
- ✓ **>60** countries exports

www.gi-Cluster.gr



- ✓ ESCA silver-labeled **cluster**
- ✓ **10000** talented professionals
- ✓ **€4 bil.** turnover
- ✓ **>120** patents filed

www.mi-Cluster.gr



- ✓ ESCA gold-labeled **cluster**
- ✓ **2000** talented professionals
- ✓ **7%** expenditure on R&D
- ✓ **>53%** exports

www.si-Cluster.gr



Challenge: Safeguard excellence in research

Greek Foundation for Research and Technology (ELIDEK),
Blue Sky research based on excellence

Funding 240 m € for 3 years (EIB, national funds)

Support of >4.000 young researches (docs and post docs)



Multi-annual budgeting plan for Research Infrastructures



Brain circulation: Networking to the Greek Diaspora
“Knowledge Bridges” Programme



Challenge: Create favorable Framework Conditions for RD&I

FCs heavily affected by economic crisis

- Economic uncertainty
- Capital controls
- High tax rates and overall burden for firms
- Expensive energy and transport
- Unemployment
- Wage cuts

Policy responses RDI field

- **Tax incentives for R&D:** 130% super deduction for R&D expenses
- **Capital assets in R&D can be depreciated over three years**
- **Patents:** income attributable to an international patent is tax free for the first three years of the utilization of the patent

Policy responses Investments

- **Fast Track Framework:** accelerated licensing and permitting, special spatial provisions, tax regulations and 10-year long EU residence permits for strategic investments
- **Investment Law:** offers incentives for new investments

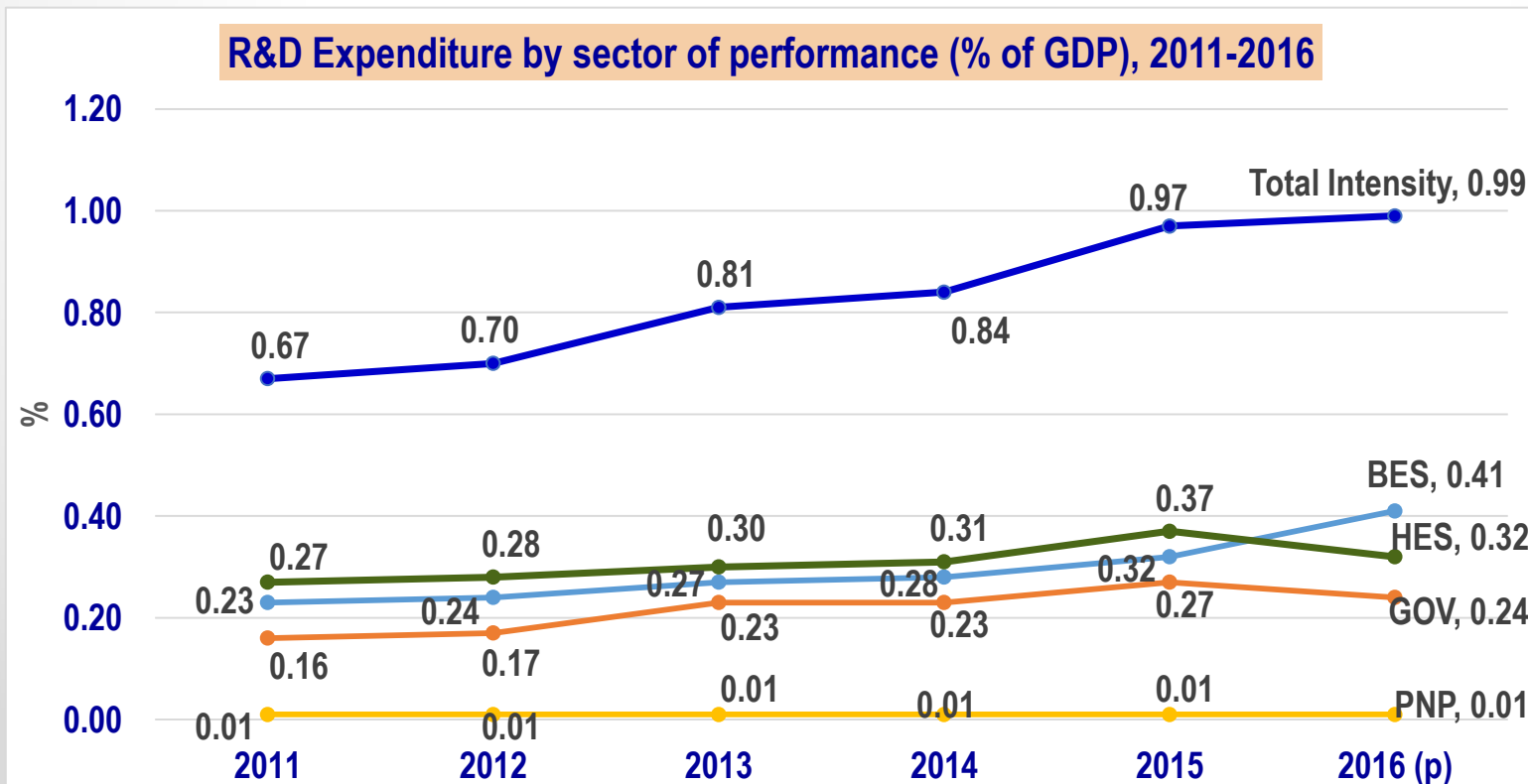


Some Light at the end of the tunnel !!!

Economy returns to positive growth rates, unemployment drops, infrastructure improves, R&D intensity & BERD increase, as well as “opportunity” entrepreneurship

Despite the economic crisis, R&D intensity is increasing as % of GDP, as well as in absolute numbers - **especially BERD**

	2011	2012	2013	2014	2015	2016 (p)
BES	485,86	458,60	488,69	504,37	561,59	722,88
GOV	331,73	331,90	410,13	412,69	479,35	428,86
HES	559,53	534,30	548,60	553,20	643,77	566,55
PNP	14,04	12,80	18,25	18,48	19,11	14,80
TOTAL	1.391,16	1.337,60	1.465,67	1.488,74	1.703,82	1.733,09



Total R&D intensity for 2016 (p) reached 0,99% of GDP

RDI High in the Political Agenda

But.....

Other policies may re-inforce or undermine the Knowledge Transfer and Innovation Policy

Challenge: design a coherent policy mix, establish inter-links and synergies with the other components of the governmental policies



Useful Links

- **General Secretariat for Research & Technology** : <http://www.gsrt.gr>
- **National Research and Innovation Smart Specialization Strategy 2014-2020** :
<http://www.gsrt.gr/Financing/Files/ProPeFiles19/Executive%20Summary-2015-09-17-v04.pdf>
- **National Documentation Center** : <http://ekt.gr>
- **Knowledge Bridges Programme** : <http://www.knowledgebridges.gr>

Thank you for your attention!

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Lisbon, November 8, 2017

