DO INCUMBENT SMES BENEFIT FROM FDI?

FDI spillovers and competition effects at the local level
PRELIMINARY – Please do not cite

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BETTER POLICIES FOR BETTER LIVES

Catching up of SMEs: The local dimension

- **Growing productivity divide between SMEs** (esp. micro enterprises) and large firms in many countries since the 2007-08 crisis (OECD, 2017, Small, Medium, Strong)

- **Widening productivity gap between the regions** that are the most productive ("frontier") the rest of the country in many countries since 2000 (OECD, 2016, OECD Regional Outlook 2016: Productive Regions for Inclusive Societies)

  - associated with growing within-country inequality (OECD, 2018, Productivity and Jobs in a Globalised World: (How) Can All Regions Benefit?)

⇒ **Can a local view on SMEs help identify levers to support catching up?**

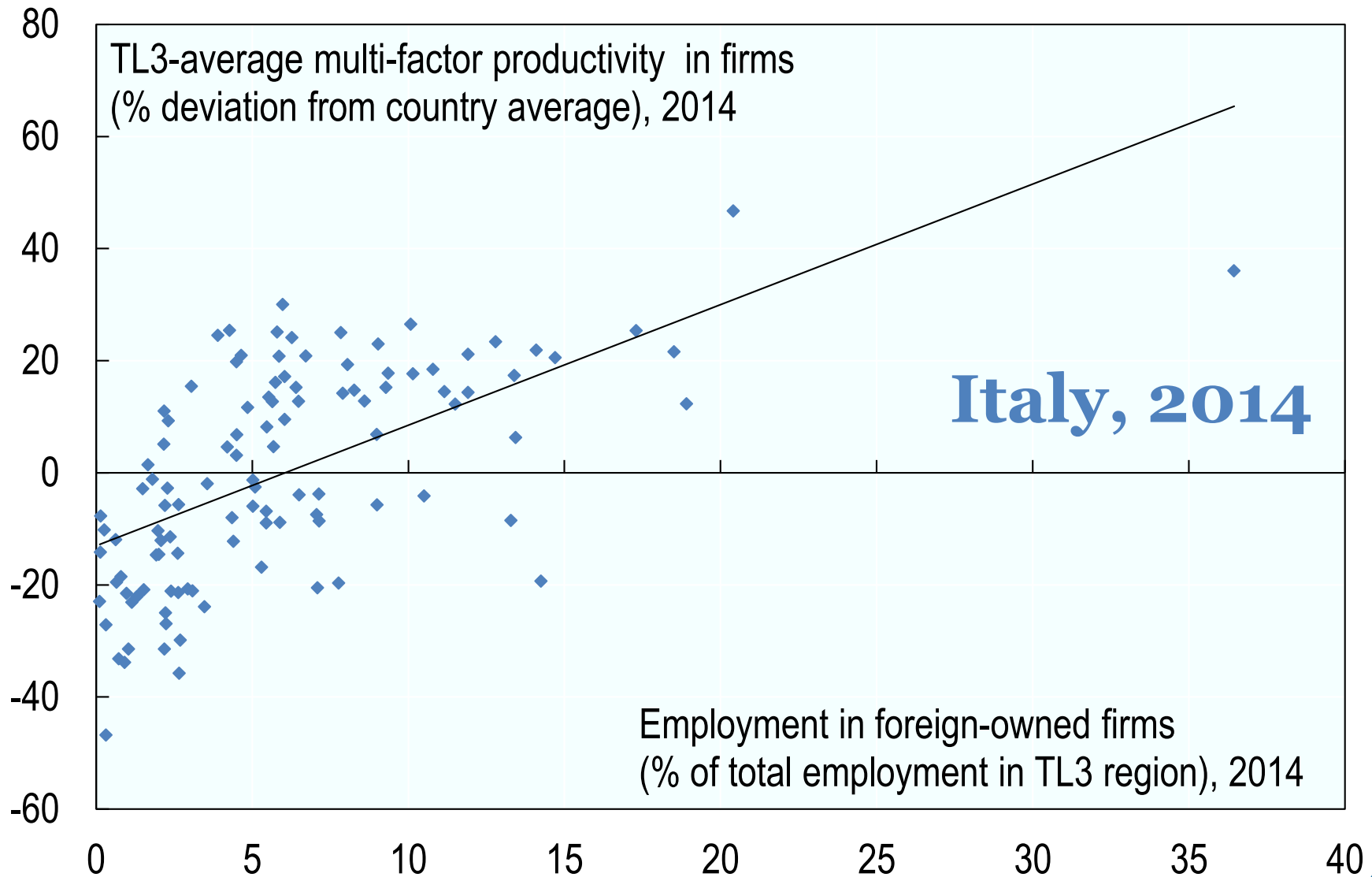Today: Positive FDI spillovers and competition effects for domestic SMEs

FDI as catalyst for catching up?

- Inward and outward FDI is often an important component of both SME and regional development policies
  - E.g. Japan or Poland

- Potential benefits:
  - Access to global networks
  - Productivity boost from technology and knowledge diffusion
  - Higher wages
  - Increased demand for goods and services from domestic firms
- Potential adverse impact:
  - Competition on labour and product markets
  - Cherry picking and knowledge drain

FDI exposure and aggregate productivity in domestic firms

TL3-average multi-factor productivity in firms
(% deviation from country average), 2014

Italy, 2014

Employment in foreign-owned firms
(% of total employment in TL3 region), 2014

Benefits for domestic SMEs: microanalysis

- Impact of FDI on productivity and employment in **domestic** incumbents
  - Focus on SMEs

- Exposure to FDI in three dimensions:
  - Spatial proximity (FDI in the same region)
  - Sectoral proximity (FDI in the same sector)
  - Sectoral and spatial proximity

From microdata to FDI exposure

- Commercial data set prepared for analysis by the OECD: OECD-Orbis database

- Balance sheet and ownership data for listed and non-listed firms
    - Covers 34 OECD countries and many non-member countries
    - 1995 to 2016
    - 9.1 million firms in 2014

- Key variables
    - Firm name and address (location of incorporation) and industry
    - Ownership information (2007-2015)
    - Turnover, employment, capital stock, investment, cost of factor inputs => allows estimation of multi-factor productivity

- Awesome! But: non-random sample, entries/exits are non-representative, missing variables, commercial data

FDI intensity, 2012

- Intensity of foreign ownership is computed as the share of **employment in foreign-owned firms (partially or fully) in total employment within the region**

- Map depicts the quintile rank of TL3 regions within their country in terms of FDI intensity

FDI-intensity in TL3 regions, 2012

- Bottom 20% within country
- 20% - 40%
- 40% - 60%
- 60% - 80%
- Top 20% within country
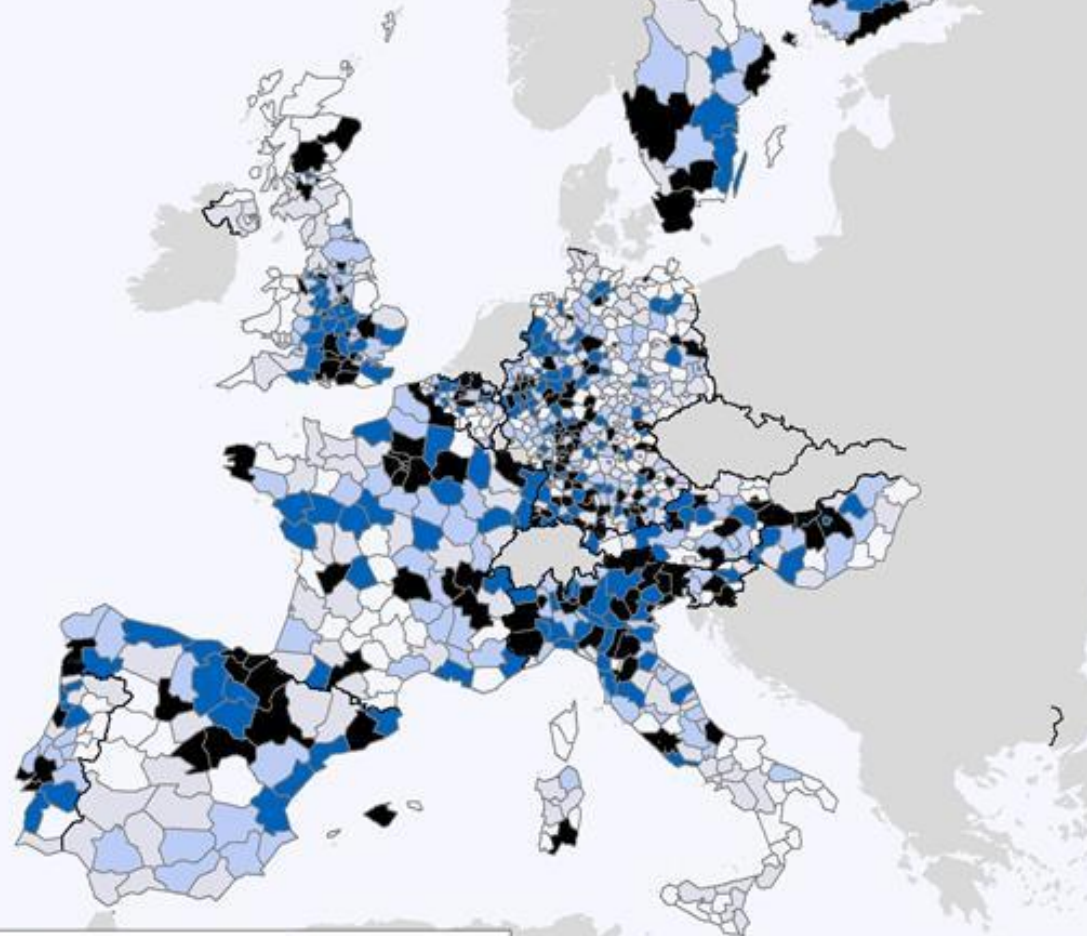
This map is for illustrative purposes and is without prejudice to the status of or sovereignty over any territory covered by this map.

Source of administrative boundaries: © EuroGeographics

350 km

FDI descriptives, 2012

	Mean	Median	St. dev
Foreign, region-sector	9.3	2	(48.8)
Foreign, region	92.4	28	(331.2)
Foreign, sector	1 279.1	785	(1 281.4)
Employment in foreign-owned firms, region-sector	2 017.1	40	(13 671.6)
Employment in foreign-owned firms, region	20 112.3	3 575	(81 357.5)
Zero foreign presence in region-sector	0.311	0	(0.463)
Zero foreign presence in region	0.006	0	(0.078)
Number of regionXsector combinations		11 829	

Firm descriptives, 2012

Size	Micro (<10)	Small (10-49)	Medium (50-249)	Large (250+)
Gross output	797 166.5 (8 451 353)	5 011 348 (2.9E+07)	28 383 469 (1.7E+08)	2.88E+08 (2.09E+09)
Employment	3.60 (2.35734)	20.02 (10.0476)	101.11 (48.6931)	1089.18 (5037.925)
Value added	158970 (3560708)	969313.1 (3132536)	5614257 (2.1E+07)	67587406 (3.42E+08)
MFP	9.82 (0.9523)	10.48 (0.71995)	10.98 (0.77541)	11.41 (0.960492)
Manufacturing share	0.143	0.303	0.387	0.309
0 foreign firms in reg-sect	0.068	0.056	0.059	0.058
Share of total observations	0.70	0.24	0.05	0.01
Number of observations in 2012	783 799	260 915	55 175	11 235
Number of observations 2007-2015	6 159 410	2 137 412	466 289	95 724
Unselected sample (2007-2015)				
Manufacturing share	0.12	0.26	0.36	0.34
Foreign share	0.04	0.08	0.22	0.40
Majority foreign-owned, share	0.02	0.06	0.17	0.27
Foreign employment share	0.02	0.06	0.19	0.45
Majority-owned foreign employment s	0.01	0.05	0.14	0.21

Empirical strategy

FDI exposure

$$\text{F\_EXPO\_regsec}_{r,s,t} = \ln\left(1 + \sum_{f=1}^{N} foreign_{f,r,s,t}\right)$$

foreign =direct foreign ownership/GOU50

Firm-level regression

$$y_{i,r,s,t}$$
$$= \beta_0 + \beta_1 \text{F\_EXPO\_regsec}_{r,s,t} + \beta_2 \text{F\_EXPO\_reg}_{r,t}$$
$$+ \beta_3 \text{F\_EXPO\_rec}_{s,t} + \beta_4 \text{F\_L\_regsec}_{r,s,t} + \beta_5 \text{F\_L\_reg}_{r,t}$$
$$+ \beta_6 \text{F\_L\_sec}_{s,t} + \delta' domestic_{r,t;s,t;r,s,t}$$
$$+ \theta' noforeign_{r,t;s,t;,r,s,t} + \beta_7 \text{firm controls}_{i,t} + \alpha_{ct} + \gamma_i$$
$$+ \varepsilon_{i,r,s,t}$$

Estimating the impact of FDI on incumbent domestic SMEs

FDI and multi-factor productivity

- Little evidence for net gains from FDI in the own sector

- Some local demand effects or cross-fertilisation from FDI in other sectors

    – In non-financial service sectors a 10% increase in foreign-owned firms associated with 0.4%/0.5% productivity gains in small/medium-sized firms

- FDI in a firm's own sector, but outside the own region is associated with a negative impact on productivity in all types of firms

=> **Difficult to reap the benefits locally, but worse if investment is focused elsewhere**

Thank you

Questions and comments
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VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	MFP			Employment, log		
Small firm; foreign employment in tl3xsector, in log	0.0001	**-0.005****	0.0007	**-0.003****	**-0.006*****	**-0.004****
	[0.9190]	[0.0279]	[0.6560]	[0.0311]	[0.0090]	[0.0108]
Small firm; foreign employment in tl3, in log	-0.0006	-0.0005	-0.0011	**0.004****	0.0007	**0.006*****
	[0.7610]	[0.7930]	[0.5570]	[0.0478]	[0.6520]	[0.0042]
Small firm; foreign employment in sector, in log	0.0179	-0.0496	0.0219	-0.0309	-0.0583	-0.0277
	[0.1990]	[0.4680]	[0.1820]	[0.2400]	[0.2240]	[0.2060]
Small firm; foreign firms tl3xsector, in log	-0.0041	**-0.0109***	-0.0003	**0.012*****	0.0100	**0.012*****
	[0.4520]	[0.0937]	[0.9640]	[0.0008]	[0.1270]	[0.0000]
Small firm; foreign firms tl3, in log	-0.0013	-0.0019	-0.0037	**-0.012*****	**-0.013***	**-0.013*****
	[0.8020]	[0.7270]	[0.4080]	[0.0073]	[0.0730]	[0.0030]
Small firm; foreign firms sector, in log	**-0.122*****	-0.0313	**-0.105*****	**-0.040***	-0.0834	**-0.047***
	[0.0002]	[0.8320]	[0.0031]	[0.0643]	[0.1180]	[0.0634]
Medium-sized firm; foreign employment in tl3xsector, in log	**0.007*****	0.0014	**0.005****	**-0.016*****	0.0006	**-0.015*****
	[0.0048]	[0.6610]	[0.0268]	[0.0001]	[0.9080]	[0.0000]
Medium-sized firm; foreign employment in tl3, in log	0.0037	-0.0004	0.0053	-0.0042	0.0052	**-0.022*****
	[0.3550]	[0.9230]	[0.2970]	[0.5070]	[0.1680]	[0.0007]
Medium-sized firm; foreign firms sector, in log	0.0118	-0.0720	0.0119	-0.0284	0.0523	-0.0177
	[0.4360]	[0.2760]	[0.4540]	[0.3330]	[0.3090]	[0.5190]
Medium-sized firm; foreign firms tl3xsector, in log	-0.0041	0.0066	-0.0098	-0.0111	**-0.033*****	0.0096
	[0.4870]	[0.4980]	[0.1280]	[0.2540]	[0.0033]	[0.3260]
Medium-sized firm; foreign firms tl3, in log	**0.033*****	0.0103	**0.050*****	0.0061	**0.021***	-0.0092
	[0.0015]	[0.2570]	[0.0000]	[0.7380]	[0.0593]	[0.6150]
Medium-sized firm; foreign firms sector, in log	**-0.084****	0.0214	**-0.072****	-0.0177	-0.0783	-0.0256
	[0.0176]	[0.8830]	[0.0477]	[0.6040]	[0.1960]	[0.4350]
Large firm; foreign employment in tl3xsector, in log	**0.006****	-0.0019	0.0032	**0.020****	**0.036*****	**0.029*****
	[0.0486]	[0.7760]	[0.2620]	[0.0134]	[0.0012]	[0.0000]
Large firm; foreign employment in tl3, in log	**0.010***	0.0010	**0.013***	-0.0170	0.0069	**-0.040*****
	[0.0848]	[0.8610]	[0.0808]	[0.1340]	[0.3850]	[0.0051]
Large firm; foreign employment in sector, in log	0.0139	-0.0575	0.0060	**-0.087****	-0.0366	**-0.062****
	[0.4500]	[0.4070]	[0.7410]	[0.0154]	[0.6170]	[0.0404]
Large firm; foreign firms tl3xsector, in log	**0.015***	**0.030***	0.0019	**-0.033****	-0.0219	-0.0228
	[0.0904]	[0.0733]	[0.8320]	[0.0460]	[0.2840]	[0.2190]
Large firm; foreign firms tl3, in log	**0.034****	0.0078	**0.073*****	0.0448	0.0150	0.0192
	[0.0277]	[0.5660]	[0.0000]	[0.1280]	[0.4680]	[0.5040]
Large firm; foreign firms sector, in log	-0.0437	0.0272	-0.0307	0.0006	-0.0673	0.0071
	[0.1970]	[0.8520]	[0.3560]	[0.9880]	[0.3390]	[0.8400]
Observations	8 185 842	1 644 804	6 541 038	8 858 835	1 729 411	7 129 424

8

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
		MFP			Employment, log	
Micro firm; foreign employment in tl3xsector, in log	-0.001	**-0.005***	0.000	-0.001	**-0.008****	-0.001
	[0.693]	[0.081]	[0.803]	[0.503]	[0.001]	[0.275]
Micro firm; foreign employment in tl3, in log	0.000	0.001	0.000	**0.006****	0.001	**0.008****
	[0.898]	[0.597]	[0.866]	[0.027]	[0.485]	[0.003]
Micro firm; foreign employment in sector, in log	0.014	-0.036	0.018	-0.030	**-0.105****	-0.029
	[0.336]	[0.614]	[0.265]	[0.188]	[0.015]	[0.121]
Micro firm; foreign firms tl3xsector, in log	-0.002	**-0.015****	0.002	**0.012****	**0.026****	**0.009****
	[0.760]	[0.043]	[0.753]	[0.002]	[0.000]	[0.013]
Micro firm; foreign firms tl3, in log	**-0.020****	**-0.021****	**-0.019****	-0.014	-0.012	**-0.015****
	[0.003]	[0.002]	[0.000]	[0.147]	[0.207]	[0.041]
Micro firm; foreign firms sector, in log	**-0.120****	-0.061	**-0.108****	-0.020	-0.068	-0.024
	[0.000]	[0.682]	[0.003]	[0.214]	[0.106]	[0.212]
Small firm; foreign employment in tl3xsector, in log	0.001	**-0.004***	0.000	**-0.006****	-0.003	**-0.007****
	[0.550]	[0.085]	[0.862]	[0.040]	[0.169]	[0.002]
Small firm; foreign employment in tl3, in log	-0.002	-0.002	-0.002	-0.005	0.002	**-0.008***
	[0.486]	[0.238]	[0.580]	[0.175]	[0.418]	[0.052]
Small firm; foreign employment in sector, in log	0.024	-0.050	**0.027***	-0.007	-0.013	-0.003
	[0.132]	[0.447]	[0.099]	[0.678]	[0.725]	[0.888]
Small firm; foreign firms tl3xsector, in log	-0.008	-0.010	-0.005	0.004	-0.010	**0.011***
	[0.136]	[0.156]	[0.313]	[0.502]	[0.121]	[0.051]
Small firm; foreign firms tl3, in log	**0.036****	**0.019****	**0.039****	0.001	-0.006	0.002
	[0.000]	[0.007]	[0.000]	[0.956]	[0.452]	[0.904]
Small firm; foreign firms sector, in log	**-0.107****	0.011	**-0.101****	-0.033	-0.029	-0.044
	[0.001]	[0.942]	[0.004]	[0.255]	[0.521]	[0.102]
Observations	8 185 842	1 644 804	6 541 038	8 858 835	1 729 411	7 129 424
R-squared	0.804	0.822	0.797	0.953	0.963	0.948
Sector	**All**	**Manuf.**	**Services**	**All**	**Manuf.**	**Services**
Year-Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes

Estimating the impact of FDI on incumbent domestic SMEs (ongoing work)

FDI and employment

Local FDI in both own and other sectors is associated with employment gains in small, but not in medium-sized firms

- One additional job in one out of 120 small firms

Heterogenous impact from own sector and other sector FDI that depends on the size of the foreign-owned businesses

- Employment gains associated with FDI in small firms in the own sector and FDI in large firms in other sectors

FDI in own sector, but outside the own region is associated with lower employment in all types of firms