

Employment impacts of the Innovation Union Achievement: First results

Baptiste Boitier , Nicolas Lancesseur and Paul Zagamé
SEURECO

This document presents on-going research and should not be quote



Content

1. Context and overview
2. Scenarios description
3. Macroeconomic results
4. Sectoral results
5. Conclusion

1. Context and overview

1. Context and overview

- Since the Great Recession started in 2008, economic growth in European Union is heterogeneous among MS
 - But these differences are coming from imbalanced economic growth prior to the Great Recession
- Current GDP growth prospects for EU are low?
 - Labour force scarcity
 - Weak productivity growth

1. Context and overview

- This assessment has already be done in 2000
- Which has led to the “Lisbon Strategy”

- But, in 2009, the Swedish Prime Minister, Fredrik Reinfeldt observed:

“Even if progress has been made it must be said that the Lisbon Agenda, with only a year remaining before it is to be evaluated, has been a failure”

- In 2010, EU has launched a new Strategy “Europe 2020”

1. Context and overview

- One of the seven flagship initiatives of Europe 2020 is the Innovation Union :

“We need to do much better at turning our research into new and better services and products if we are to remain competitive in the global marketplace and improve the quality of life in Europe” EC website

- One corresponding objective or “target” is then a substantial raise of the R&D expenditures in EU, up to 3% of GDP in 2020.

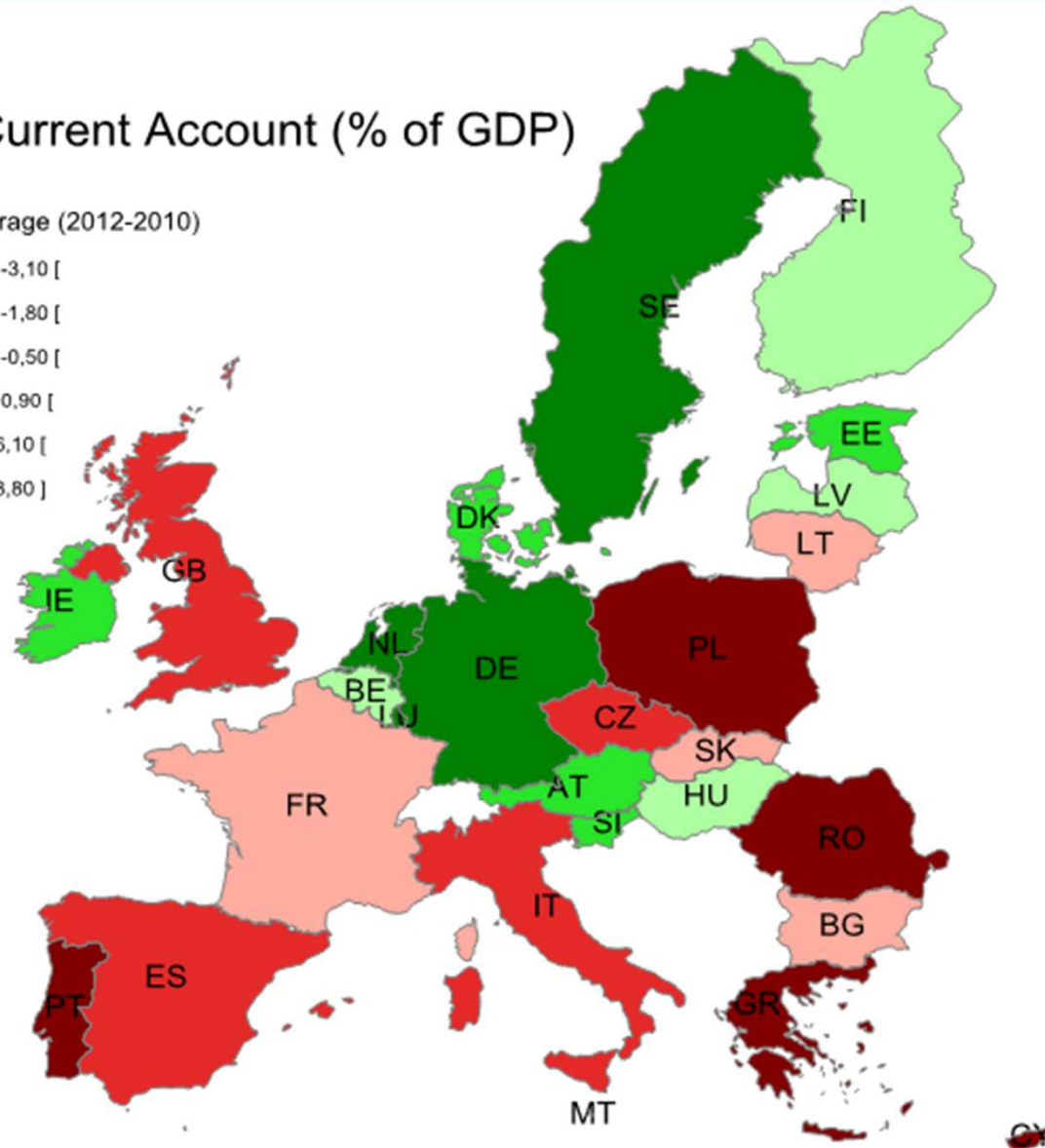
1. Context and overview

- The goal will be hard to achieve for two reasons:
 - The level of 2012 was only 2.06%
 - There are strong financial constraints on public expenses due to the explosion of the sovereign debt after the 2007 and 2010 crises
- However efforts must be maintained

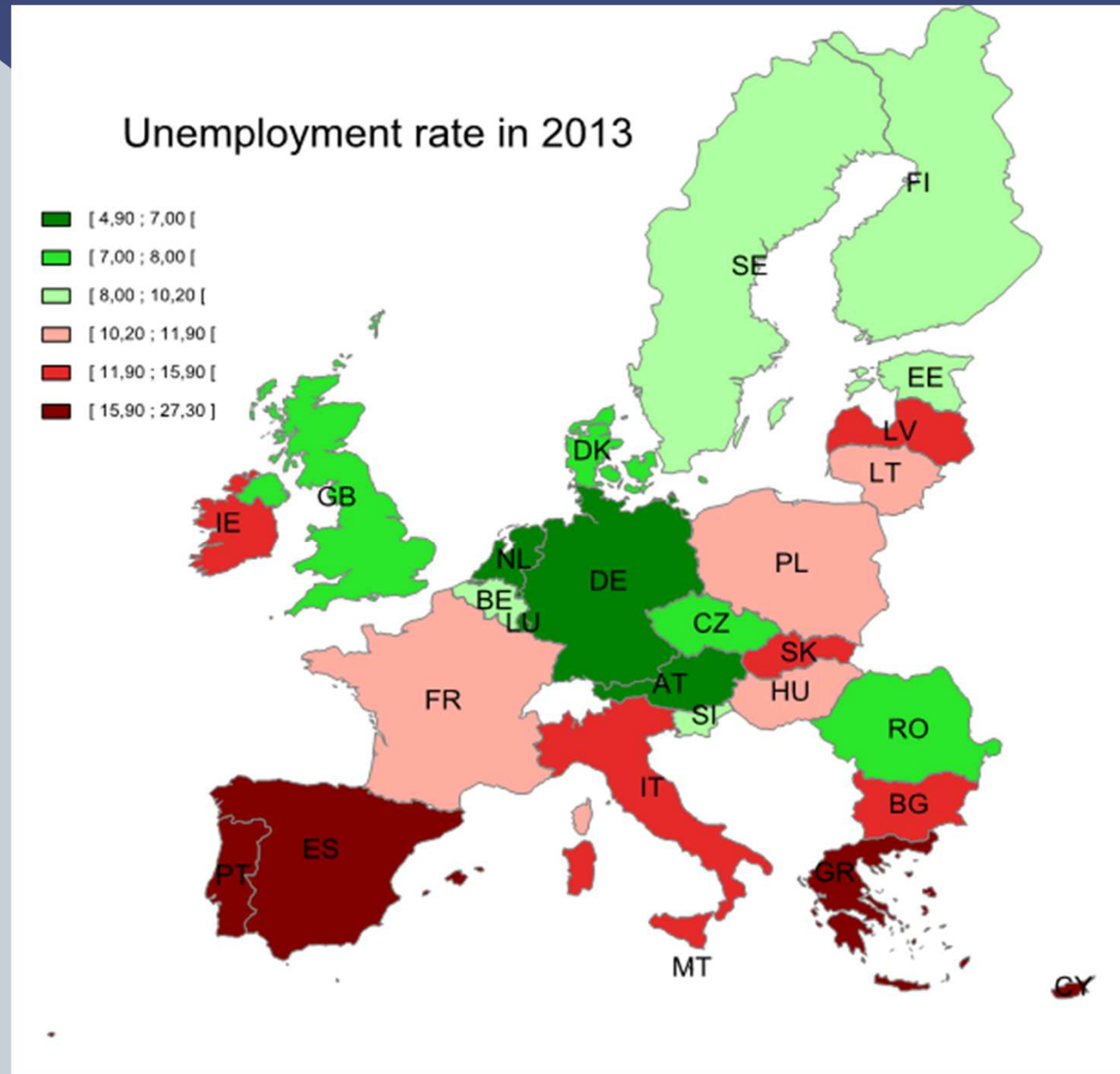
Why R&D expenditures matter?

Current Account (% of GDP)

3-year average (2012-2010)

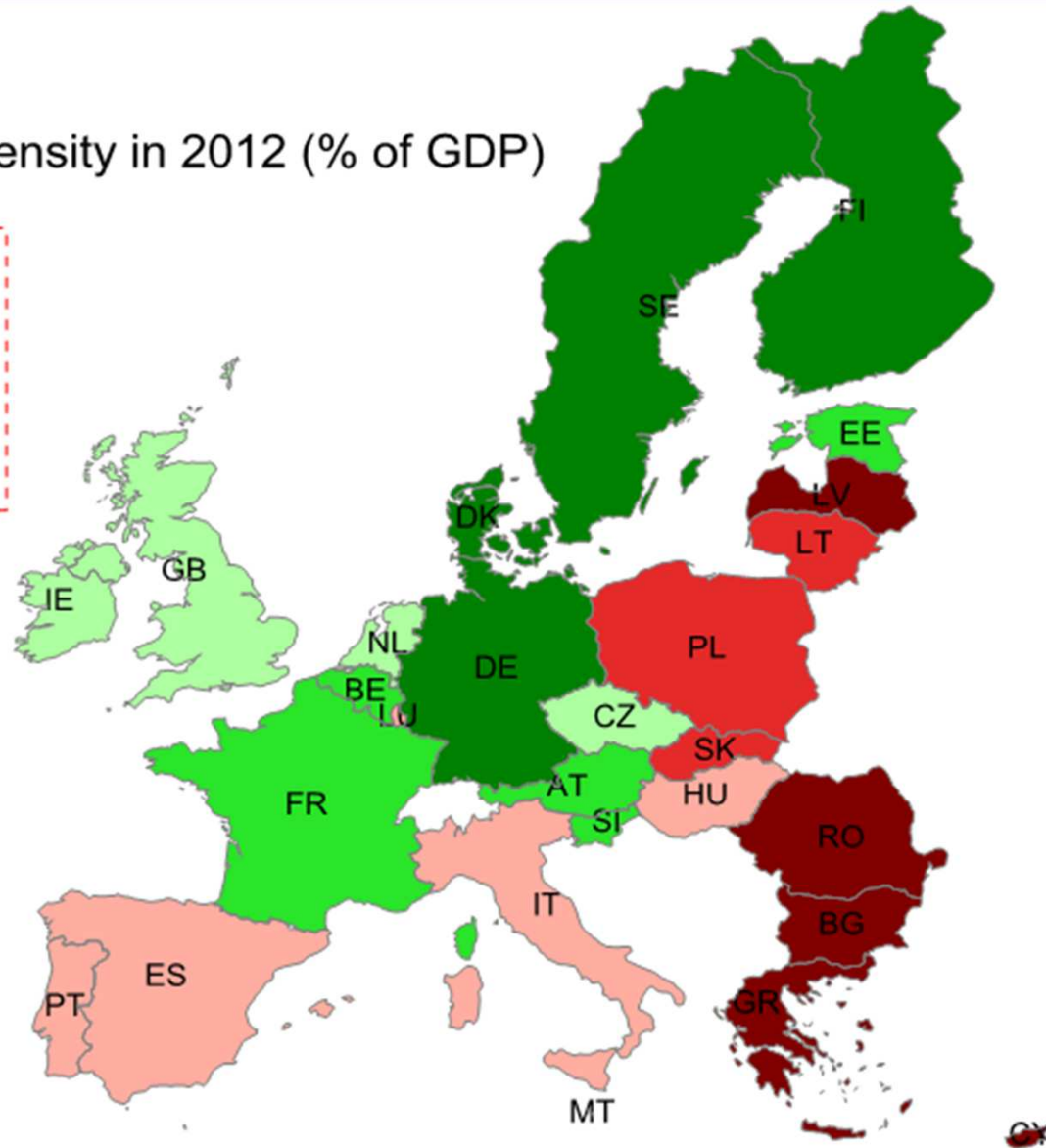
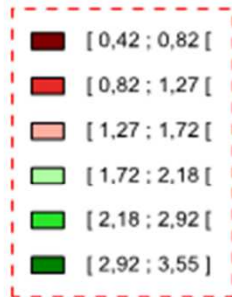


Why R&D expenditures matter?



Why R&D expenditures matter?

R&D intensity in 2012 (% of GDP)



1. Context and overview

- Of course, correlation does not mean causality
- Of course, other “assets” are essential for innovation:
 - > Human capital
 - > Other intangibles
 - > ICTs
 - > Social innovation

1. Context and overview

- Innovation is also a key driver for a successful socio-ecological transition:
 - Renewable energies
 - New mobility
 - De-materialisation
 - Eco-innovation
 - Energy saving technologies
 - Social innovation
 - Etc..

2. Scenario definition

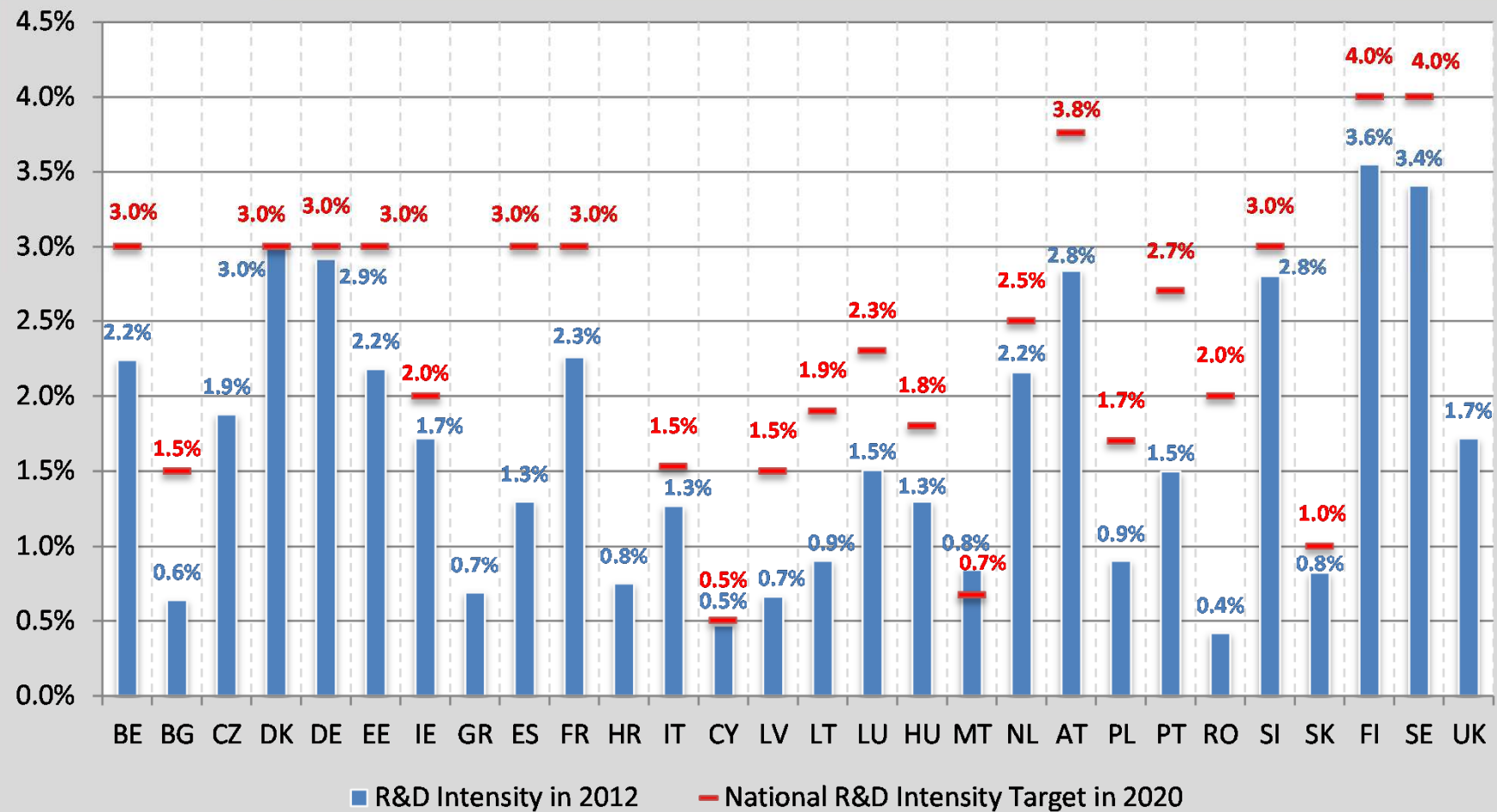
2. Scenarios definition

- Each Member State has defined a national action plan for the Europe 2020 Strategy
- With a R&D intensity target for 2020
- But, looking at these targets, efforts have been done by some MS but the target seems unreachable for some others

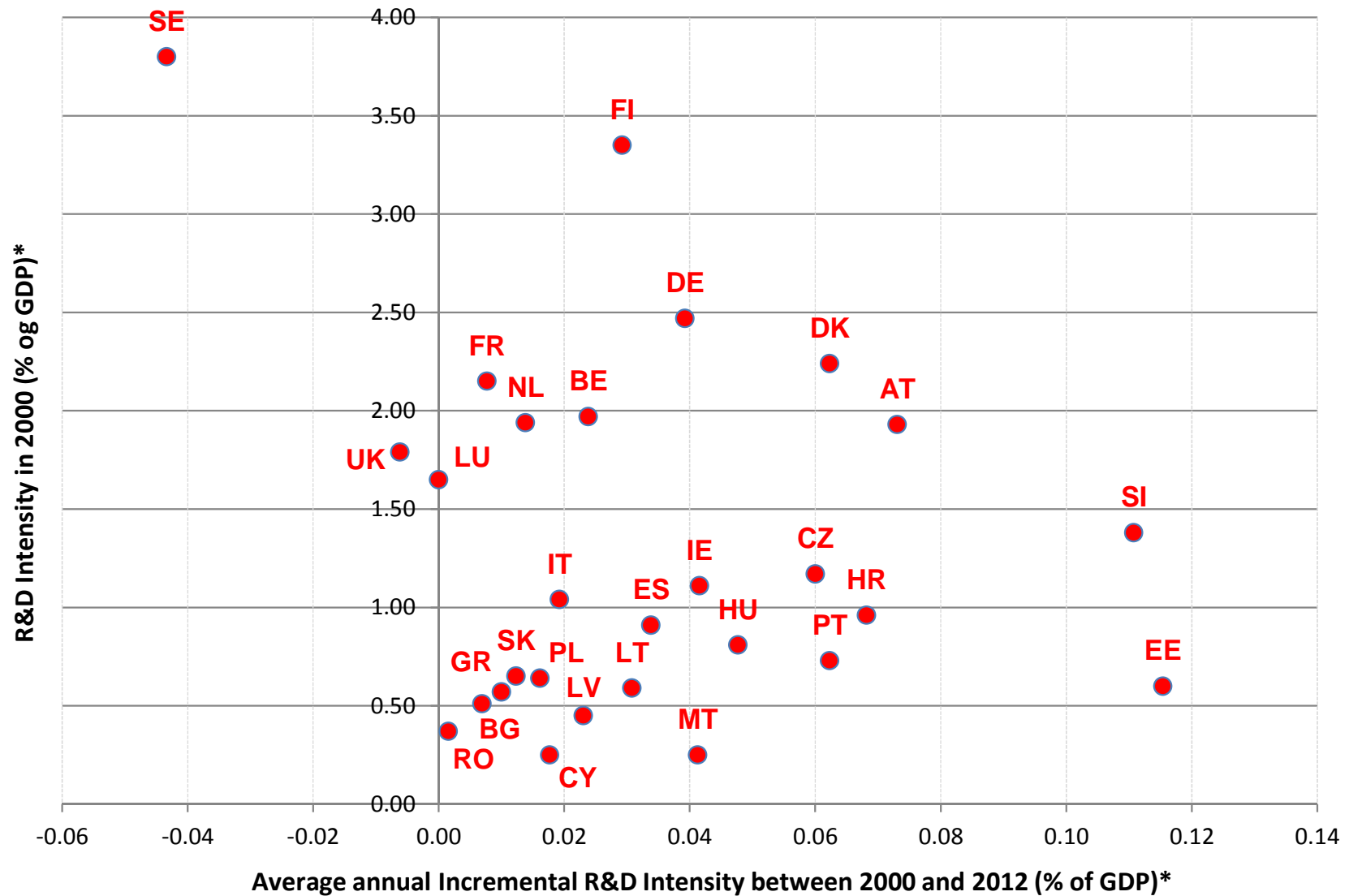
	R&D intensity in 2012	Europe 2020 - R&D intensity targets
BE	2.24%	3.00%
BG	0.64%	1.50%
CZ	1.88%	1% - public
DK	2.99%	3.00%
DE	2.92%	3.00%
EE	2.18%	3.00%
IE	1.72%	2.00%
GR	0.69%	--
ES	1.30%	3.00%
FR	2.26%	3.00%
HR	0.75%	--
IT	1.27%	1.53%
CY	0.47%	0.50%
LV	0.66%	1.50%
LT	0.90%	1.90%
LU	1.51%*	2.3-2.6%
HU	1.30%	1.80%
MT	0.84%	0.67%
NL	2.16%	2.50%
AT	2.84%	3.76%
PL	0.90%	1.70%
PT	1.50%	2.7-3.3%
RO	0.42%	2.00%
SI	2.80%	3.00%
SK	0.82%	1.00%
FI	3.55%	4.00%
SE	3.41%	4.00%
UK	1.72%	--



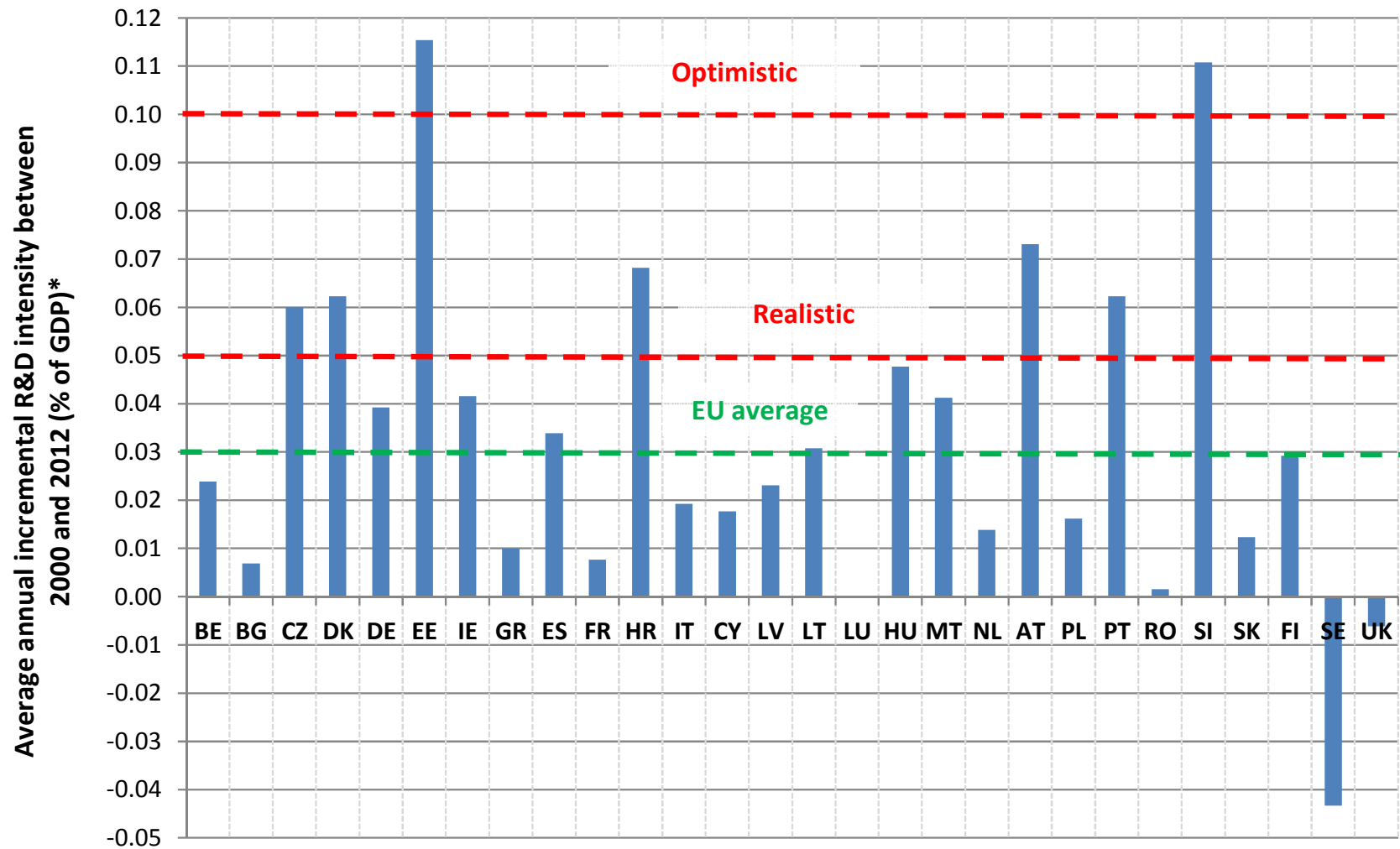
2. Scenarios definition



2. Scenarios definition



2. Scenarios definition



2. Scenarios definition

- ◎ Scenarios hypothesis:
 - > Realistic
 - 0,05 additional R&D intensity per year (in GDP pt) up to the National Target
 - > Optimistic
 - 0,1 additional R&D intensity per year (in GDP pt) up to the National Target
- ◎ Both scenarios applied to both reference scenarios “Friendly” and “Tough”

2. Scenarios definition

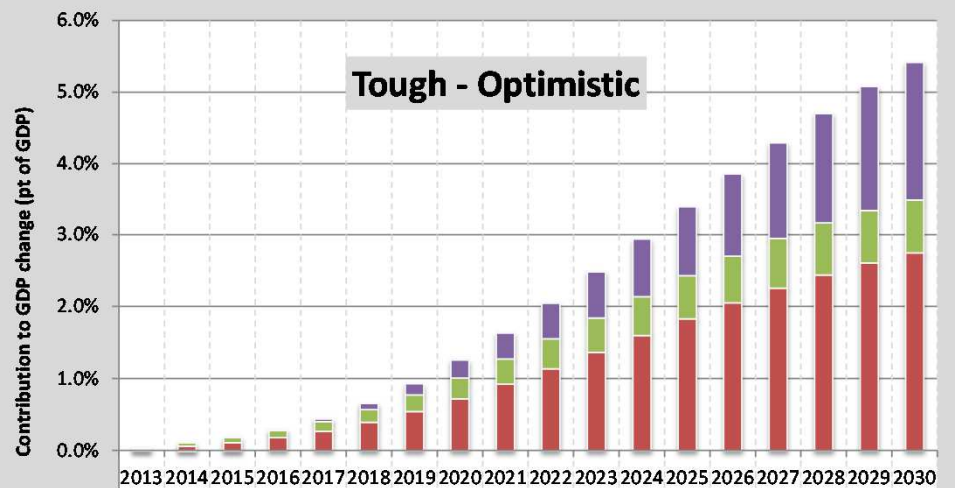
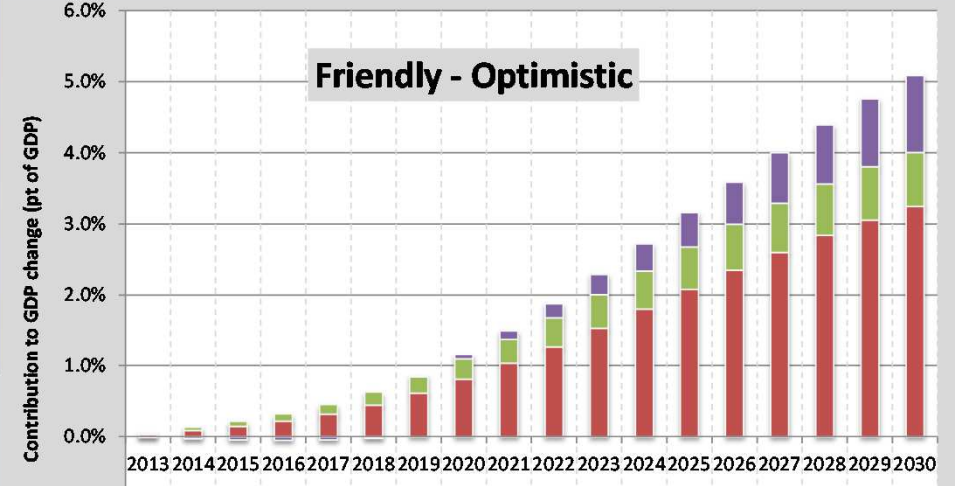
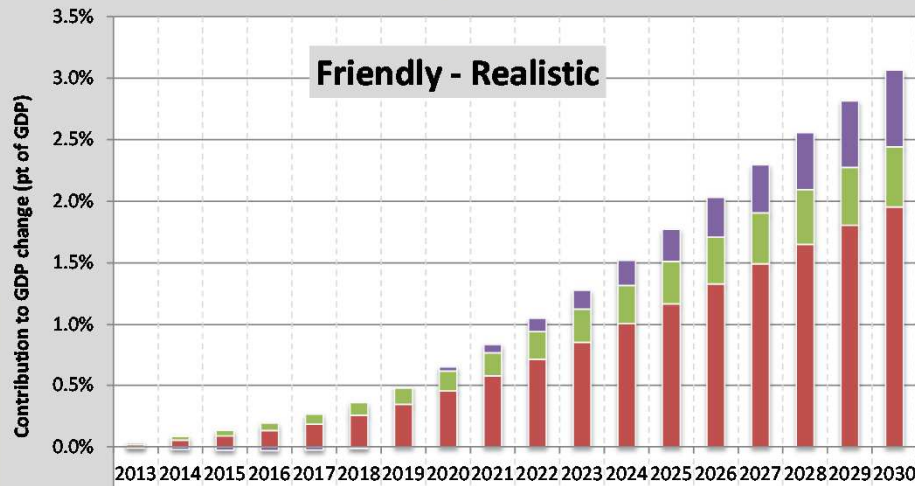
○ Other assumptions

- > When target below 3%, R&D intensity still raise up to reach 3%
- > Grandfathering of the R&D expenditures with respect to 2012 sectoral composition
- > Convergence towards 2/3 private and 1/3 public

	R&D intensity in 2012	Europe 2020 - R&D intensity targets	Scenario "Realistic"			Scenario "optimistic"		
			2020	2030	EU2020 targets reached	2020	2030	EU2020 targets reached
BE	2.24%	3.00%	2.64%	3.00%	2028	3.00%	3.00%	2020
BG	0.64%	1.50%	1.04%	1.54%	2029	1.44%	2.44%	2021
CZ	1.88%	1% - public	2.26%	2.66%	2020	2.68%	3.00%	2019
DK	2.99%	3.00%	3.09%	3.09%	done	3.09%	3.09%	done
DE	2.92%	3.00%	3.00%	3.00%	2014	3.00%	3.00%	2013
EE	2.18%	3.00%	2.58%	3.00%	2030	2.98%	3.00%	2021
IE	1.72%	2.00%	2.00%	2.00%	2018	2.52%	3.00%	2015
GR	0.69%	--	1.09%	1.59%	--	1.49%	2.49%	--
ES	1.30%	3.00%	1.70%	2.20%	no	2.10%	3.00%	2029
FR	2.26%	3.00%	2.66%	3.00%	2027	3.00%	3.00%	2020
HR	0.75%	--	1.15%	1.65%	--	1.55%	2.55%	--
IT	1.27%	1.53%	1.67%	2.17%	2017	2.07%	3.00%	2015
CY	0.47%	0.50%	0.87%	1.37%	2013	1.27%	2.27%	2013
LV	0.66%	1.50%	1.06%	1.56%	2029	1.46%	2.46%	2021
LT	0.90%	1.90%	1.30%	1.80%	no	1.70%	2.70%	2022
LU	1.51%*	2.3-2.6%	1.80%	2.30%	2030	2.15%	3.00%	2022
HU	1.30%	1.80%	1.70%	2.20%	2022	1.70%	2.20%	2017
MT	0.84%	0.67%	1.24%	1.74%	done	1.64%	2.64%	done
NL	2.16%	2.50%	2.56%	3.00%	2019	2.96%	3.00%	2016
AT	2.84%	3.76%	3.24%	3.74%	no	3.64%	3.76%	2023
PL	0.90%	1.70%	1.30%	1.80%	2028	1.70%	2.70%	2020
PT	1.50%	2.7-3.3%	1.90%	2.40%	no	2.30%	3.00%	2024
RO	0.42%	2.00%	0.82%	1.32%	no	1.22%	2.22%	2028
SI	2.80%	3.00%	3.00%	3.00%	2016	3.00%	3.00%	2014
SK	0.82%	1.00%	1.22%	1.72%	2016	1.62%	2.62%	2014
FI	3.55%	4.00%	3.95%	4.00%	2021	4.00%	4.00%	2017
SE	3.41%	4.00%	3.81%	4.00%	2024	4.00%	4.00%	2018
UK	1.72%	--	2.12%	2.62%	--	2.52%	3.00%	--

3. First results

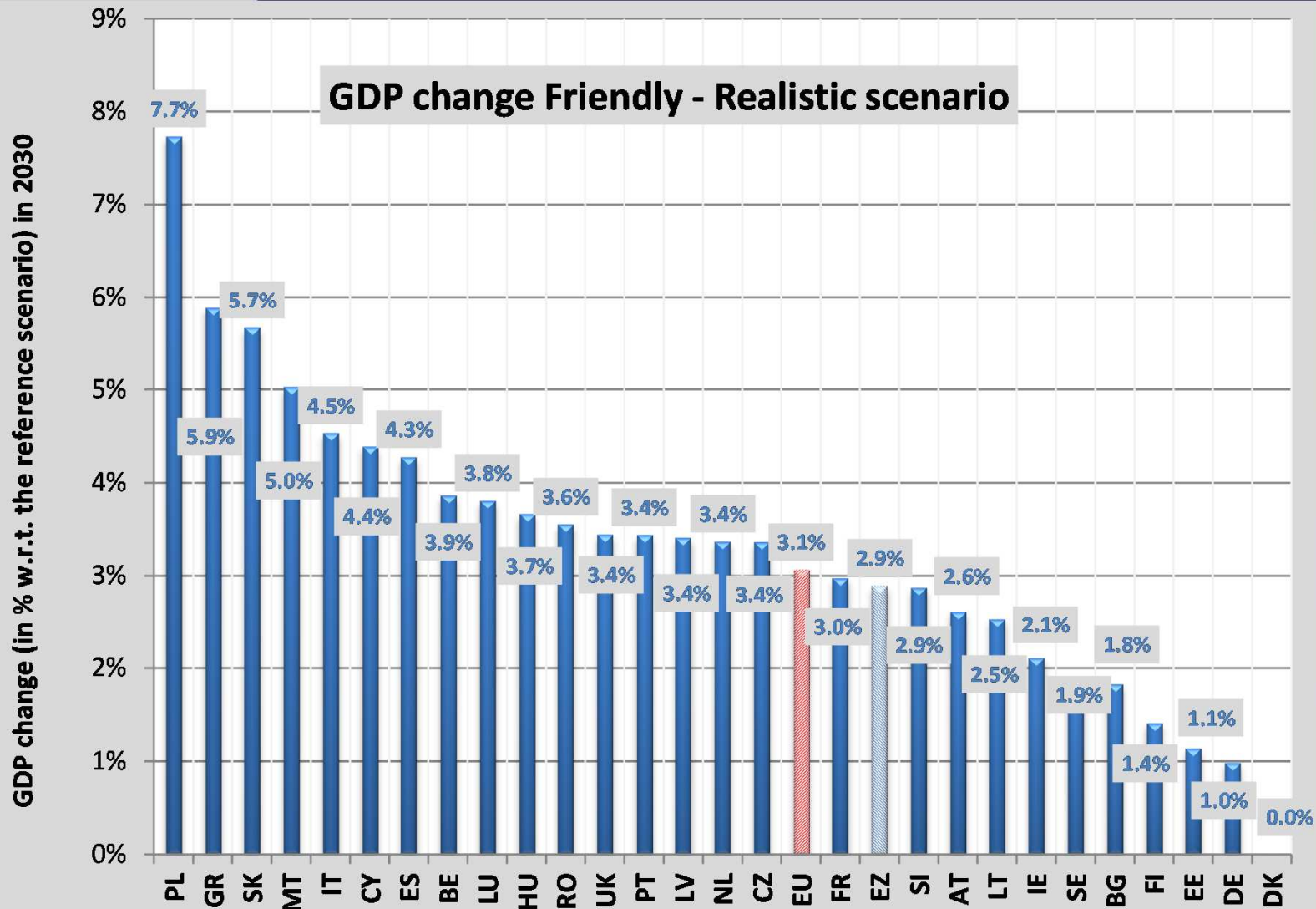
3.1. GDP and components



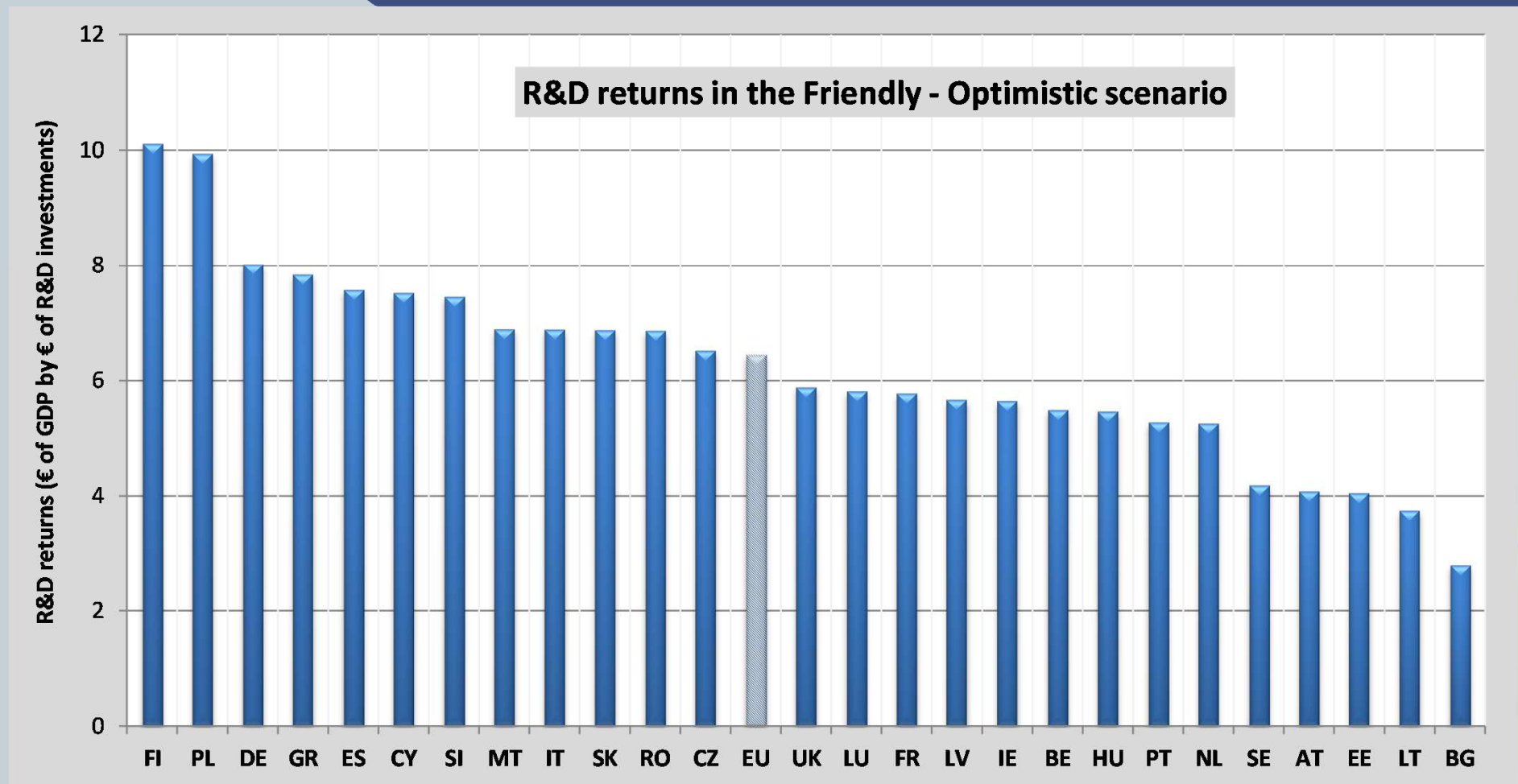
Private consumption GFCF Trade Balance

Private consumption GFCF Trade Balance

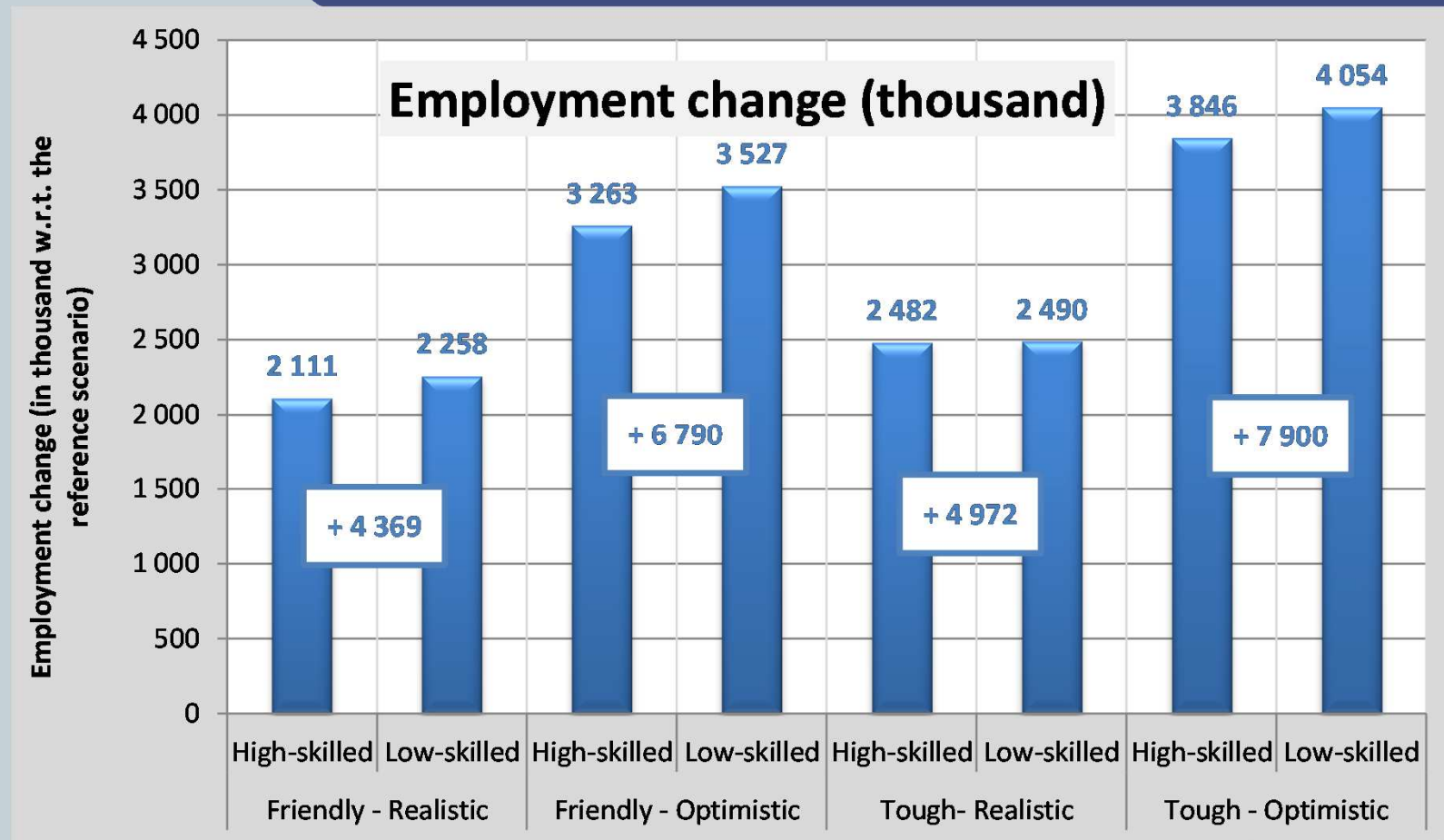
3.2. GDP by Member State



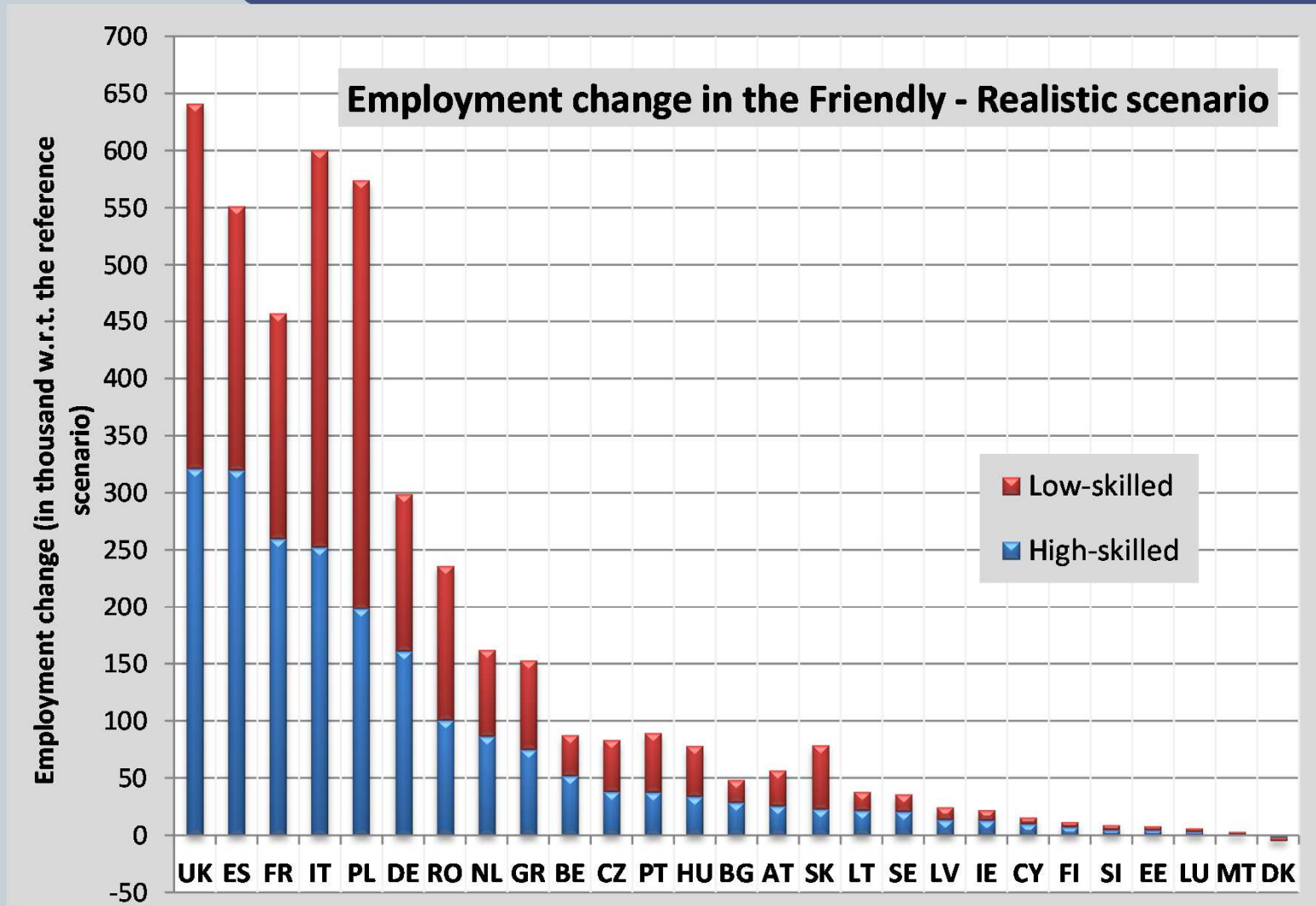
3.3. R&D returns by Member States



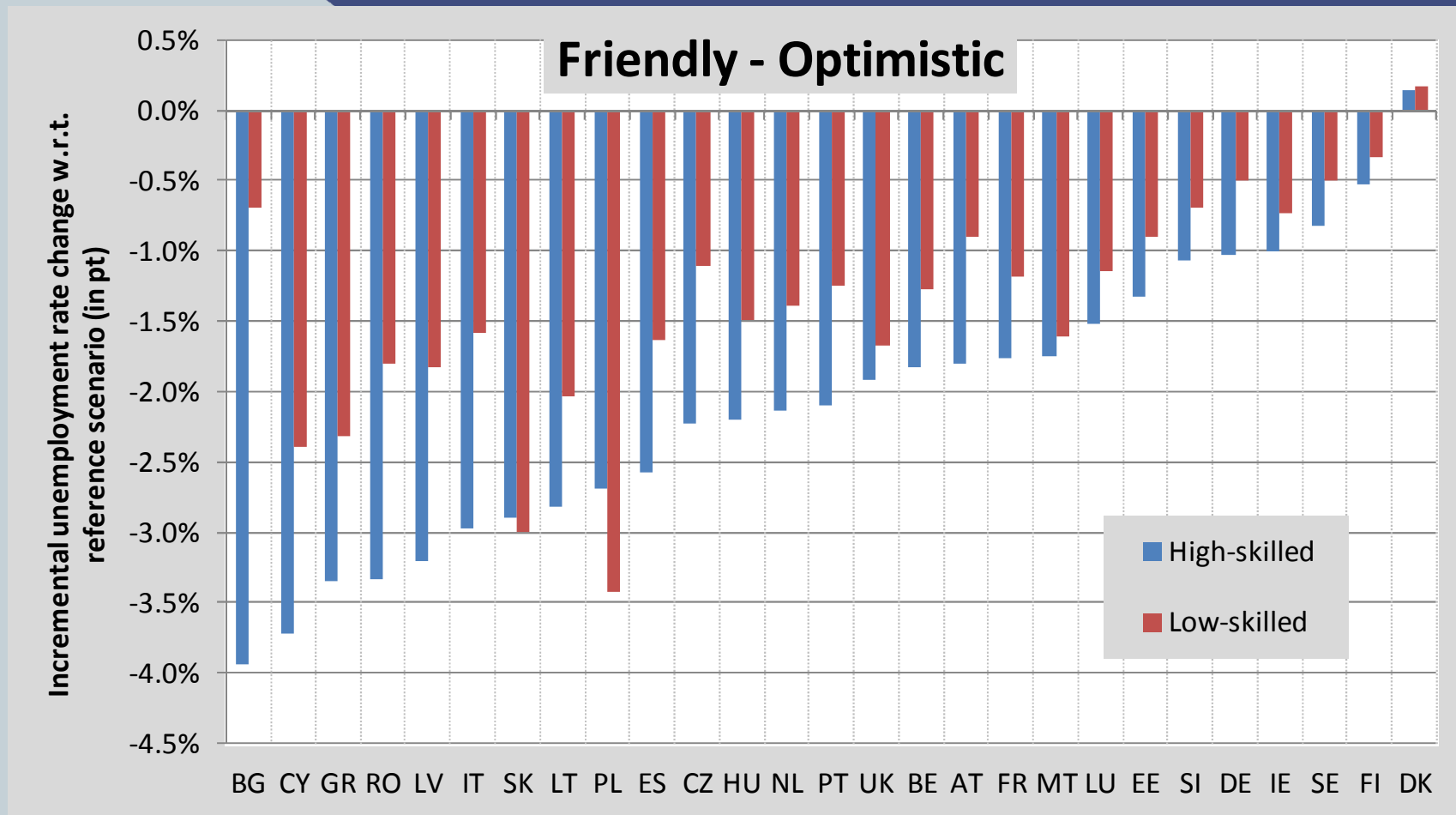
3.4. European employment



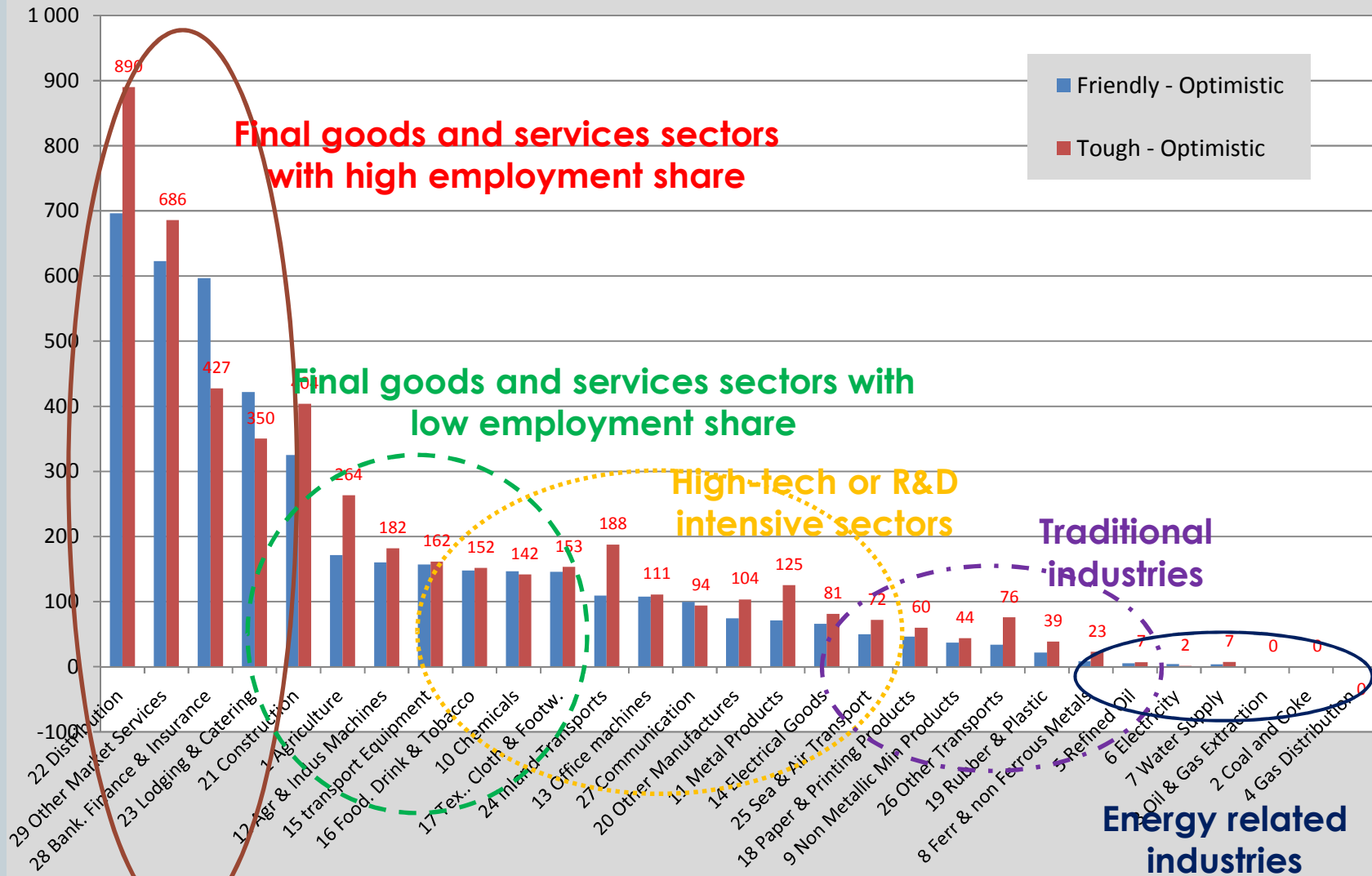
3.5. Employment by skill and by Member State



3.5. Unemployment by skill and by Member State

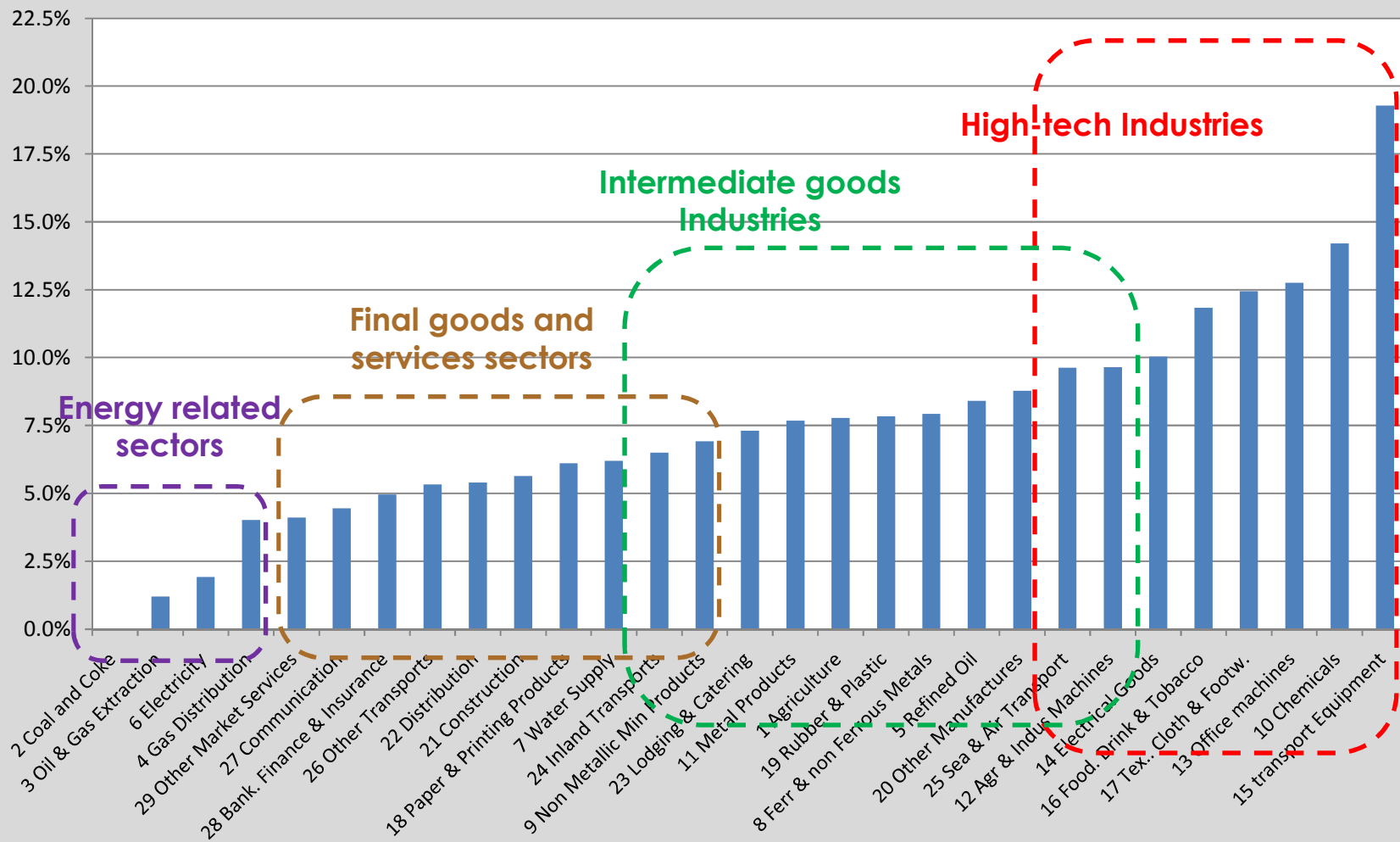


3.6. European sectoral employment (without direct research employment)



3.7. European sectoral value added

Tough - Optimistic

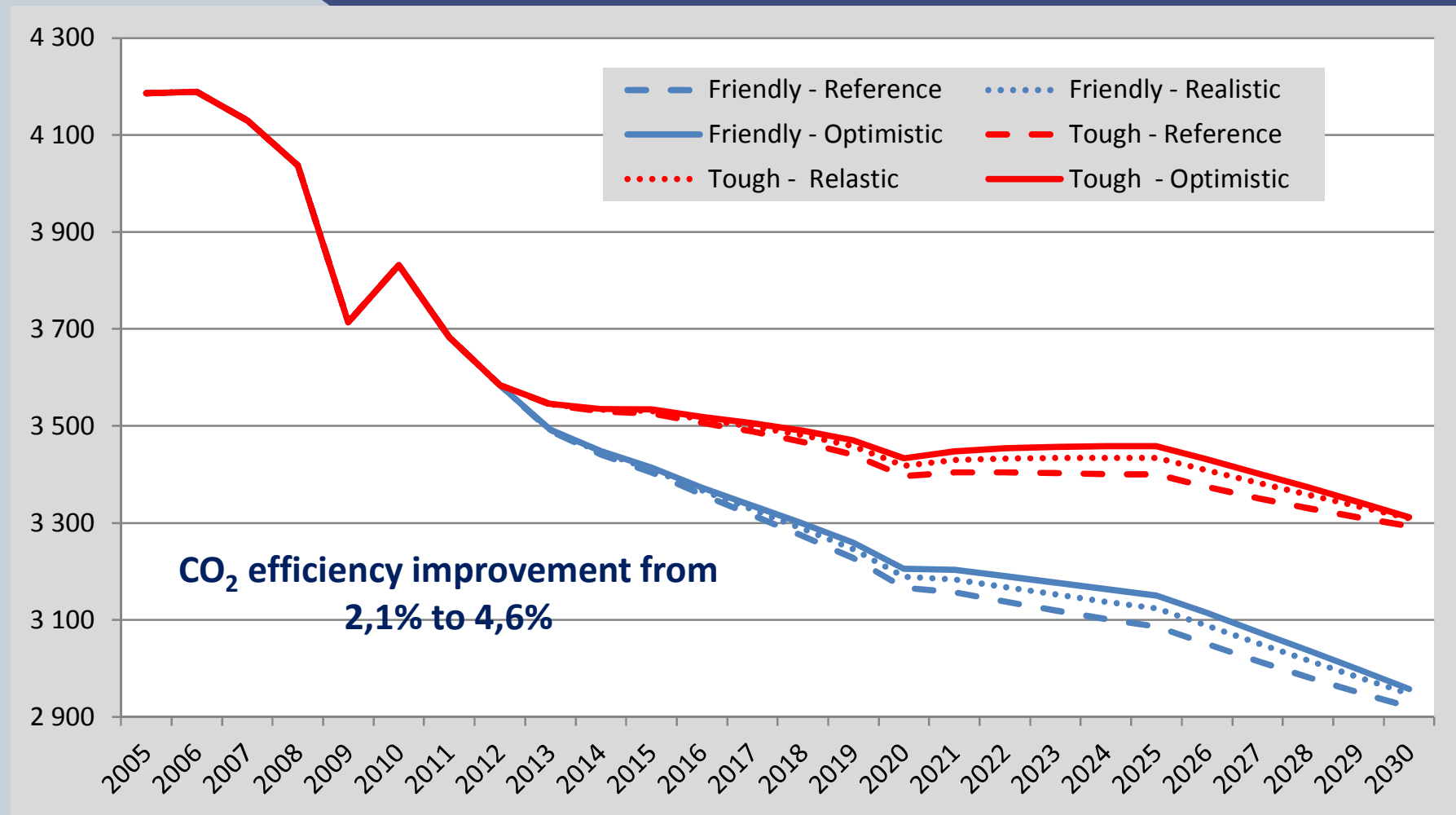


3.8. Energy consumption

	Friendly - Realistic	Friendly - Optimistic	Tough - Realistic	Tough - Optimistic
Primary energy consumption	0.78%	1.01%	0.42%	0.37%
Primary energy intensity	-2.22%	-3.88%	-2.74%	-4.79%
Final energy consumption	0.56%	0.66%	0.22%	0.10%
Final energy intensity	-2.43%	-4.22%	-2.94%	-5.04%

% change w.r.t, reference scenarios

3.9. CO₂ emissions



4. Conclusion and next steps

4. Conclusion

- R&D investments and innovation matter for long term economic development
- Of course, these investments must be coupled with human capital and intangible capital investments
- The results show that engage MS into the innovation union could create new jobs opportunities
- R&D policies are also efficient to enhance the development of the high tech sectors
- However, a large part of the job creations come from less progressive sectors (such as distribution, lodging and catering, etc.) by induced effects.

4. Conclusion

- Complementary scenarios will be more oriented towards:
 - > Quality innovations
 - > Energy efficiency and eco-innovation
- And the innovation scenarios will fit the framework of the Neujobs scenarios especially coupled with a decarbonisation scenario of European Union

Annex

Friendly - Realistic

