Seminario GEI ï Assolombarda

Carlo ALTOMONTE

Micro-based evidence of EU competitiveness: The CompNet database

Milano, 6 marzo 2014

What is COMPNET

- CompNet (Competitiveness Research Network) is a network of research coordinated by the ECB together with the NCBs focused on the analysis of competitiveness
  - Comparable cross-country data
  - Focus on competitiveness from a macro, cross-border and **firm-level** angle

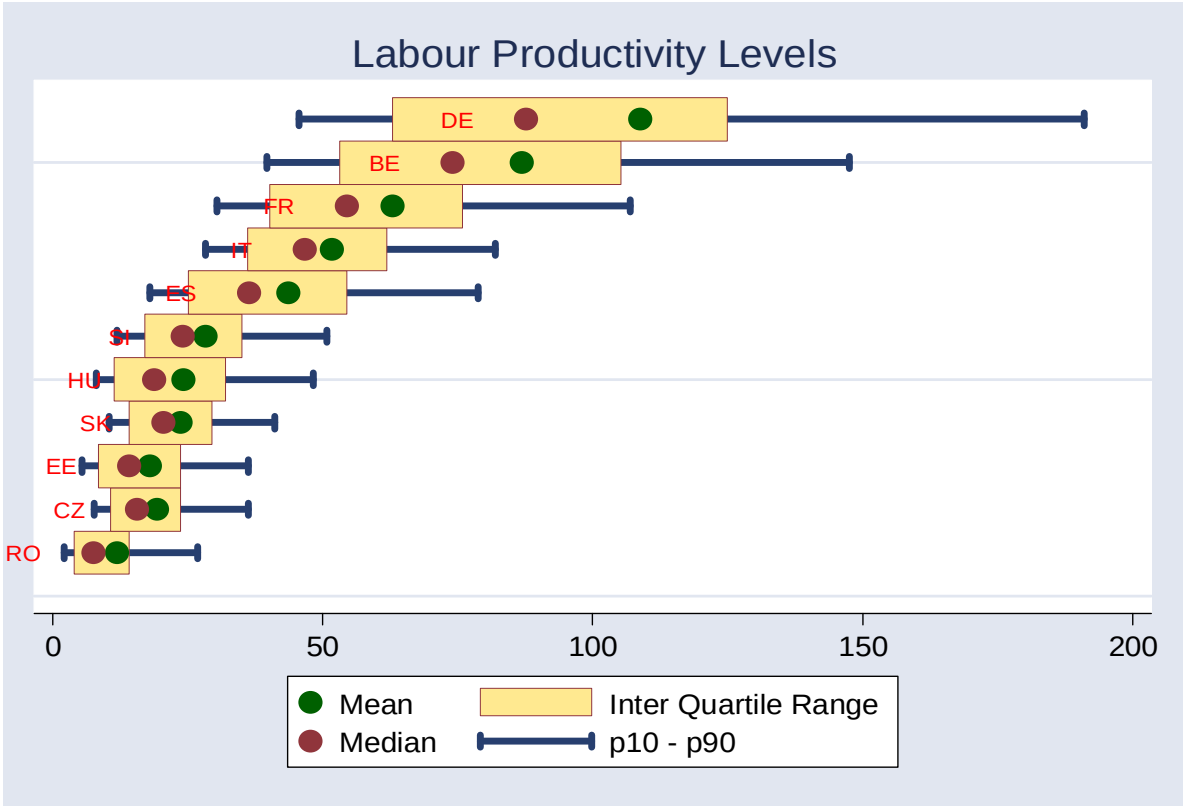
- Firm-level data delivers crucial information on (macro) drivers of competitiveness
  - Aggregate outcomes depend on firm-level decisions
  - Large firm performance heterogeneity within narrowly defined sectors

- Challenge: cross-country firm-level data is difficult to collect
  - Comparability and confidentiality issues

- CompNet solves these issues thanks to the collaboration of national central banks (NCBs) and other institutions
  - Result: Database derived from firm-level data with information on the full distribution of key variables, but aggregated at the 2-digit industry level

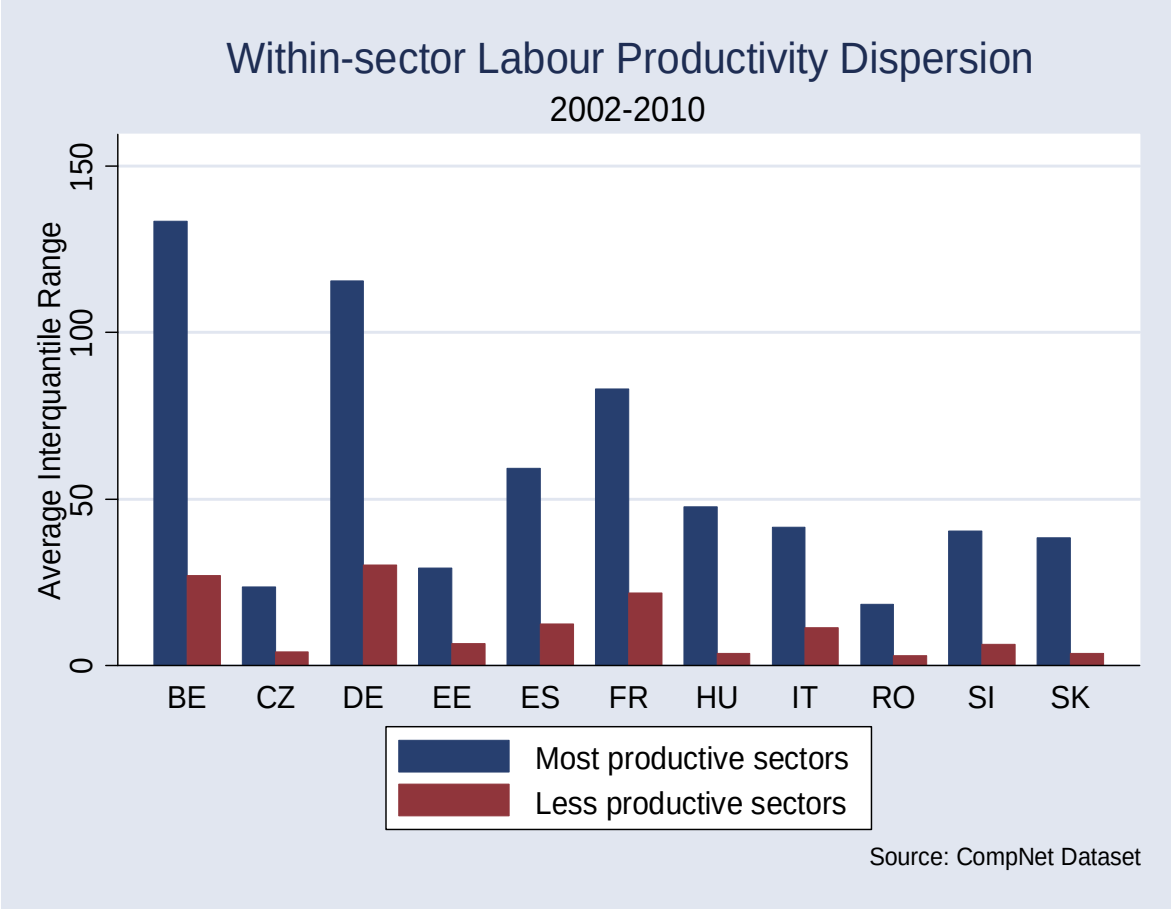
Firm heterogeneity across countries is large

- Important to acknowledge this high dispersion:
  - The impact of macro/policy shocks depends on the underlying distribution
  - Average labour productivity of a sector is not representative



Similar picture if we look at the 20+ employees sample

Dispersion versus productivity levels (I)



- Most productive sectors are also the most disperse
- And this is across all countries!

Dispersion versus productivity levels (II)

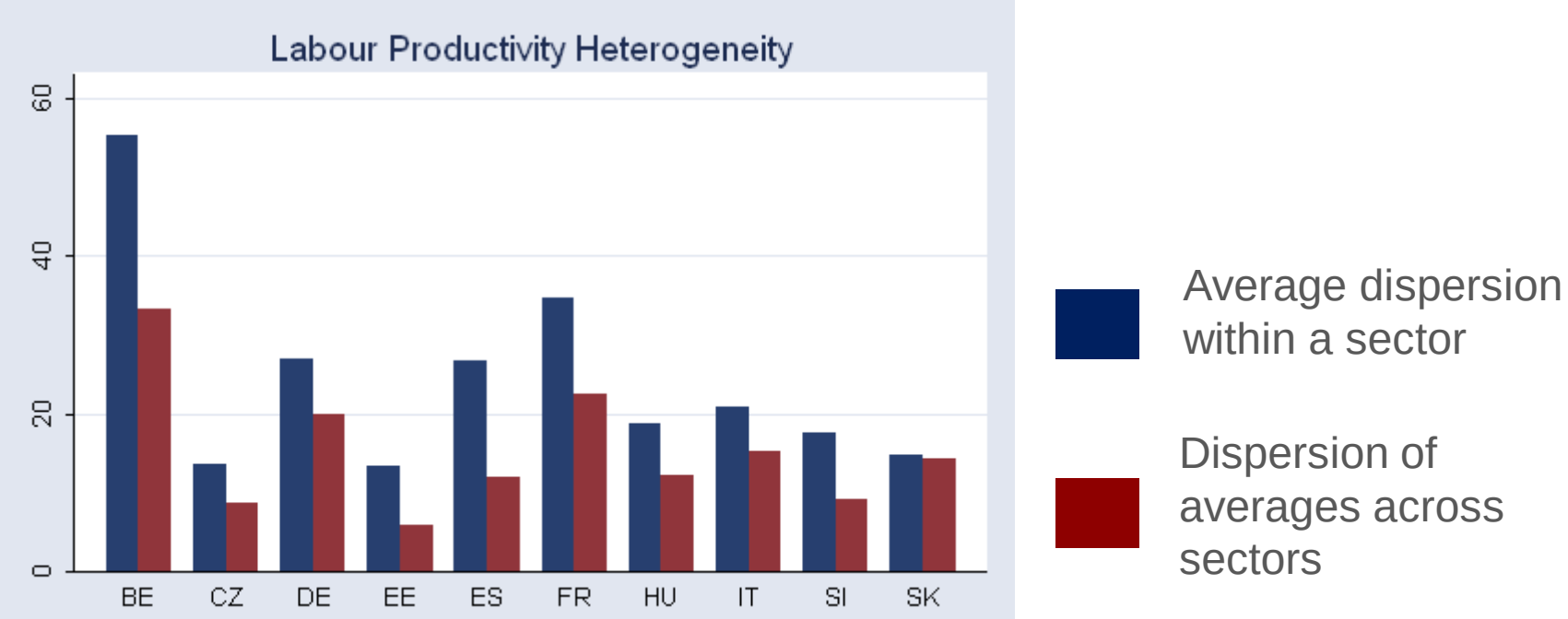
VARIABLES	Relative Lab. Prod.
Lagged Relative Skewness	0.129***
Constant	0.0575
Sector dummies	Yes
Year dummies	Yes
Observations	3,856
Adjusted R-squared	0.013

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

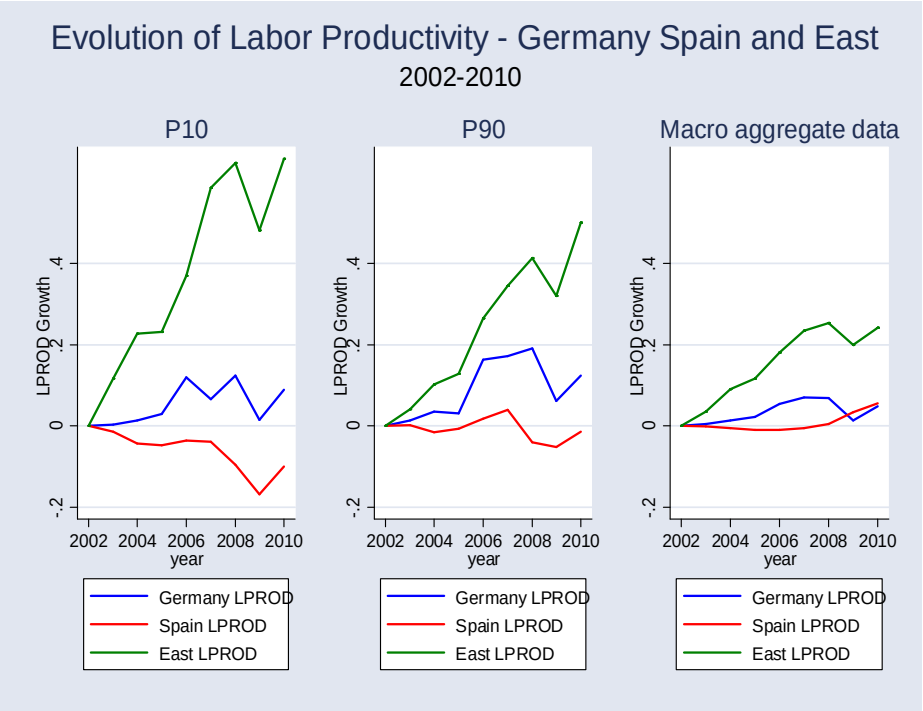
- This positive correlation is confirmed normalising by country average dispersion and productivity level
- And controlling for sector and year dummies
- This hints at the possible role of reallocation in driving aggregate productivity performance

Horizontal versus vertical industrial policy

- Dispersion within all sectors is larger than dispersion across sectors
- 1ú of policy intervention to move resources across sectors yields less return than 1ú moving resources across firms in the same sector

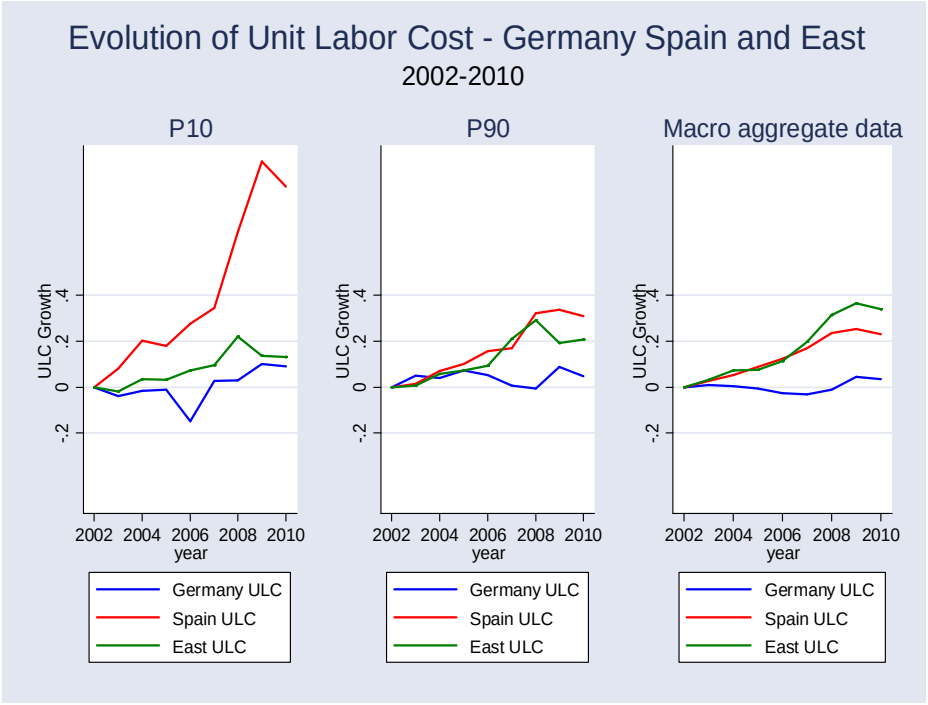


Different dynamics of firms in both tails of the distribution



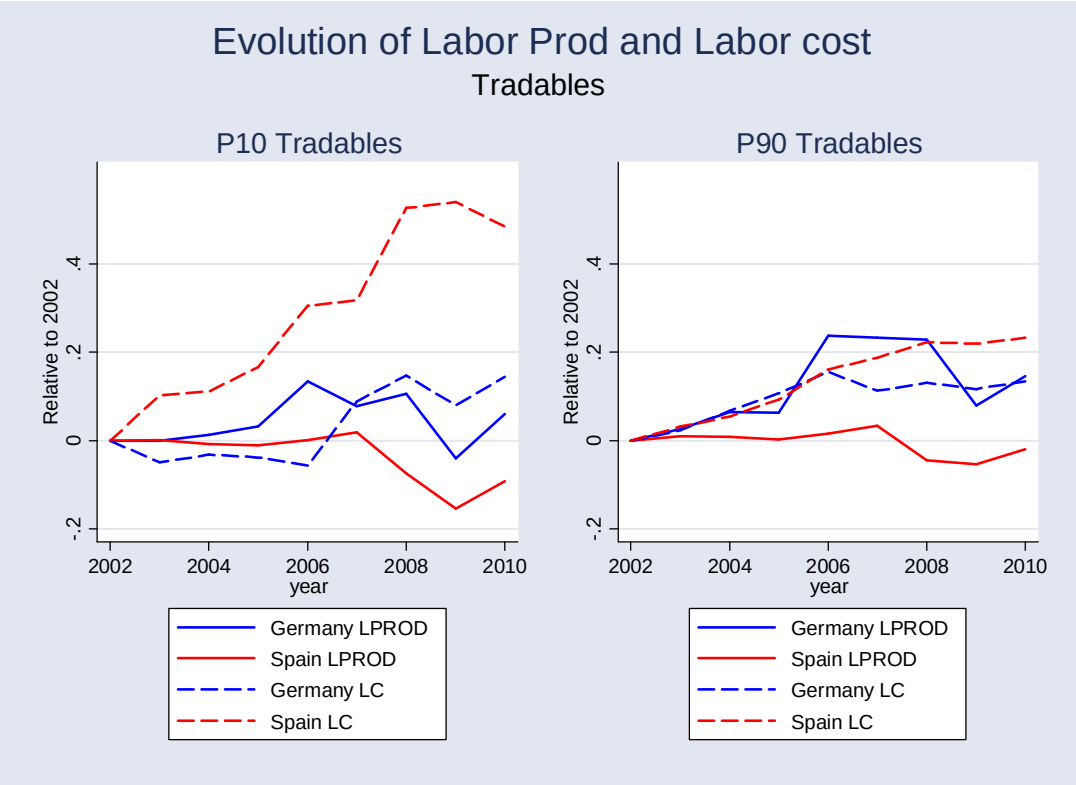
- Labour productivity and ULC developments are very different in bottom and top tails of the distribution (base year=2002)
- Convergence in Eastern Europe
- Compositional effects in Spain quite important

- Differences in bottom and top tails of the distribution are particularly relevant for ULC, in Spain



Different dynamics of firms in both tails of the distribution

Å Average cost per employee and productivity in Germany and Spain, p10 and p90 firms. Tradables



ï Very different behaviour of low productive firms vis-à-vis high productive ones in Spain ï the Spanish paradox is a matter of aggregation bias!

ï Productivity developments of ñbestòfirms in Spain are more worrisome than cost develp.

Why are dispersion and productivity related?

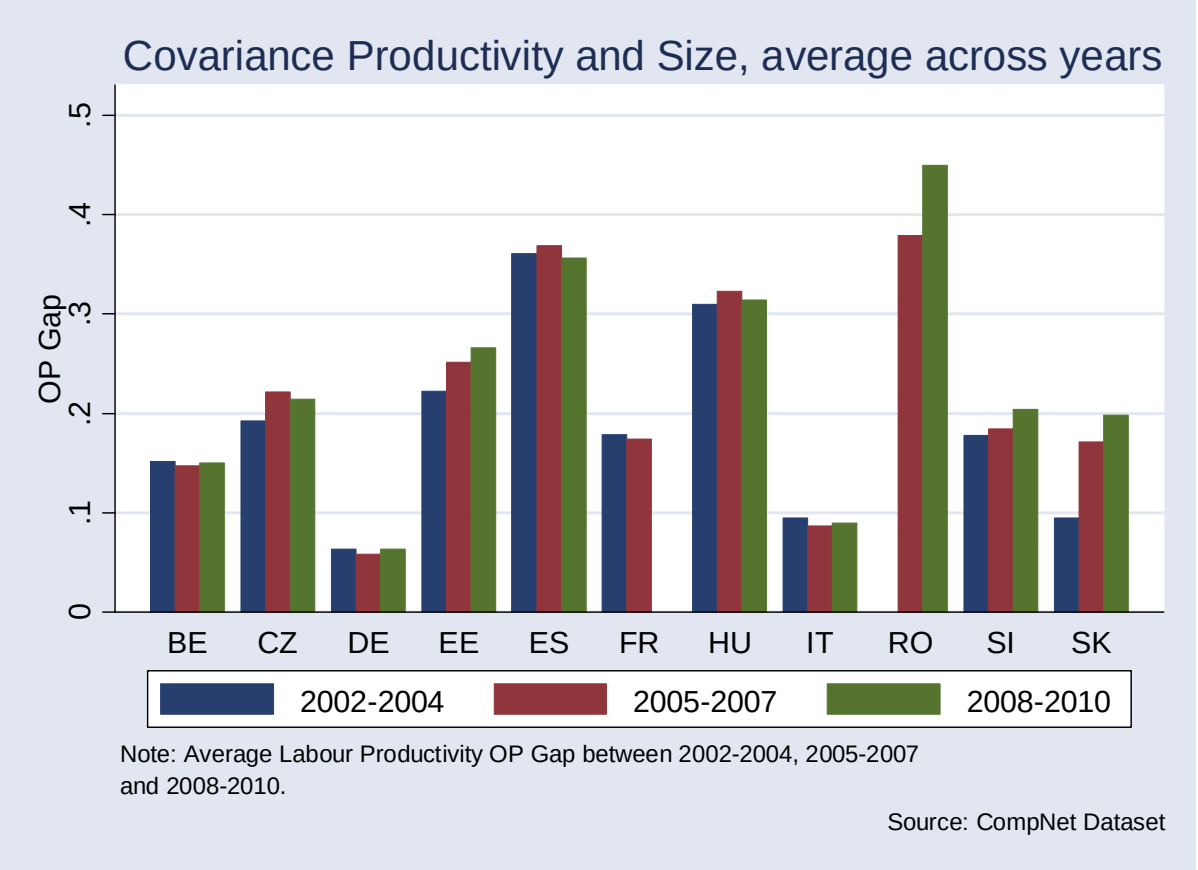
Scope for resource reallocation

Allocative efficiency: At each moment of time, available resources (within a sector) are put to their best use

- **Static allocative efficiency**: Allocation of resources across firms in any period of time: More productive firms enjoy higher market shares
  - Measurement

- **Dynamic allocative efficiency**: Allocation of resources along time: Resources are reallocated from low productive to high productive firms
  - Measurement

Static allocative efficiency



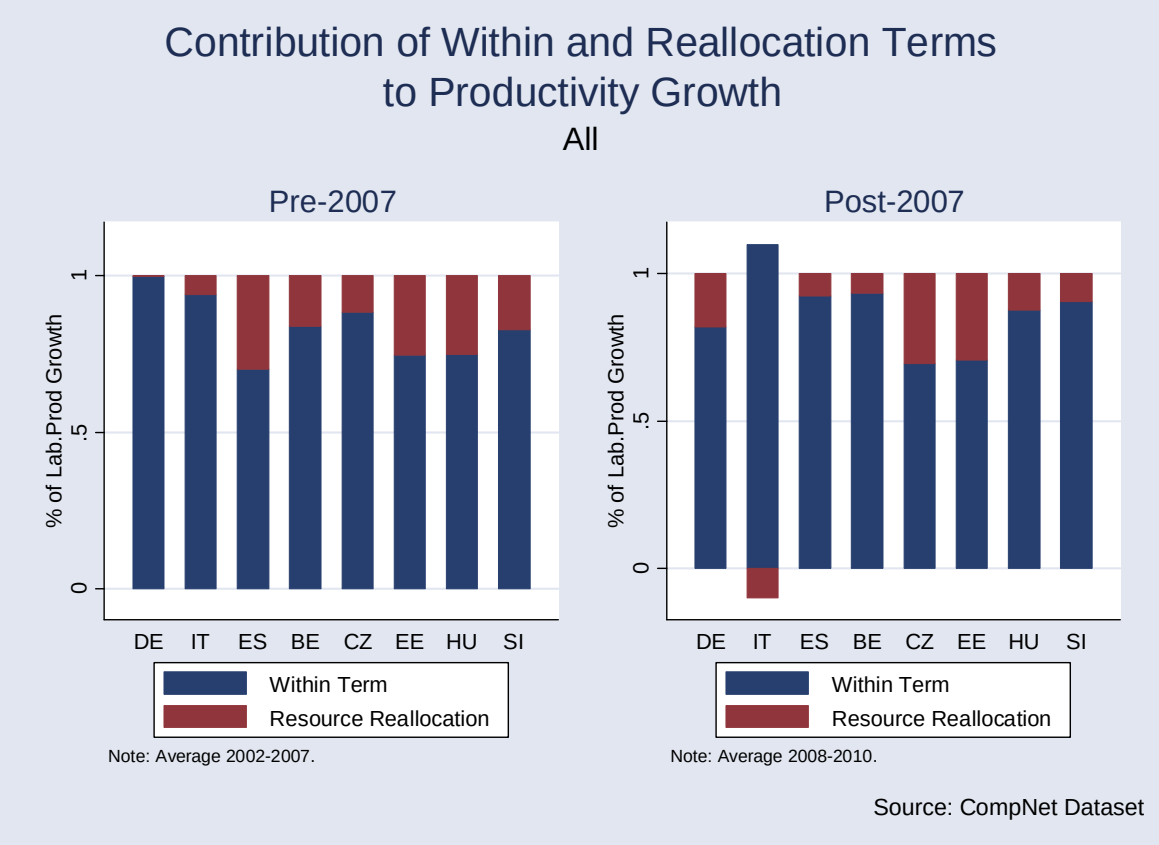
Note: Average Labour Productivity OP Gap between 2002-2004, 2005-2007 and 2008-2010.

Source: CompNet Dataset

- Sector productivity can be 40 log points (50 in the USA) higher than with a random allocation of resources
- It is increasing in Eastern countries, stable in rest
- Consistent numbers with those in Bartelsman et al. (2013)
- Contribution seems to be related to the distance to the productivity frontier

Dynamic allocative efficiency

- Productivity growth= within firm productivity growth + reallocation of resources from less to more productive incumbent firms in the sectors (recall, no entry or exit)

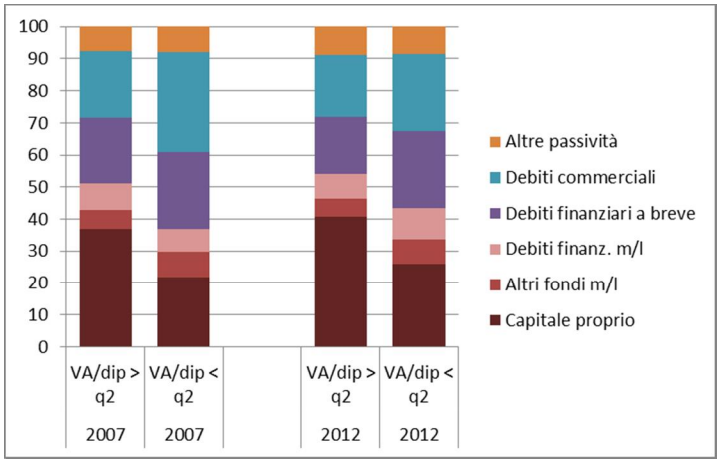


- Very different dynamics in Germany versus Spain and Italy

Applicazione al caso lombardo: eterogeneità e finanza

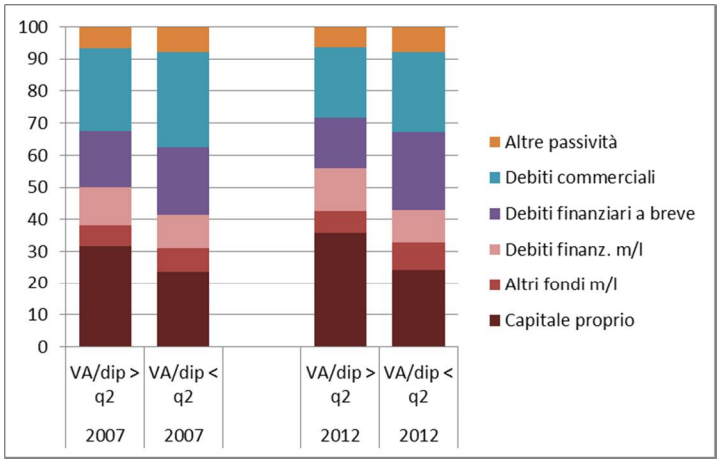
Polarizzazione della struttura finanziaria in base alla produttività

Area milanese



Mediana VA/dip (migliaia ú) = 66,6 nel 2007; 60,4 nel 2012

Resto dîItalia



Mediana VA/dip (migliaia ú) = 56,6 nel 2007; 51,7 nel 2012

Fonte: Osservatorio Assolombarda Bocconi e Prometeia

L'allocazione del credito è in linea con la produttività

Valori quartili produttività (va/dip) (migliaia di euro)			
	Gruppo 1: no richiesta di credito	Gruppo 2: chiesto credito e ottenuto in linea	Gruppo 3: credit crunch
primo quartile va/dip	63,7	67,4	42,8
secondo quartile va/dip	85,2	80,7	51,3
terzo quartile va/dip	123,7	101,6	82,9

Applicazione al caso lombardo: riallocazione e produttività

NACE Rev. 1	N. di imprese (2000)	N. di imprese (2010)
15 ï Alimentare	642	1043
17 ï Tessile	1284	1564
18 ï Abbigliamento	416	781
20 ï Legno	201	481
24 ï Chimica	854	1072
27 ï Metallica	581	708
28 ï Metallurgica	2569	5234
29 ï Meccanica	2379	3845
34 ï Automobile	154	238
36 ï Arredo	717	1359
52 ï Commercio	1512	4934
642 ï Telecom.	38	154
Totale	11347	21413