

Background material

European Value Chains

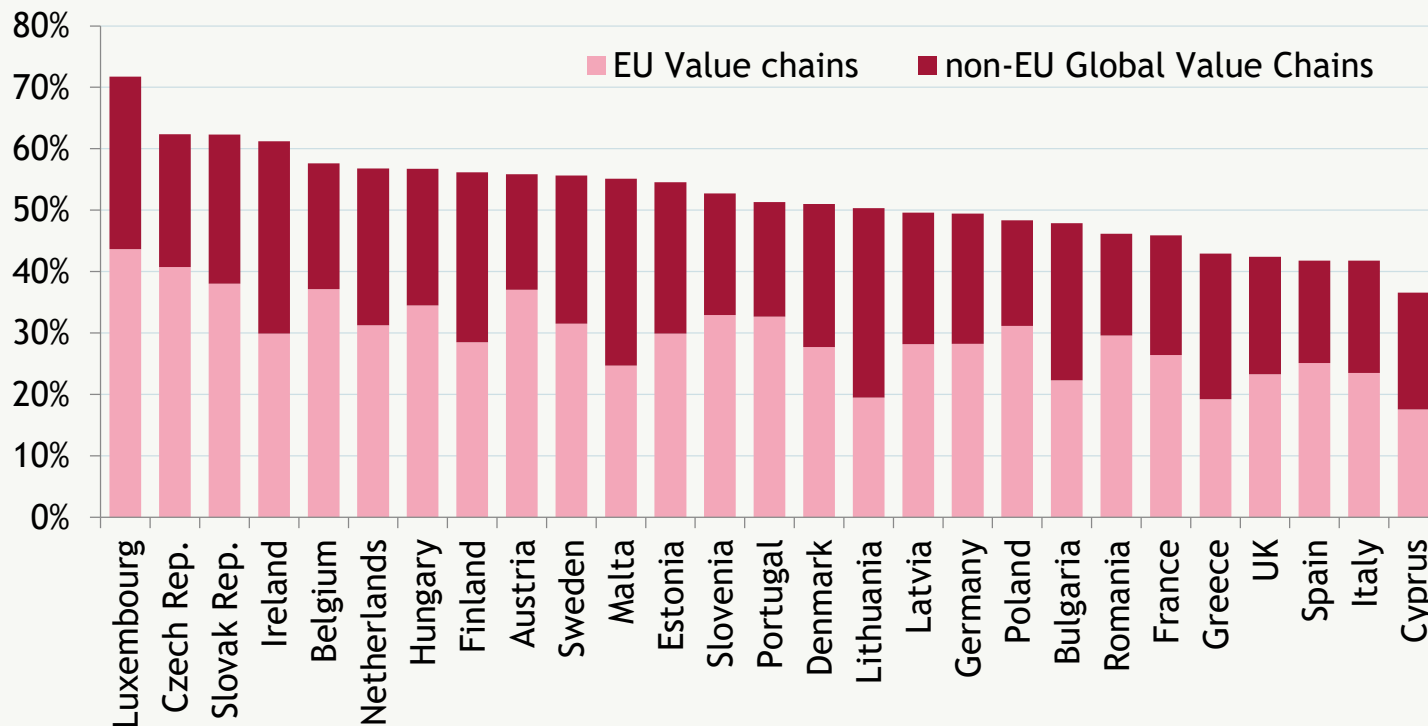
Manufacturing production in the EU became more integrated within “European value chains”

- **A few large firms are intensively involved in GVCs**, but these large firms matter for Europe’s overall knowledge based growth and competitiveness performance
- Also smaller firms that take **intermediate positions in global value chain** have higher productivity premia, particularly when they can exploit unique innovative capacities
- European firms participation in GVCs is **strongly EU oriented**:
 - These European Value Chains (EVC) have resulted in a deeper integration of EU manufacturing
 - Firms involved in EVC are not disadvantaged relative to firms that develop more global value chains.

Participation in Global and European value chains

In 2009, (on average) **53%** of EU countries' exports were involved in Global value chains

...of which (on average) **56%** in European value chains.



Source: Bruegel Manufacturing Blueprint (2013)
Participation in GVC is measured as the share of foreign inputs embedded in a country's exports (backward participation) plus the share of domestic inputs of that country embedded in other countries' exports (forward participation).

CHALLENGES for Europe's innovation capacity

There are many highly innovative European companies,
but on average

- Europe has consistently failed to exploit its potential for innovation-based growth,...
- ...despite a series of innovation policy strategies and targets.

EU's Innovation Capacity Problems are structural and longstanding

- **Europe's failing capacity for creative destruction:** missing specialization in new innovation based growth sectors and firms
 - Innovation Based Growth Sectors: *aerospace, biotech, computer hardware&services, health care equipment & services, internet, pharmaceuticals, semiconductors, software, telecom equipment*
 - Yollies: companies born since 1975 who have made it into the R&D scoreboard of world leading innovators
- **Europe's fragmented science, research and innovation area:** missing “European Innovation Value Chains”.
 - transfer of new science and research insights into commercial ideas that can command world-leading positions
 - link regional and national innovation systems within a more integrated European innovation system

CHALLENGES for Europe's innovation capacity

Europe's corporate R&D fails to specialize in innovation based growth sectors

Europe's corporate R&D misses "Yollies" in innovation based growth sectors

RTA Indices

Specialisation in "Dynamic" Sectors

	EUR	US
<i>Aerospace & defence</i>	1,5	1,13
<i>Biotechnology</i>	0,32	2,2
<i>Computer hardware & Computer services</i>	0,08	1,39
<i>Health care equipment & services</i>	0,7	1,86
<i>Internet</i>	0	2,54
<i>Pharmaceuticals</i>	1,27	1,16
<i>Semiconductors</i>	0,5	1,72
<i>Software</i>	0,51	2,05
<i>Telecommunications equipment</i>	1,38	1,09
All IBG sectors	0.89	1.43

Specialisation in "Classic" Sectors

Industrial machinery	1,84	0,24
Industrial metals	1	0,3
Electrical components & equipment	1,56	0,18
Fixed & Mobile telecommunications	1,53	0,2
Chemicals	1,31	0,64
Automobiles & parts	1,26	0,58

	EU	US
Share of Yollies in number of region's leading innovators	23%	51%
R&D intensity of		
Yollies	4%	10%
Ollies	3%	4%
Share of the region's Yollies in Innovation Based Growth Sectors	62%	84%
R&D intensity of Yollies in Innovation Based Growth Sectors	13.9%	12.6%

Source: Veugelers, R. and M. Cincera, 2010, *Europe's Missing Yollies*, Bruegel Policy Brief 2010/06, Bruegel Brussels

Why is Europe missing Innovation Based Growth Capacity ?

- Lower returns from investing in innovation capacity
- Higher barriers to access resources for innovation
- A systemic problem
 - Segmented product markets
 - Risk-taking financial markets
 - Higher (Re-)entry & exit costs
 - Inflexible labour markets
 - IPR effectiveness
 - Insufficient linking in “innovation system”
 - Industry science links
 - Large incumbents and small new entrants
 - Public Private partnerships
 - Insufficient or ineffective policy support

Some Bruegel References

- Veugelers, R., 2018, **Are European firms falling behind in the global corporate research race?** Bruegel Policy Contribution 18-06, Bruegel, Brussels.
- Veugelers, R., 2017 (Ed), **Remaking Europe: the new manufacturing as an engine for growth**, Bruegel Blueprint, Brussels.
- Veugelers, R. (Ed) 2013, **Manufacturing Europe's Future**, Bruegel Blueprint, Volume XXI, Bruegel, Brussels;
- Veugelers, R. and M. Cincera, 2010, **Europe's Missing Yollies**, Bruegel Policy Brief 2010/06, Bruegel Brussels