

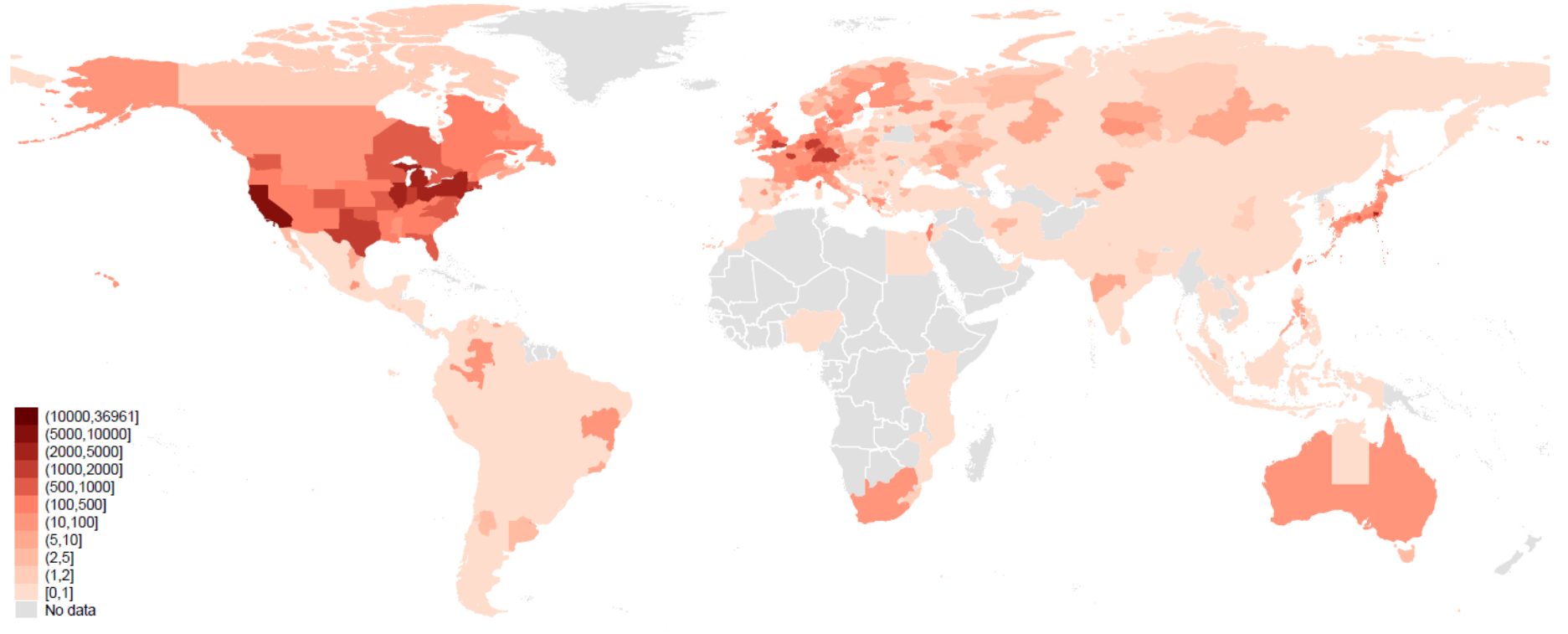
Connectivity, FDI and innovation in less developed regions

Riccardo Crescenzi

London School of Economics

Inventive activity around the world

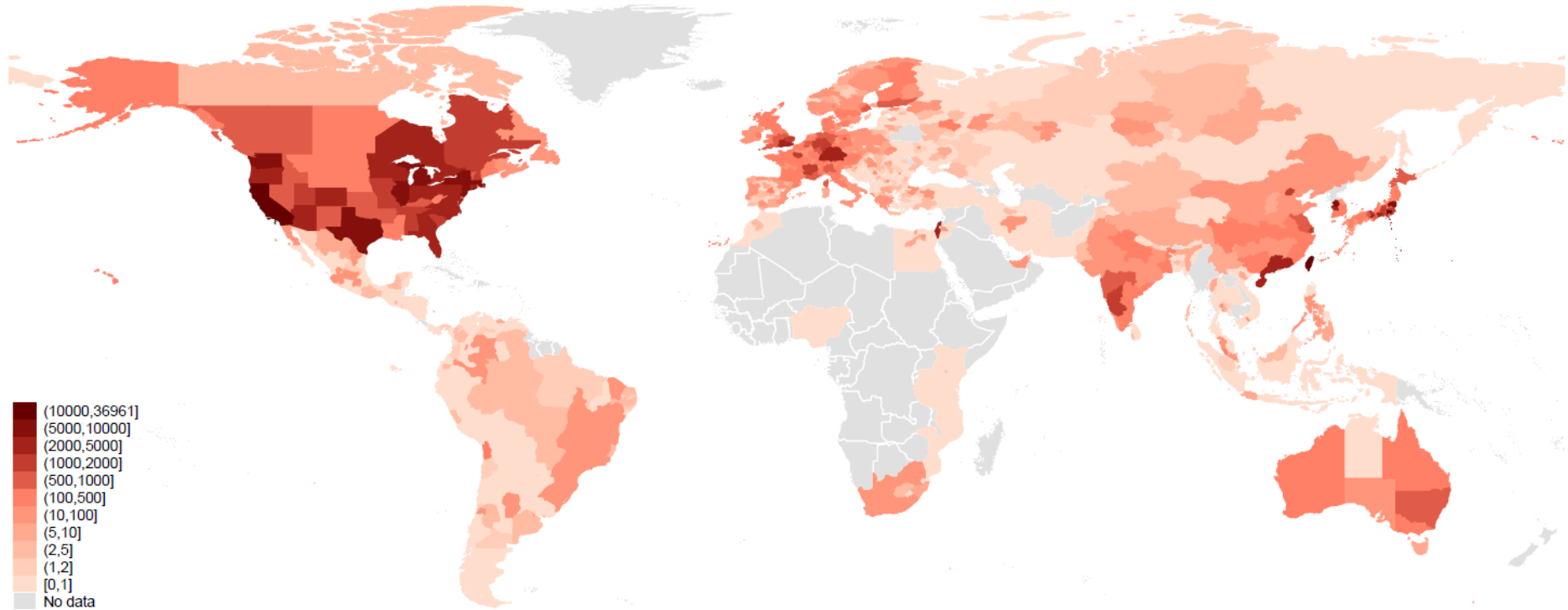
1975



Regional Patent Count – Own Elaboration - USPTO data

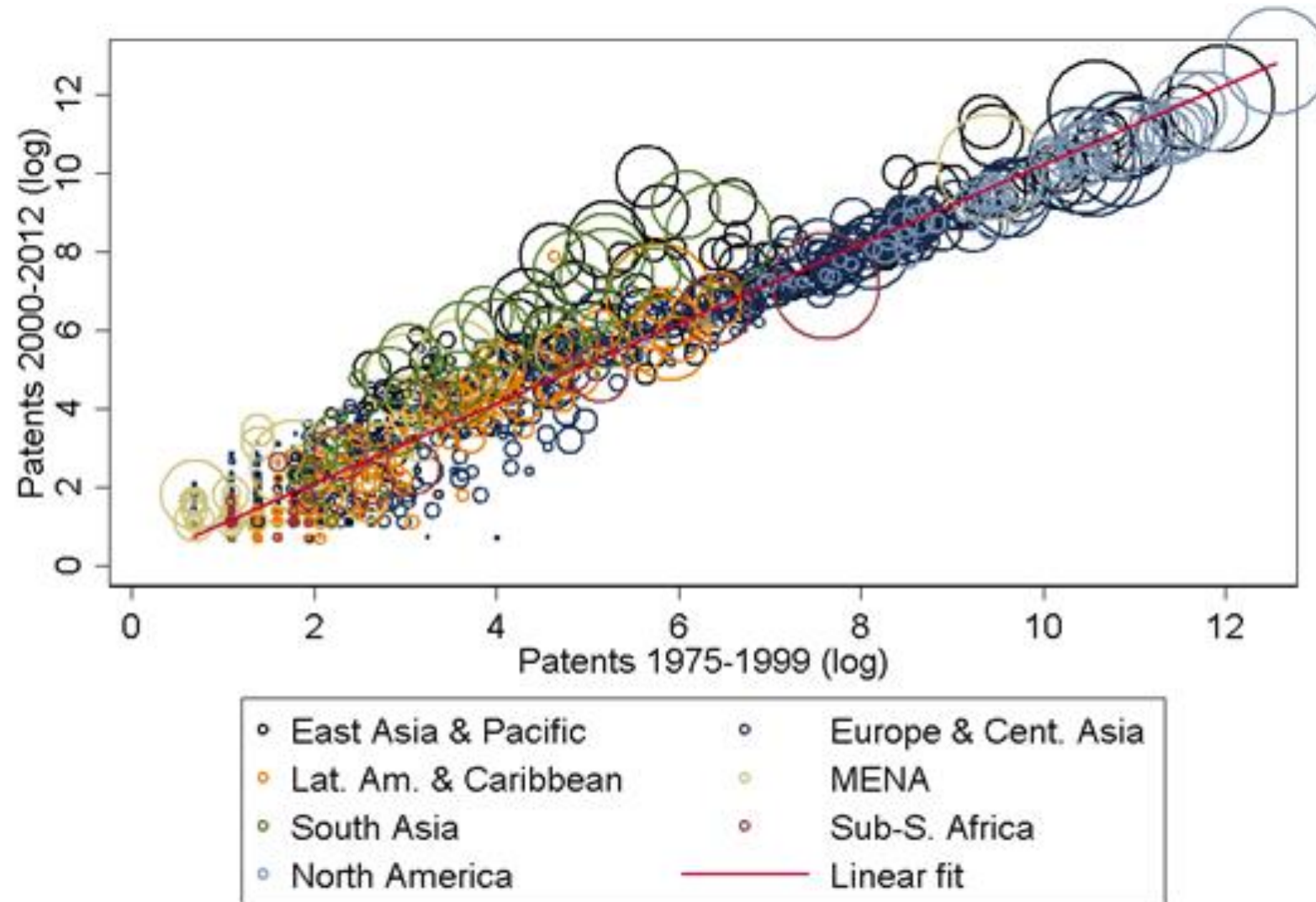
Inventive activity around the world

2012



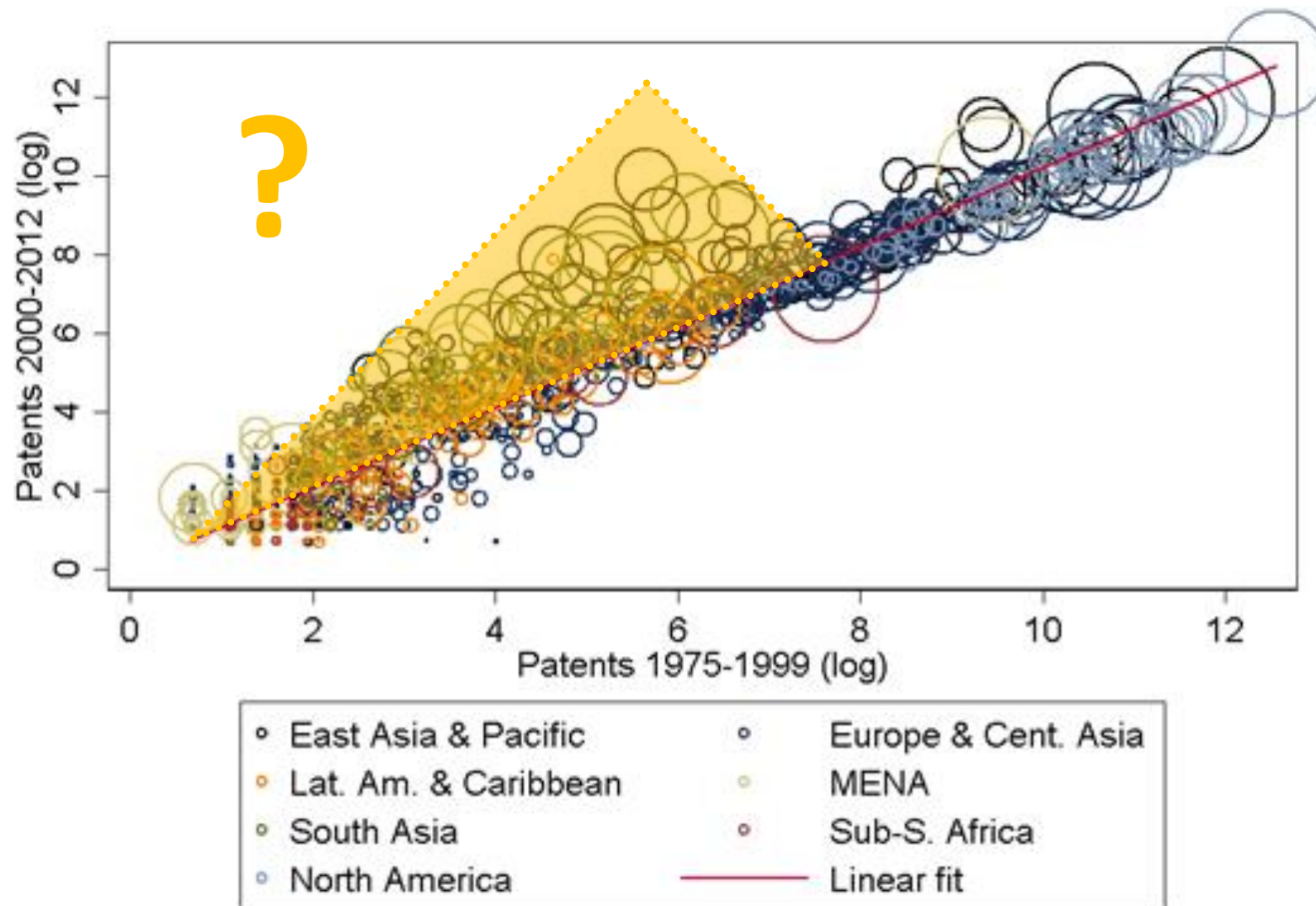
Regional Patent Count – Own Elaboration - USPTO data

The world is not flat ...



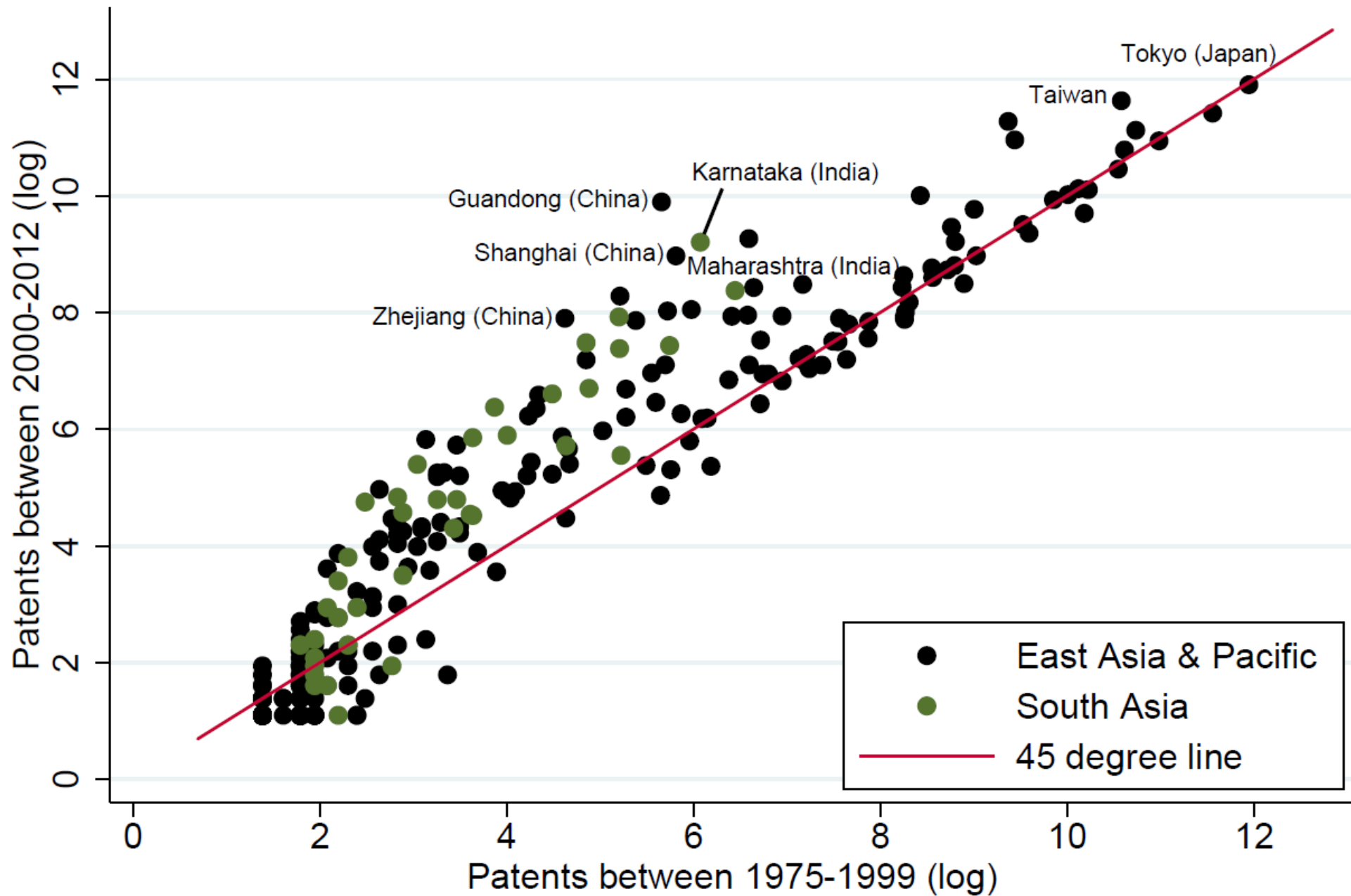
Note: circles are proportional to regional GDP in 2000

... and yet it moves!



Note: circles are proportional to regional GDP in 2000

Asia



Guangzhou 1984



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Guangzhou 2017

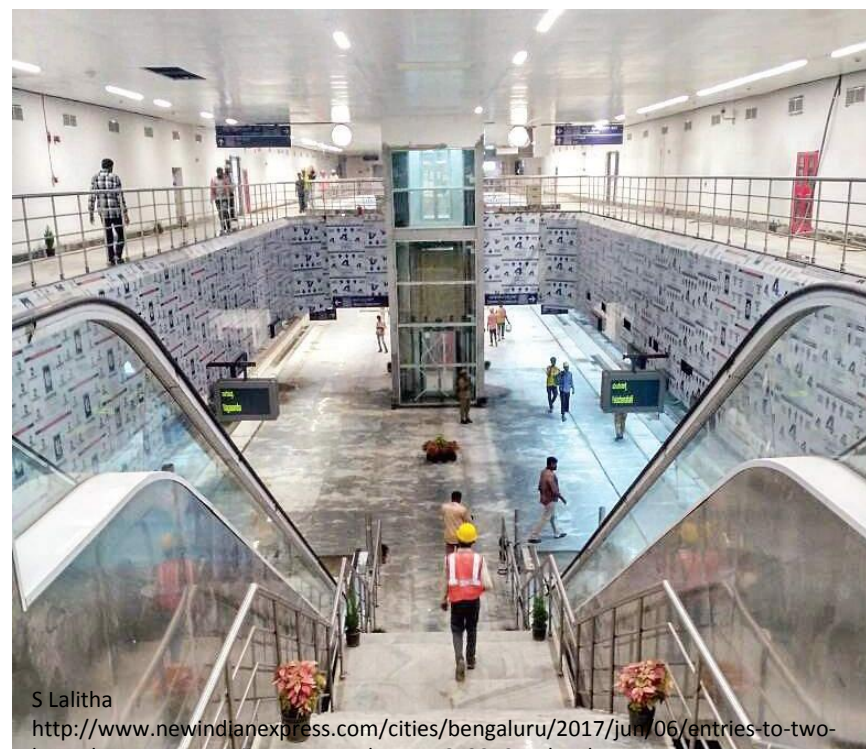


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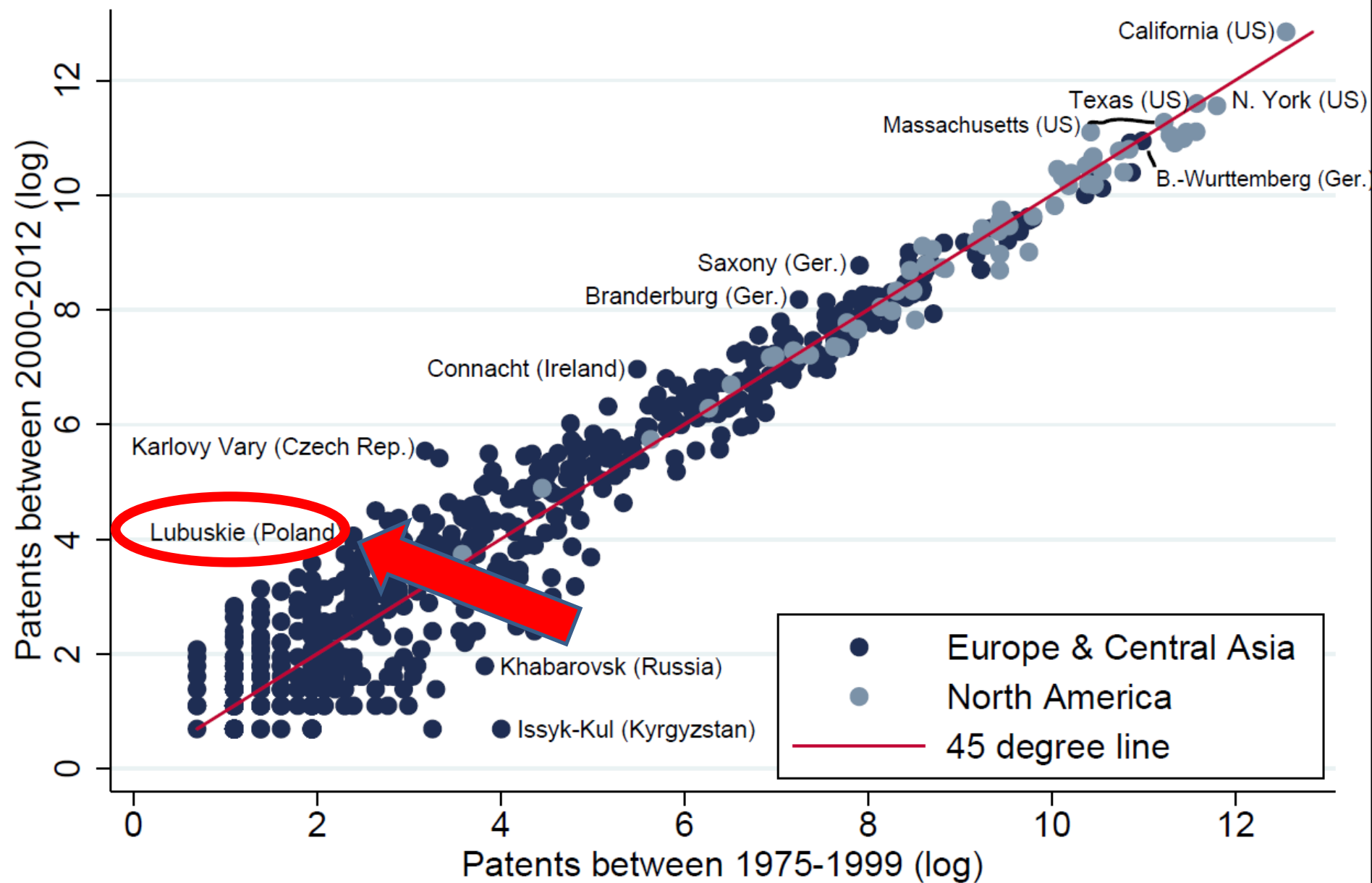
Bangalore 1999



Bangalore 2017



Europe and North America



Lubuskie 1994



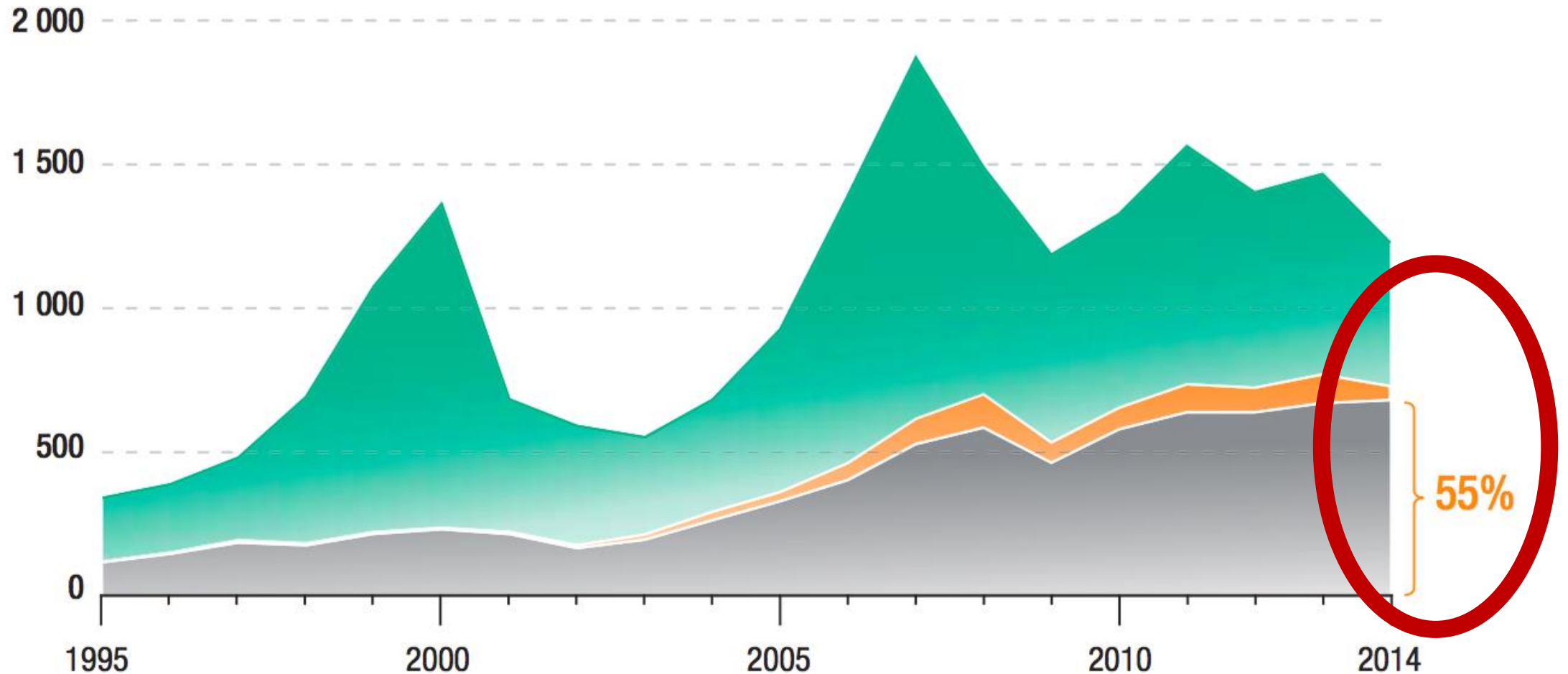
Lubuskie 2017



Global inflows of Foreign Direct Investment (FDI)

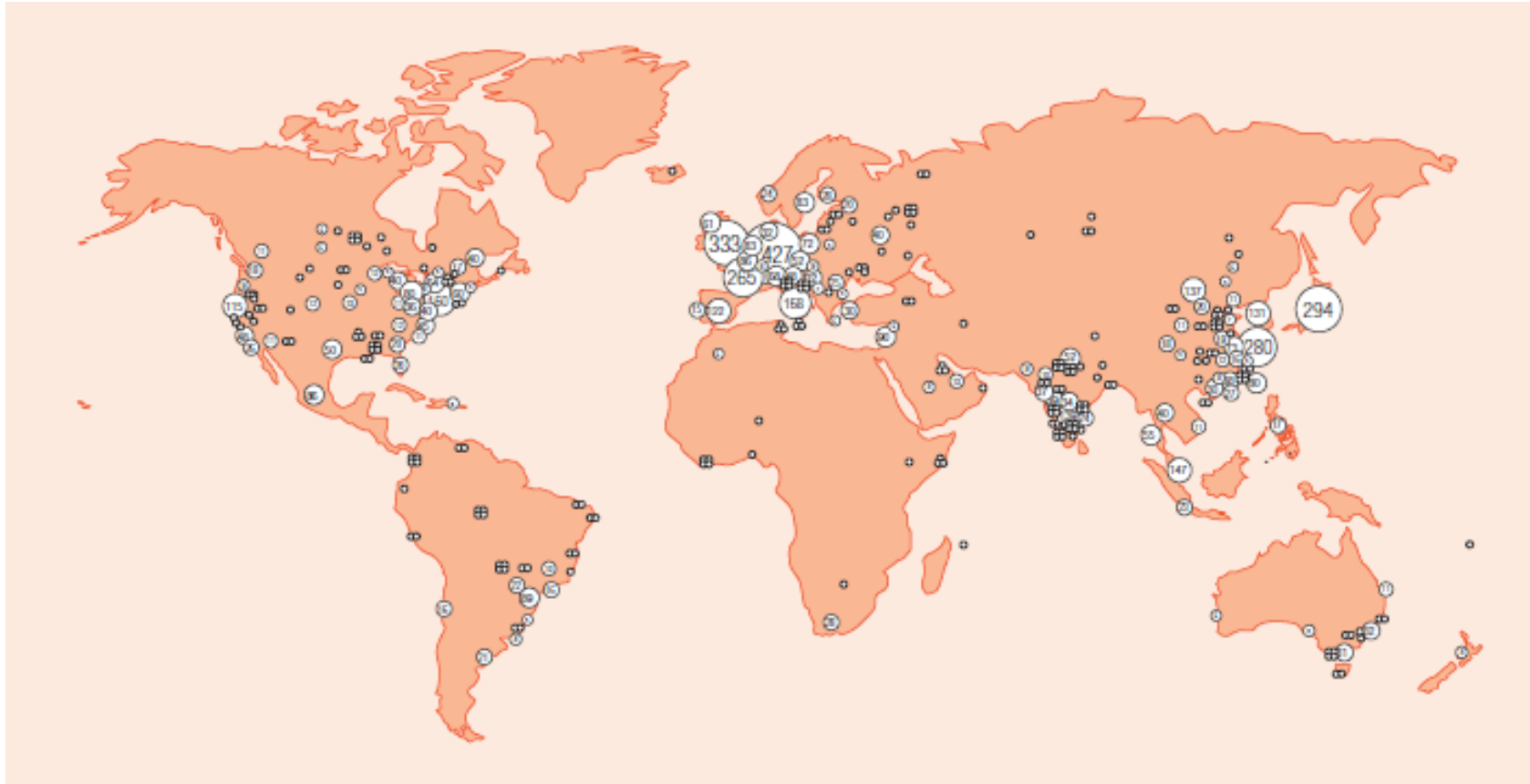
Billions \$ - 1995-2015

Developed economies Transition economies Developing economies World total



Cross-Border R&D Centres

2016



“Between 2000 and 2015 the number of MNE R&D centres in emerging countries grew by a factor of five, while in the Triad countries this number merely doubled”

Global Innovation Index Report, 2016

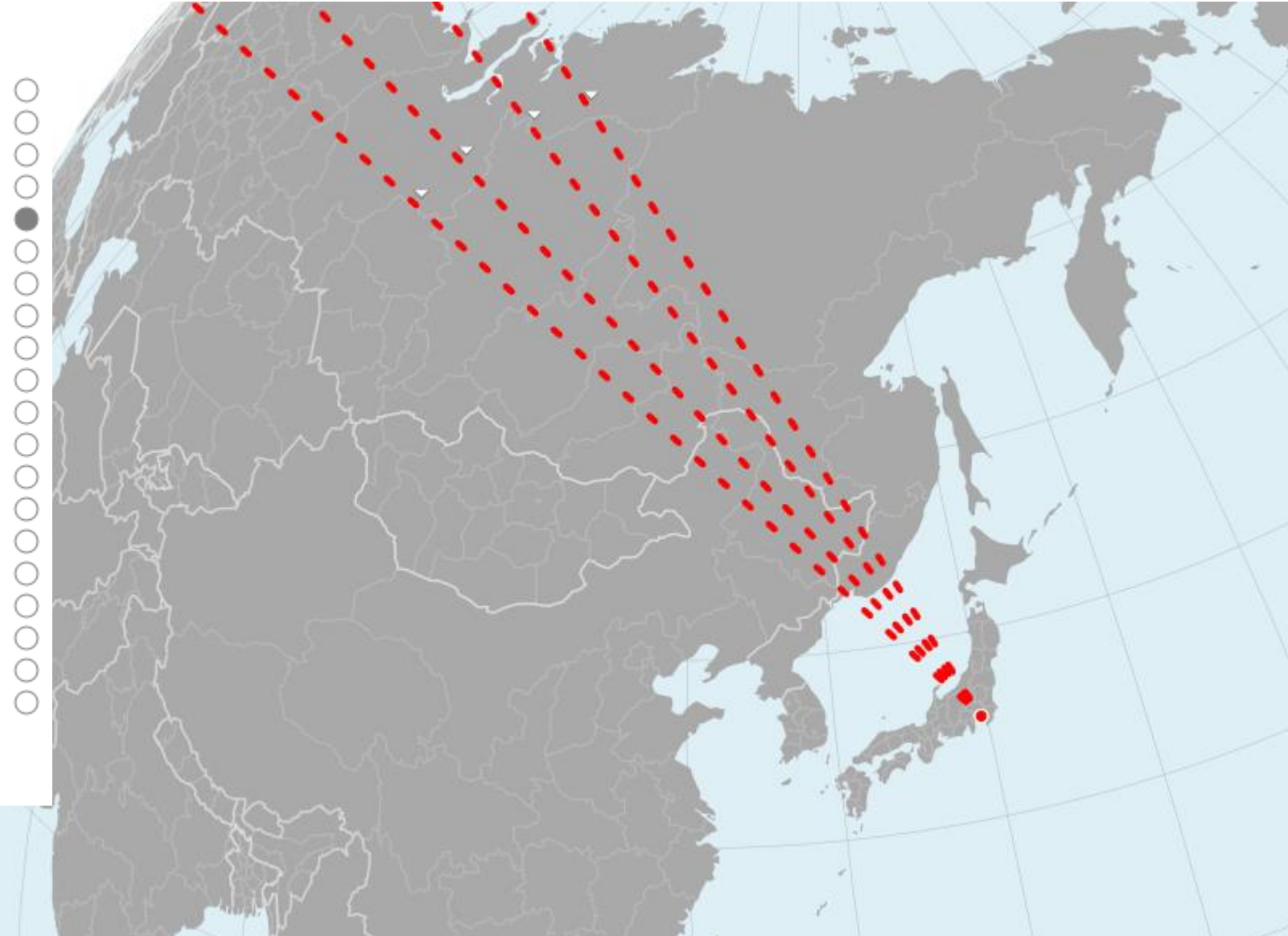
Source: R&D Locations database, accessed 5 March 2016; see <http://www.glorad.org> and von Zedtwitz and Gassmann, 2002.

Note: The figure shows a total of 5,877 cross-border R&D centres.

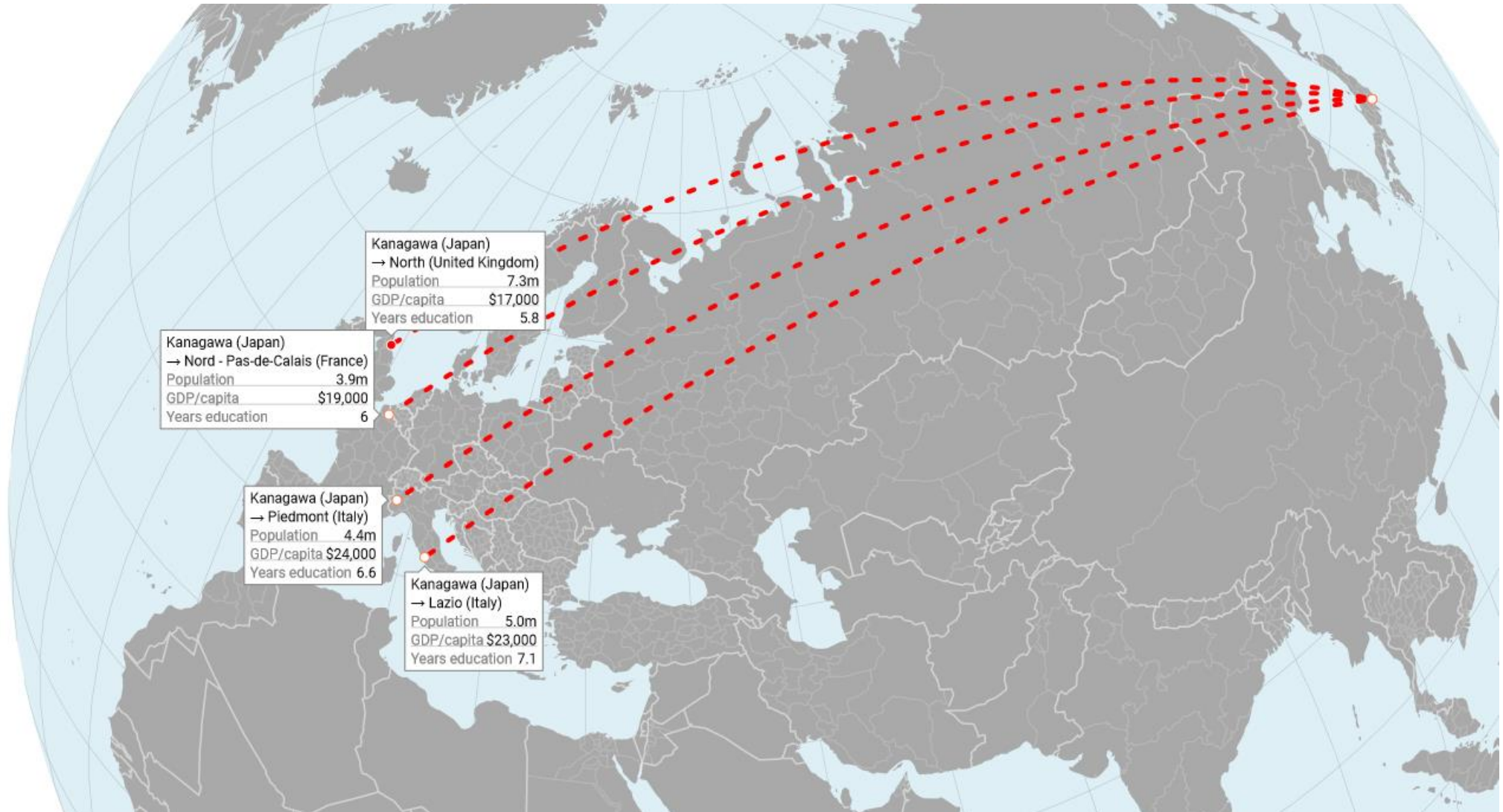
... Look at the case of NISSAN investing in Europe

When multinationals look for the best location for their investment they compare various similar alternatives. For example, let's look at the Japanese car manufacturer NISSAN, that decided in 1984 to build a new plant in Sunderland, in the North East region of the UK.

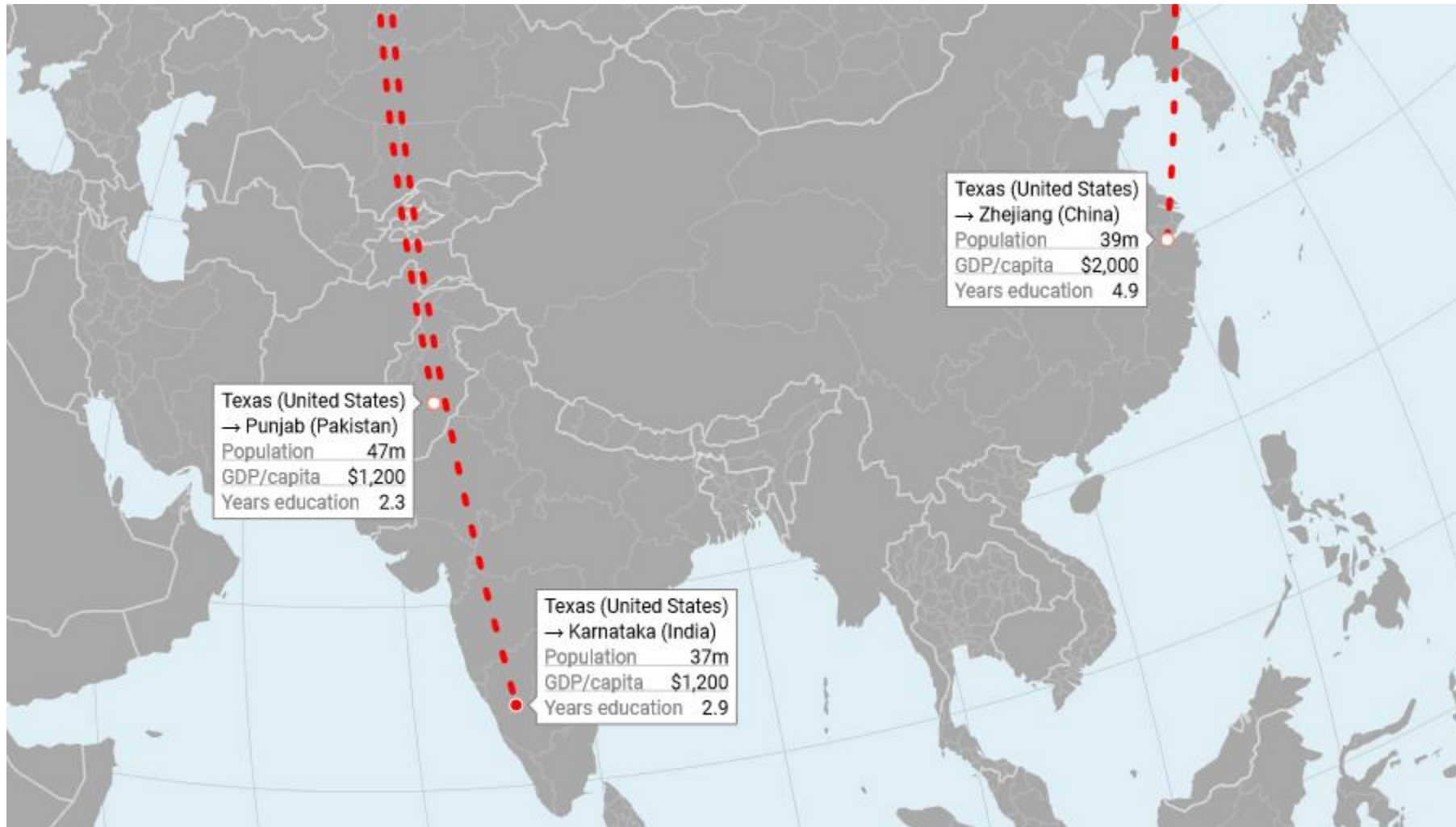
In principle a number of other European regions had characteristics similar to Sunderland. For example Lazio and Piedmont in Italy, or Nord-Pas-de-Calais in France. At the time they were roughly as wealthy, populous and rich in human capital as the North East of the UK.



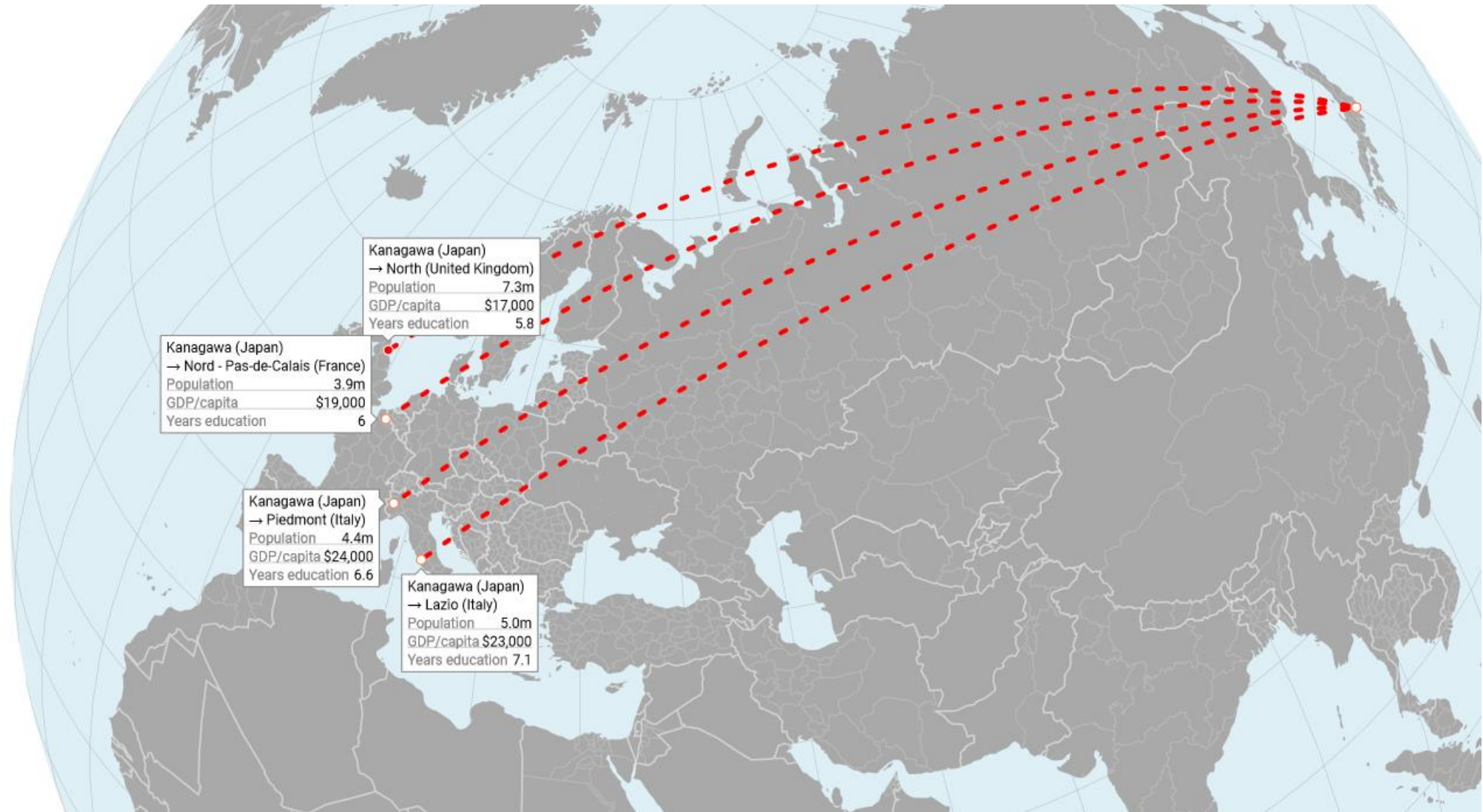
... Different candidates ... one winner



Similar story for Texas Instruments in Bangalore



... are there local benefits?

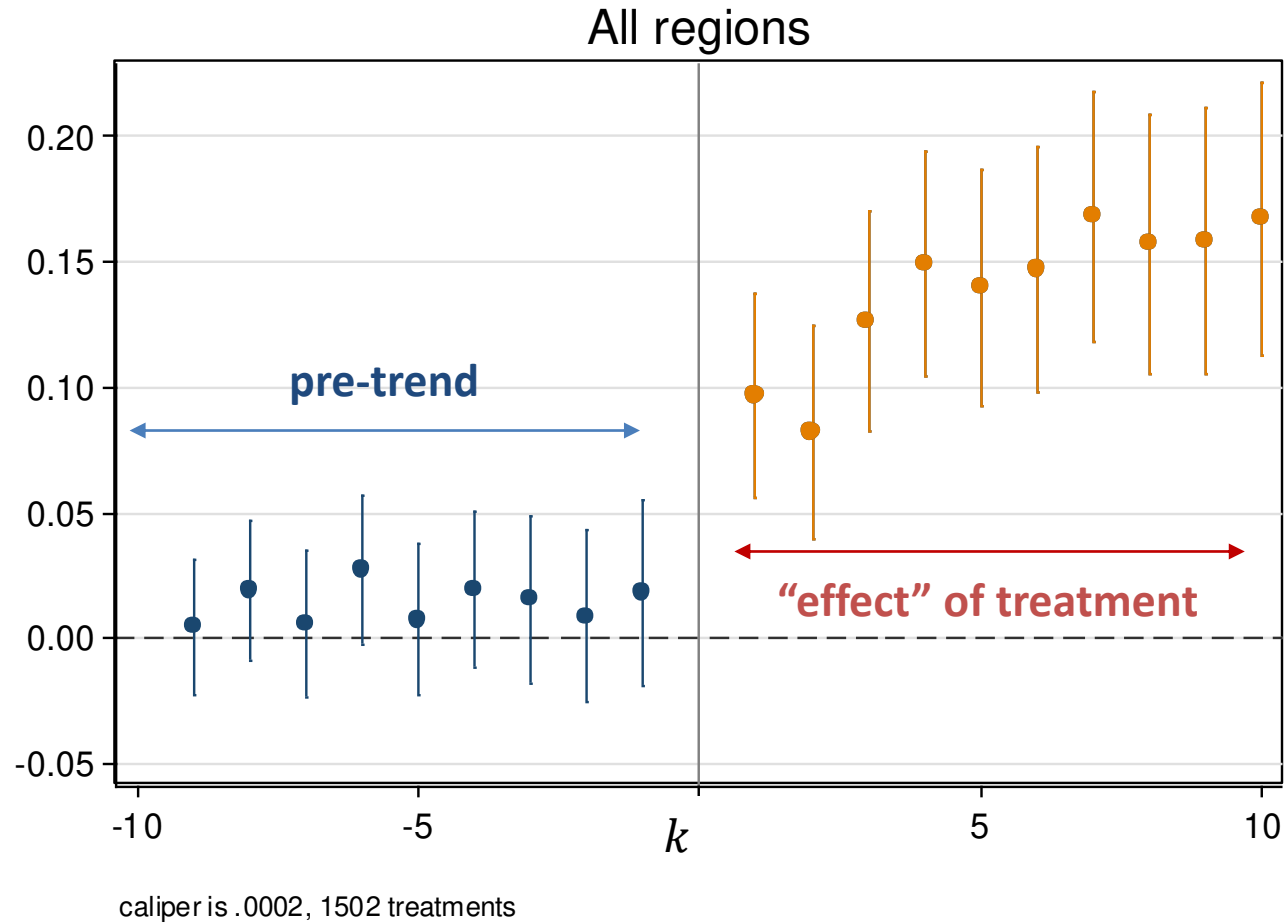


FDI and Regional Innovation

- **Crescenzi, Dyevre & Neffke** looked into the innovation performance of 1,528 regions, from 83 countries between 1975 and 2012
- We relied on **US Patent and Trademark Office data** on 3.6 million distinct inventors, 6.0 million patents from all over the world
- Patents in 1,240 3-digit patent classes
- ‘Matched’ regions receiving for the very first time a foreign firm pursuing innovative activities in their economy with a region very similar in terms of its observable characteristics and economic pre-trends but that did NOT receive any foreign investment leading to innovation

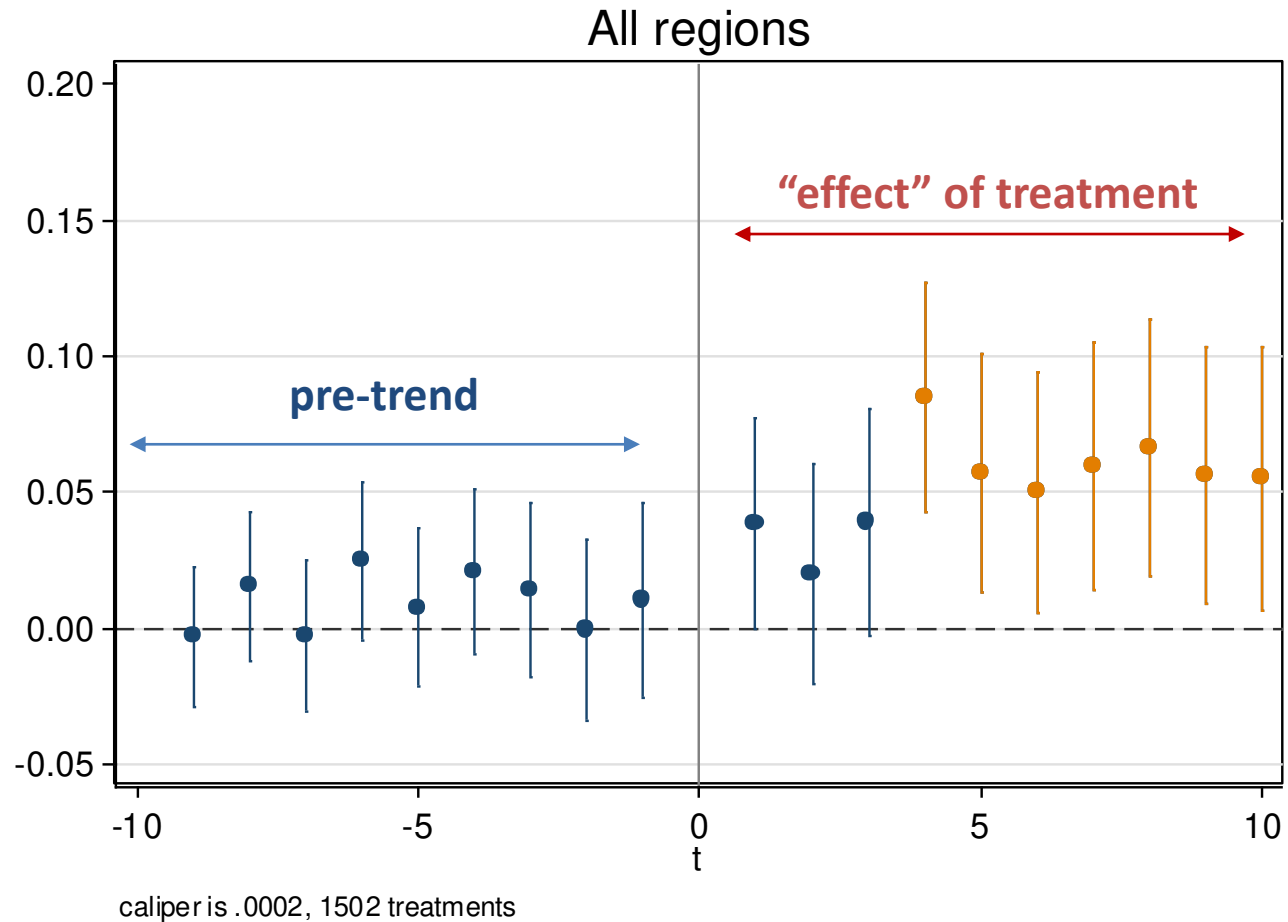
Difference-in-Differences

Patents by all firms



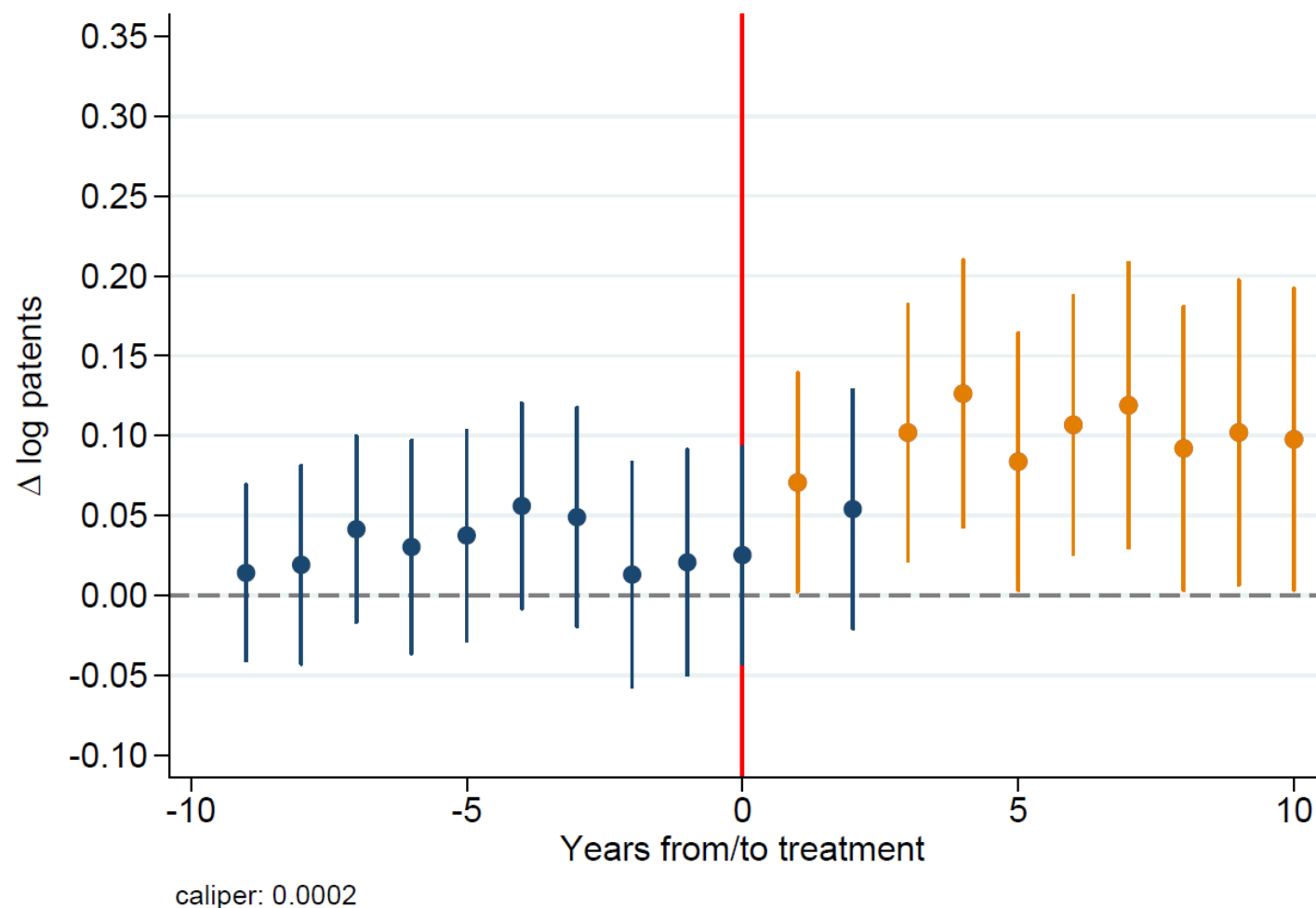
Difference-in-Differences

*Patents by **domestic** firms*



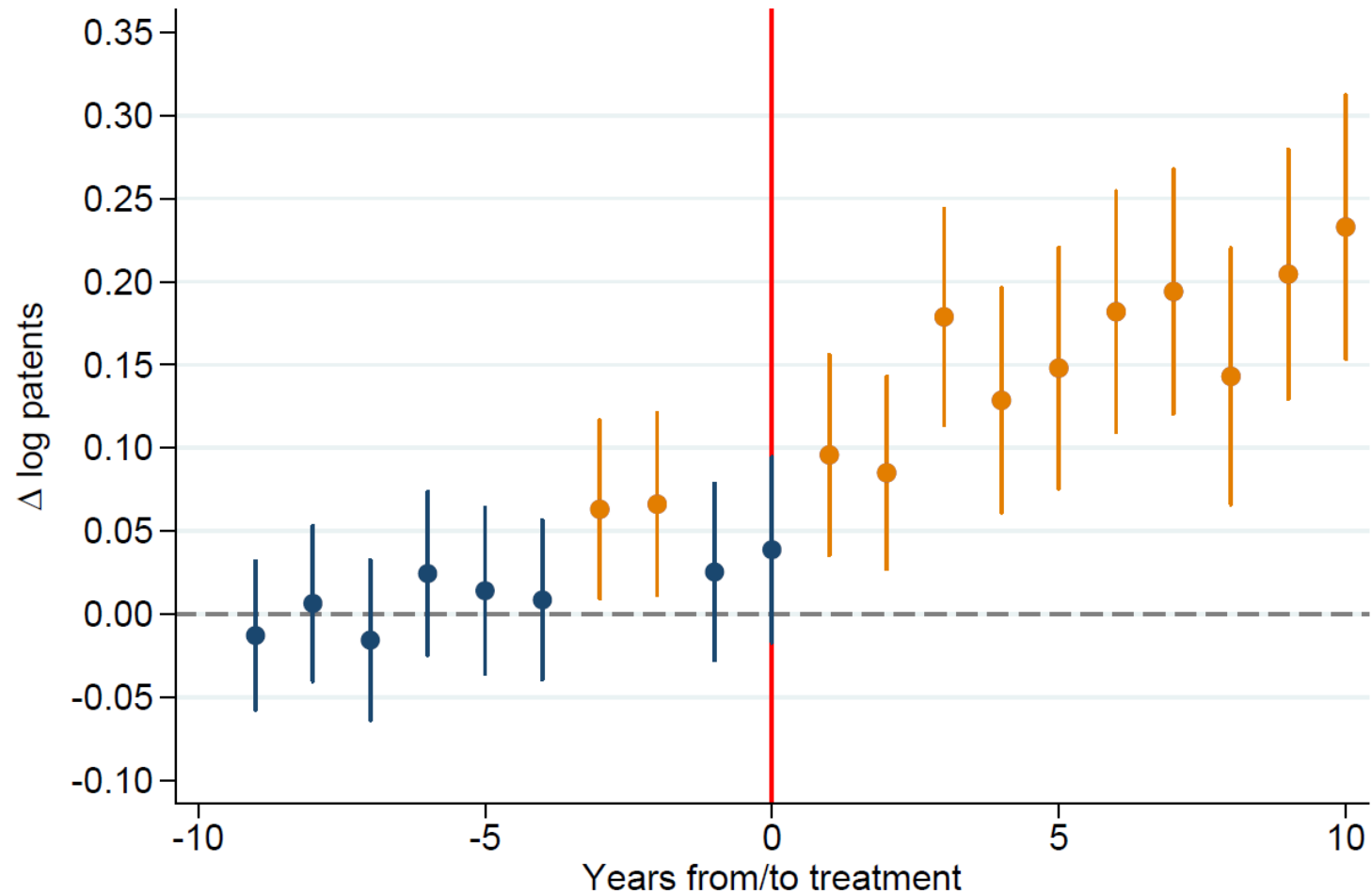
Difference-in-Differences

Patents by *all* firms – **Top 5% MOST INNOVATIVE Foreign Investing Companies**



Difference-in-Differences

Patents by *all* firms – **Bottom 80% Foreign Investing Companies**



caliper: 0.0002

Not all Foreign Firms are good for innovation

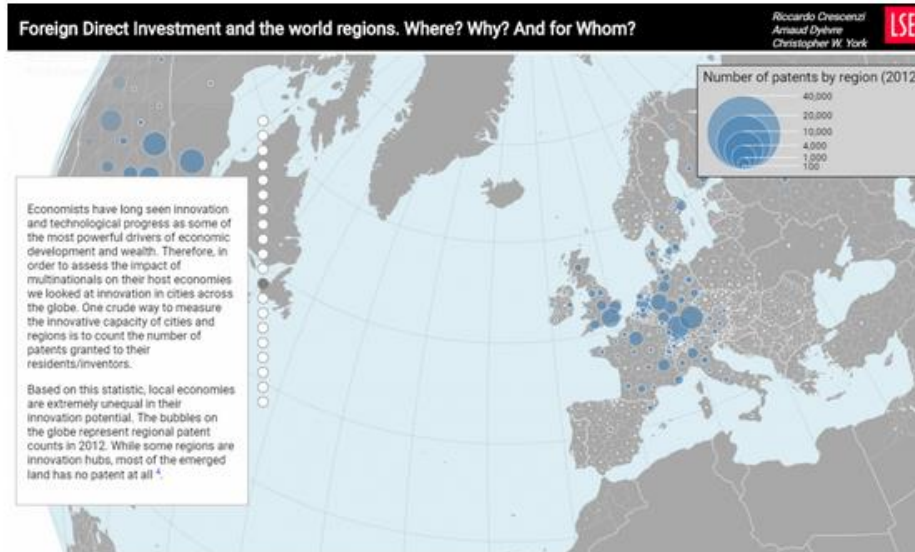
- It's not the usual suspects that matter!
- The top tech giants – that all countries and regions fight to attract (at a huge cost) – are less likely to generate local innovation
- Why?
 - We showed that they are more effective in retaining their staff and less likely to hire local workers (less circulation on the labour market)
 - New ideas generated by the 'giants' are less likely to be used and absorbed by local firms (technological distance)
 - Tech giants less likely to collaborate with domestic firms

Take home message

These results call for a re-consideration of many local and regional policies in the fields of innovation and FDI attraction.

- Internationalisation is central to local innovation.
- Key ‘innovation hubs’ did not build their success in isolation
- Internationalisation takes different forms. Targeting ‘tech giants’ to boost local innovation is not the best strategy
- Challenge for public policies: hard to ‘read’ the features and the ‘value added’ of tech MNEs and identify best match

Towards more cautious regional development policies?



Click on the image above to visualise global economic flows and their impacts on regions (opens a new tab).

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The research leading to these results has received funding from the European Research Council under the European Union's Horizon 2020 Programme H2020/2014-2020 (Grant Agreement n 639633-MASSIVE-ERC-2014-STG).

All errors and omissions are our own

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