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# Multinationals and Regional Development: Evidence from Europe

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Seville April 9<sup>th</sup> 2018



# Multinationals hit the headlines when they arrive in new countries/regions

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## Volkswagen instalará en Barcelona un gran centro de datos

La iniciativa permitirá a Seat avanzar hacia la conectividad y el coche eléctrico

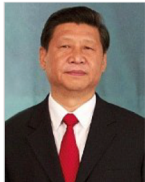
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### CHINESE INVESTMENT IN CZECH REPUBLIC COMES UNDER THE SPOTLIGHT



Recent furor in the Czech Republic over the visit by the Dalai Lama and state awards have very much put the focus of attention on China and the strategic partnership that Prague signed up with Beijing at the start of the year. Questions are now being asked also about the surge of Chinese investments that were promised and whether the political price for those promised investments is excessively high.



Pomp  
and

([http://img.radio.cz/f1fporZJw-XR-floEznJCPR\\_8A=/fit-in/1200x1200/1460724195\\_\\_pictures/c/politik/si\\_tin\\_pching2.jpg](http://img.radio.cz/f1fporZJw-XR-floEznJCPR_8A=/fit-in/1200x1200/1460724195__pictures/c/politik/si_tin_pching2.jpg))  
Xi Jinping, photo: Angélica Rivera de Peña, CC BY-SA 2.0



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Trending Topics: Automotive Airlines Energy Highways Economics

## Jaguar Land Rover: Still coming to Slovakia, despite Brexit

British carmaker Jaguar Land Rover will still come to Slovakia despite Brexit, Alexander Wortberg, the company's executive director for the investment in Nitra, said on July 26.



MNEs bring new capital, new knowledge and may create new jobs

# Multinationals hit the headlines when they leave or threaten they would leave...



**INDEPENDENT** News Politics Voices Culture Business *Indy/Life* Tech Sport Daily Edition


News > Business > Business News

## Brexit: JPMorgan confirms it will move hundreds of banking jobs from UK to EU

Firm has to 'be ready for day one, when negotiations finish', Daniel Pinto, head investment banking said

Ben Chapman | Wednesday 3 May 2017 10:24 BST | 38 comments

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## Banks begin moving some operations out of Britain



People walk to work in the City of London © Reuters


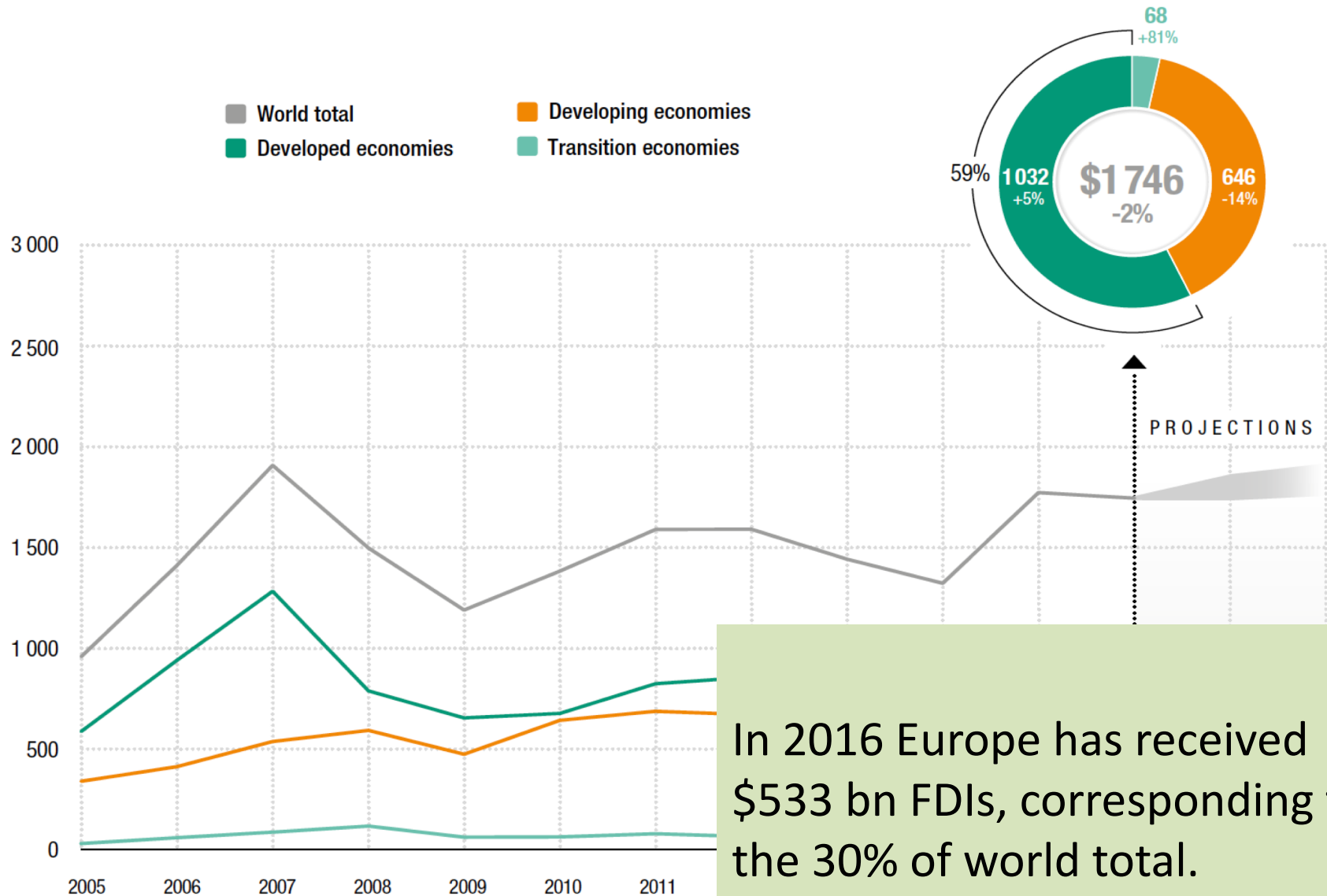
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Figure I.1.

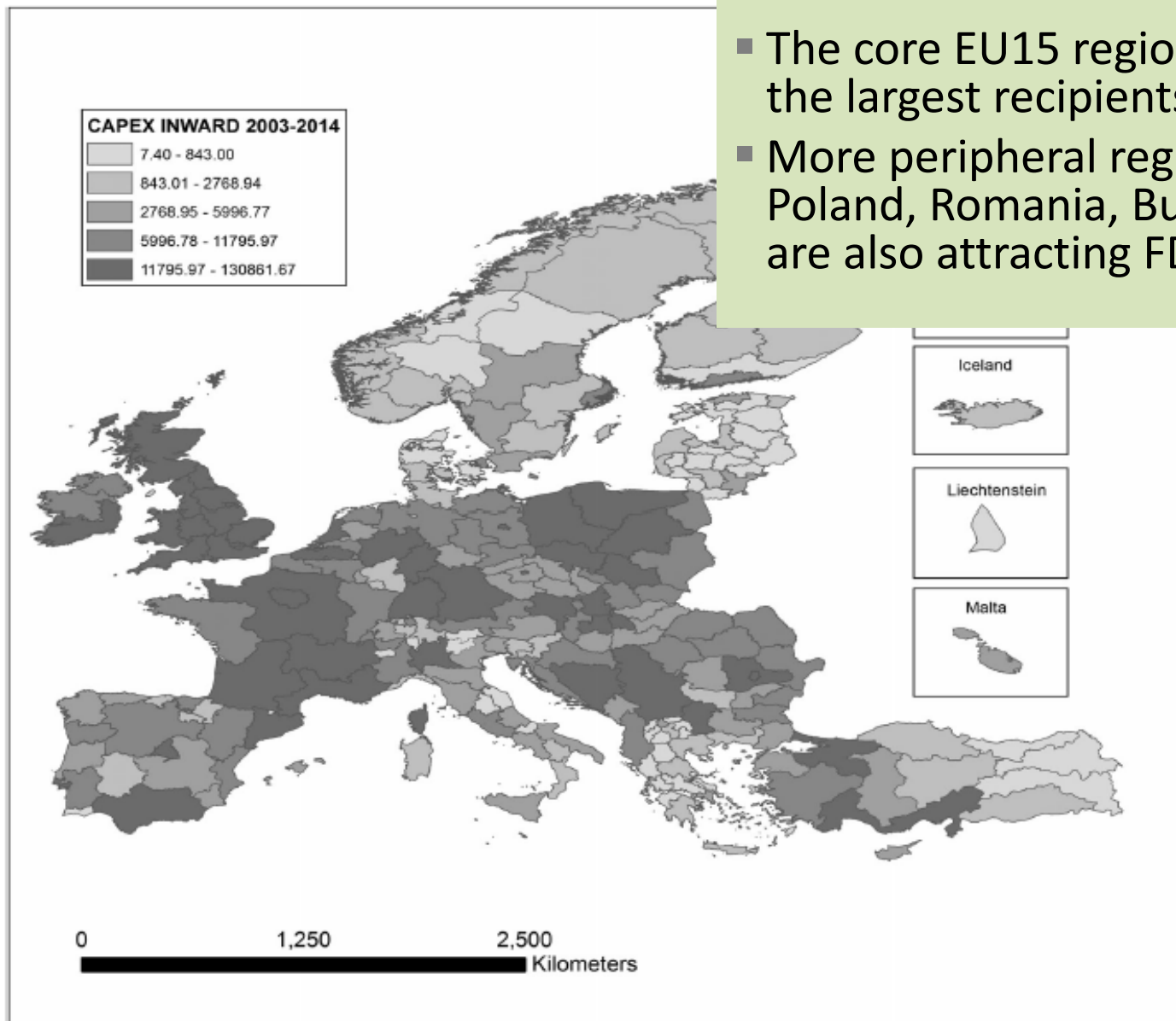
# FDI inflows, global and by group of economies, 2005–2016, and projections, 2017–2018

(Billions of dollars and per cent)



In 2016 Europe has received \$533 bn FDIs, corresponding to the 30% of world total.





- The core EU15 regions are the largest recipients of FDI;
- More peripheral regions in Poland, Romania, Bulgaria are also attracting FDI.

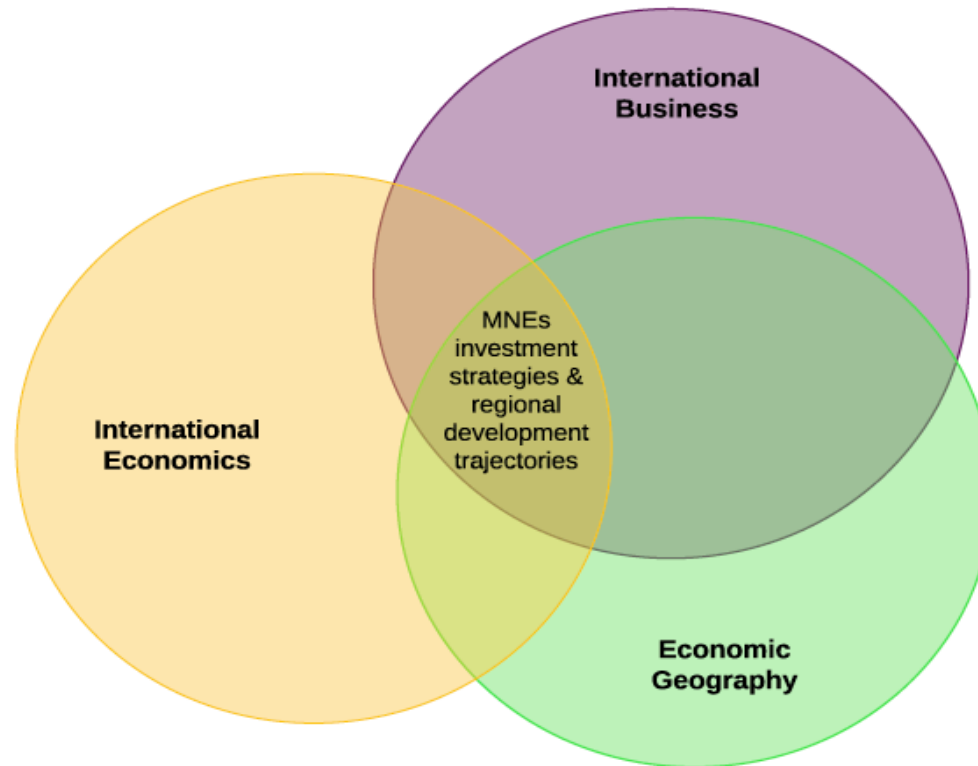
**Figure 1.** Foreign direct investment towards the regions of Europe (cumulative inward capital expenditure, 2003–14, US\$ millions).

Source: Authors' elaboration of fDi Markets data.

# MNEs as global pipelines

- Regional economic and innovation development does depend on a combination of
  - Localized productive and knowledge assets (i.e. the ‘local buzz’: Storper & Venable, 2004);
  - External knowledge through “global pipelines” (i.e. MNEs) (Bathelt, Mamberg & Maskell, 2004);
- Key question:

How MNEs investment strategies do interact with regional development strategies?



**International Business Studies: MNEs strategies.**

**International Economics: direct and indirect impact of FDIs on home and host countries (and regions).**

**Economic Geography: location and agglomeration strategies of MNEs and the spatial dimension of knowledge flows involving MNEs and local actors.**

# **A long-run research agenda on MNEs and regional development**

- ① On the location strategies of different GVC functions undertaken by MNEs;
- ② On different location strategies undertaken by MNEs from emerging countries (EMNEs) compared with MNEs from advanced countries;
- ③ On the impact of EMNEs acquisitions in the EU on their innovation capacity;
- ④ On the choice between acquisitions and greenfield investments and its impact on regional economies.

# Fitting location factors with activity characteristics

(Crescenzi, Pietrobelli & Rabellotti, JoEG 2014)

- MNEs locate different activities where they can be carried out most effectively, tapping into location-specific resources and capabilities;

**RQ: How do MNEs organise the different activities of their value chains in space?  
What is the role of national vs regional factors?**

- 19,444 greenfield investments (between 2003 and 2008) from the entire world into the EU25 countries, geocoded at NUTS2 level (Source: FDI Markets) and disaggregated in 5 activities: Headquarters, Innovative Activities, Commercial Activities, Production, Logistic and Distribution;
- **Nested logit model:** a) choosing a country  $i$  and b) selecting a region  $j$  in the chosen  $i$  country.

# Investment location drivers

## 1) Regional Innovation Capacity

- **R&D Investments** as a share of Regional GDP and **Patent Intensity**;
- **Social Filter** measuring structural pre-conditions to establish well functioning regional systems of innovation (Crescenzi & Rodriguez Pose, 2011);

## 2) FDIs Regional Agglomeration:

- total pre-existing investments;
- total investments in the same sector;
- total investments in the same functions;

## 3) Market size and labour market indicators.



# Findings in a nutshell

- MNEs locate different activities where they can be carried out most effectively tapping into location-specific resources and capabilities;
- Regional factors are stronger drivers for:
  - R&D investments attracted by regions with strong innovation systems (proxied by the Social Filter).

## Policy implications

- Local governments should not try to attract headquarters, as decisions on their location depend on national-level features;
- They rather should attract innovative activities by improving their innovation system, their local knowledge assets and their socio-institutional environment.

# EMNEs do it differently

(Crescenzi, Pietrobelli & Rabello, EPS 2016)

**RQ: Are EMNEs driven by a different set of drivers when selecting their locations than advanced countries MNEs?**

- Main findings:
  - EMNEs are attracted to EU regions with high technological capabilities (patent per capita) only when they are conducting abroad high value-added activities, such as R&D, design and testing;
  - Large cultural and cognitive distance makes it difficult for EMNEs to ‘decode’ the nuances of ‘soft factors’ (measured by the Social Filter) in European cities and regions;
  - EMNEs locate where there are other multinationals with the same specialization to maximize what they can learn from proximity to similar companies;
- Policy-makers should support the development of ‘institutional bridges’ able to facilitate EMNEs in their understanding of ‘soft’ innovation drivers, enabling and accelerating their ‘insidership’;
- Understanding better the behavior of EMNEs would allow local policymakers to minimize predatory investment strategies and attract investments keen to contribute to local economic development.

# **Chinese and Indian MNEs' shopping spree in advanced countries. How good it is for their innovative output?**

(JoEG minor revisions with Amendolagine, Giuliani & Martinelli)

**RQ: Do Chinese and Indian MNEs (EMNEs) benefit in terms of their innovative output from investing in innovative target firms or regions? What makes this more likely? What are the factors moderating this impact?**

- 206 cross-border acquisitions (CBAs) accomplished by Chinese and Indian medium to high-tech firms in Europe (EU28) and the U.S. (2003–2011);

# What are the EMNEs' key targets?

Individual firms'  
technological knowledge  
and expertise

Specific regions/districts – “To  
tap into local knowledge and  
networks”



How do acquisitions impact on the innovation capacity of the  
acquiring EMNEs?

# EMNEs face two challenges

## 1. Weak absorptive capacities

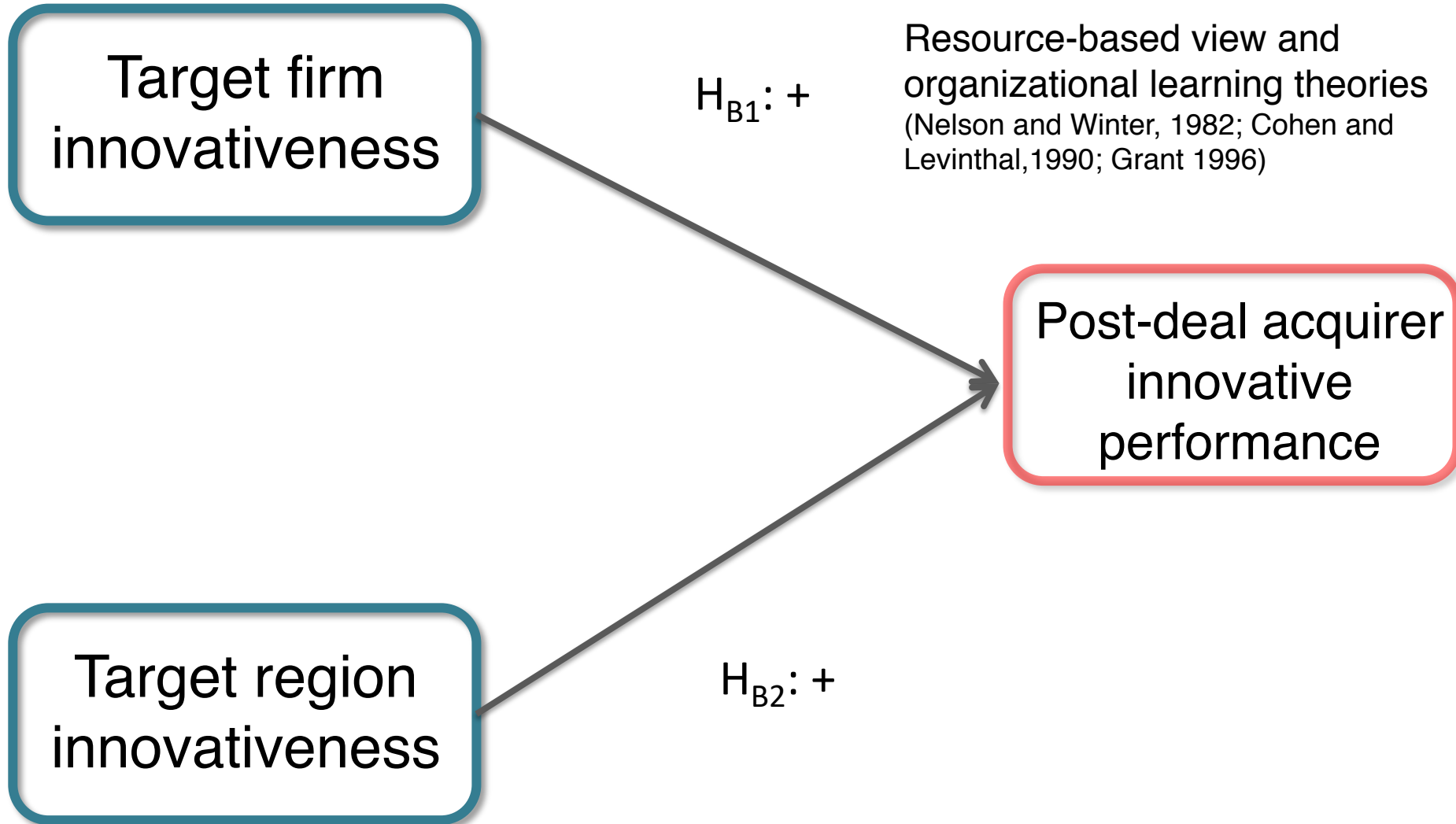
- Need to identify useful knowledge (Bell and Pavitt, 1993; Awate et al. 2014)
- Internal skills and technological capabilities needed to learn and successfully accommodate innovation and learning routines with those of the acquired firm. (Duysters et al., 2009; Awate et al., 2012; Hansen et al., 2016)

## 2. Low status

- Liability of emergingness (Madhok and Kayhani, 2012)
- Negative stigma jeopardizing EMNEs legitimacy (Hansen et al., 2016)

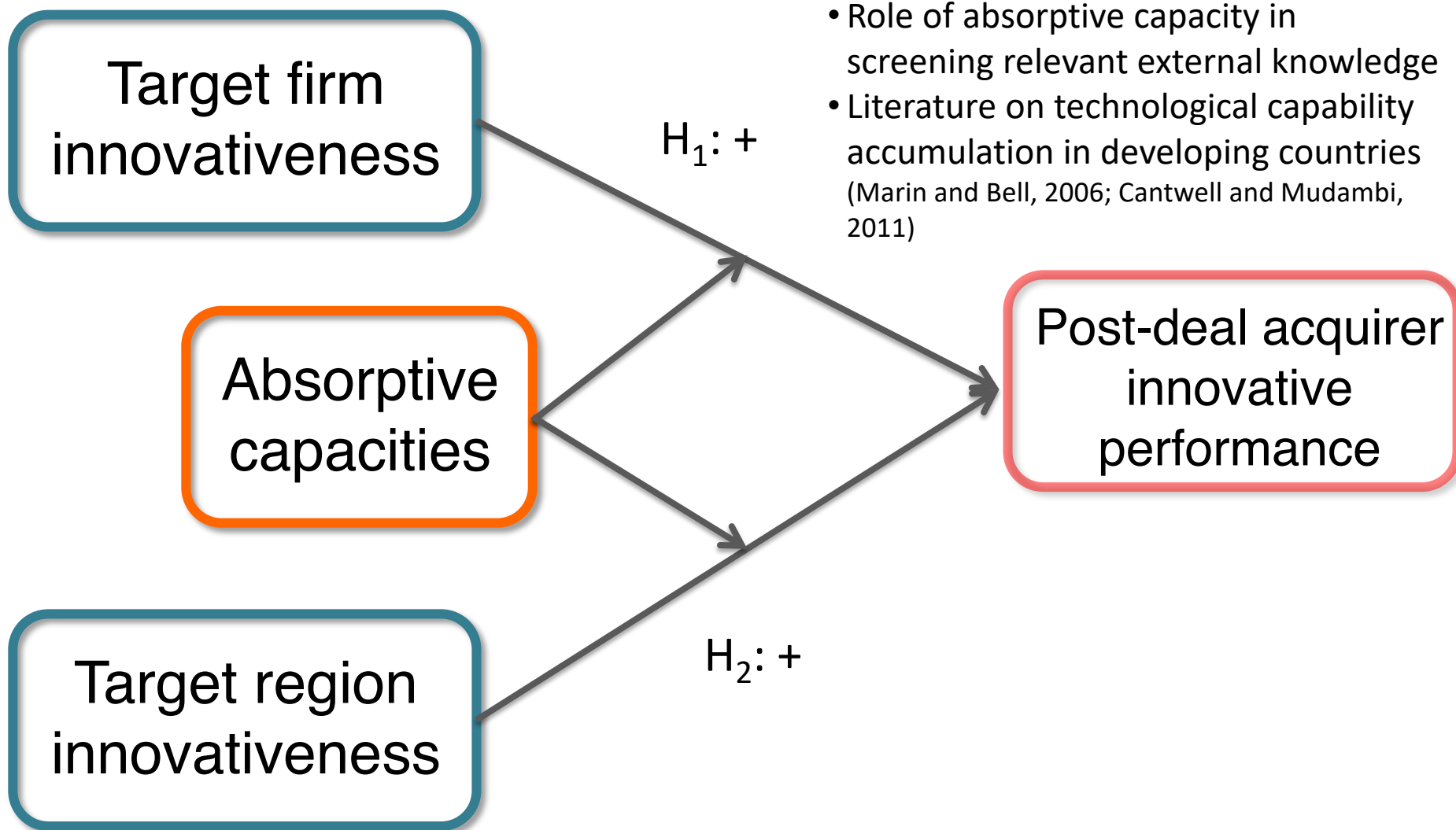
We claim that there is variation among MNEs on these two dimensions.

# Baseline hypotheses

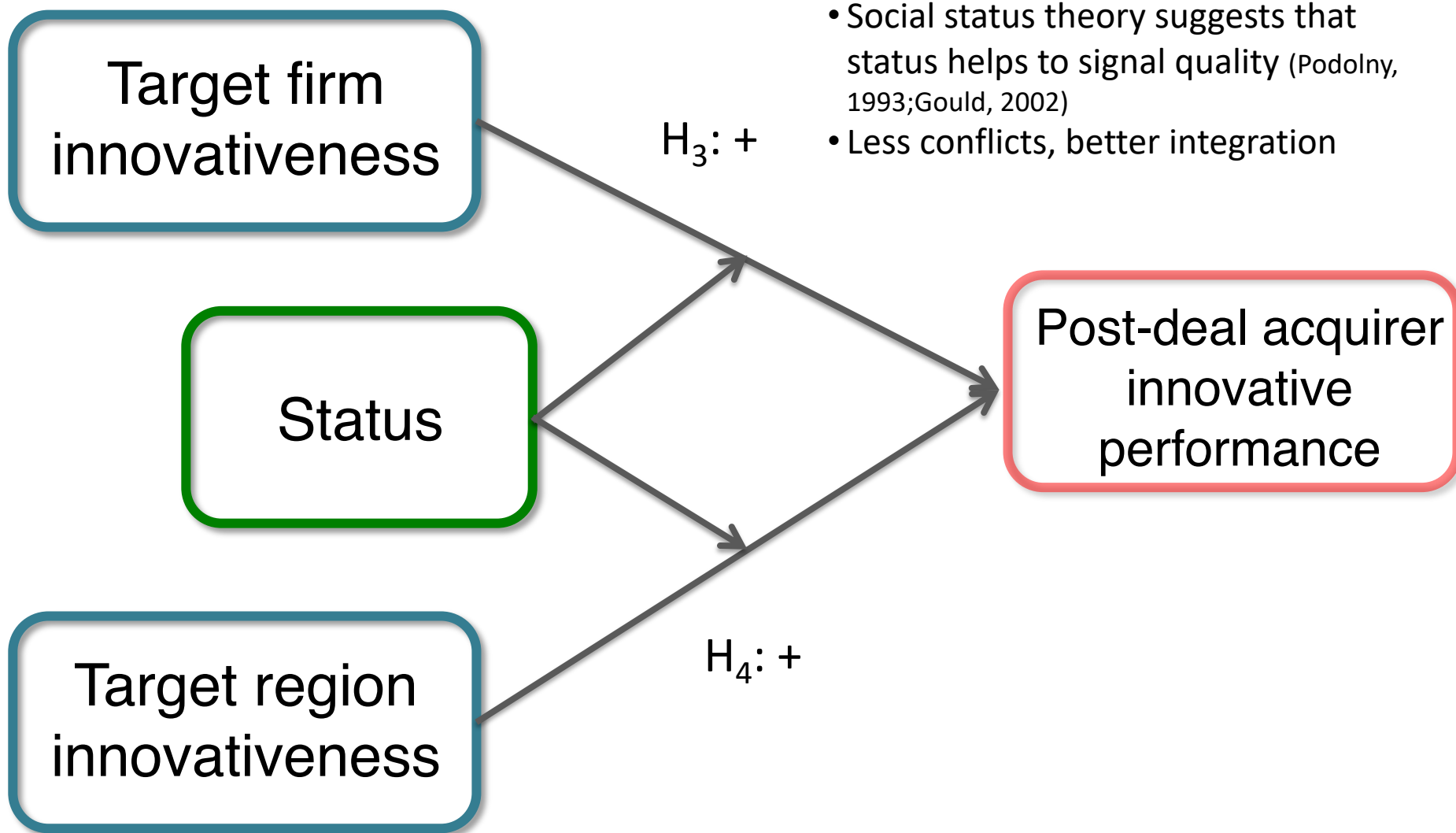




# EMNEs' absorptive capacity



# EMNEs' status



# Dependent Variable

## Post-deal innovative performance of the acquirer:

- # of INPADOC patent families applied by the acquirer firm in the 3 years after the deal
  - Data source: EPO-PATSTAT Database and ORBIS
  - Differently from patent count from a single legislation, family count makes easier to compare the innovative performance of firms of different nationality;
  - Robustness check: # of USPTO patents.

# Baseline variables

- ***Target firm innovativeness:***
  - # of INPADOC families of the target company filed in the 5 years before the acquisition
- ***Target region innovativeness:***
  - [Social filter](#) as a proxy for regional innovative capacity (Crescenzi and Rodriguez Pose, 2014)
  - Logarithm of the cumulated # of PCT patents per capita in the region (TL2) where the target company is located

# Moderators

- ***EMNE absorptive capacity (knowledge base)***
  - # of INPADOC families of the acquired company filed in the 5 years before the acquisition augmented with the number of their cited patents (Katila and Ahuja, 2001)
- ***EMNE Status***
  - “positive news” in the international press
  - 497,873 news (Lexis Nexis All News, between 1990 and 2016) - “positive” dictionary through automated content analysis using LIWC.

# Learning through acquisitions is not for everyone

- Acquisitions are not a quick fix for EMNEs' lack of technological capabilities at home;
- Target firms may resist to knowledge transfer, creating barriers to EMNEs' attempts to absorb and appropriate relevant knowledge;
  - This resistance is moderated by a strong knowledge base (expected) and high status (additional mechanism);
- EMNEs are able to benefit from locating in innovative regions, characterized by an ecosystem facilitating innovation and knowledge circulation (measured by the Social Filter);
  - But tapping into regional knowledge is not a trivial issue for EMNEs with low status;
  - EMNEs may find it difficult to benefit from regional assets and actors no matter how innovation-prone the region.



## Greenfield or acquisitions: This is the question?

(working progress with Amendolagine & Crescenzi)

- MNEs conduct FDI by either engaging in **greenfield investments** (entering a foreign market by building a new enterprise) or in **mergers and acquisitions** (M&As) (entering a foreign market by buying an existing enterprise);
- Most of the empirical and theoretical economic literature has focused on the volume of FDI, neglecting its composition across modes;
- The impact of M&As and greenfield investments on the host economy (country and sub-national) is different;
- The common wisdom is that M&As bring “less” than greenfield FDIs to the host economy.

# Global Mergers And Acquisitions Are At A Seven-Year High



Soyoung Kim and Greg Roumeliotis, Reuters

🕒 Jun. 30, 2014, 2:55 AM 🔥 5,422

According to UNCTAD (2017) cross-border M&As have risen to \$869 bl. in 2017 from \$721 bl. in 2016 and 432\$ bl. in 2015.



**Jeff Golman,** CONTRIBUTOR

*I write about middle-market deals and trends in the PE and M&A space.*

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# What does drive the mode choice?

- “*The two modes of FDI differ significantly in both the characteristics of the firm that engage in these modes as well as in the characteristics of the host countries in which firms invest*” (Nocke and Yeaple, 2007, 2008);
- MNE’s characteristics interact with the institutional contexts of target countries in shaping entry mode decisions (Schwens et al.2011);
- Sub-national factors might matter more than national-level ones in entry mode choices (Slangen, 2016);
- Following Nocke and Yeaple (2008), we investigate the entry mode choice as a positive assertive matching process between subsidiaries and headquarters:
  - Introducing the role of REGIONAL strategic assets and institutional conditions;
  - Firm-level characteristics interact with national and regional characteristics and institutional conditions shaping entry mode choices.

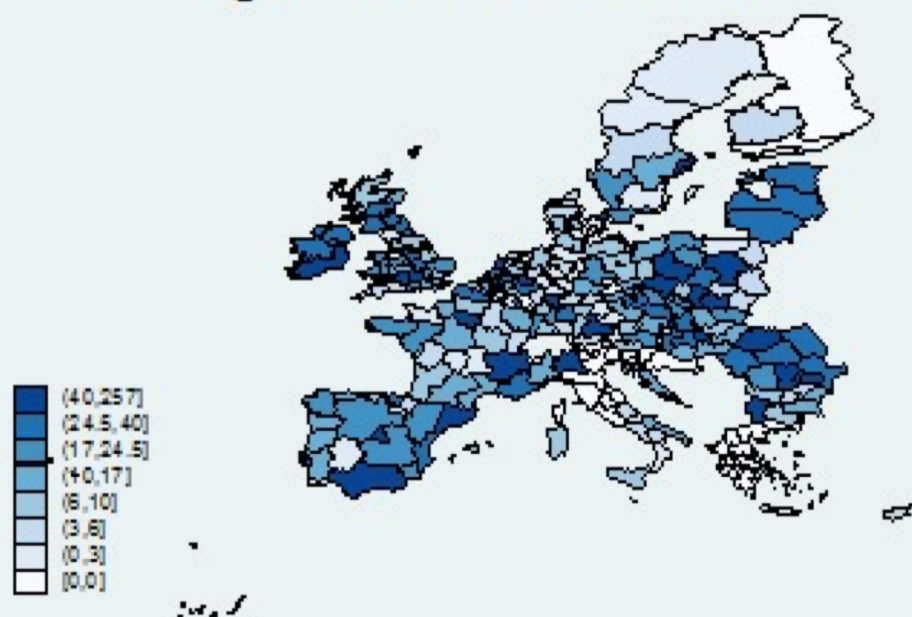
# Research Questions

- ① What **MNEs' characteristics** do influence the choice of the investment entry mode?
  - Are more productive (or more innovative firms) systematically favouring one entry mode over the other?
- ② Do **national AND regional** characteristics of the **host economy** matter for this choice?
  - Do institutional quality & innovative capacity matter? At which geographical level?
- ③ How are investing MNEs and 'host' regions matched via different entry modes?

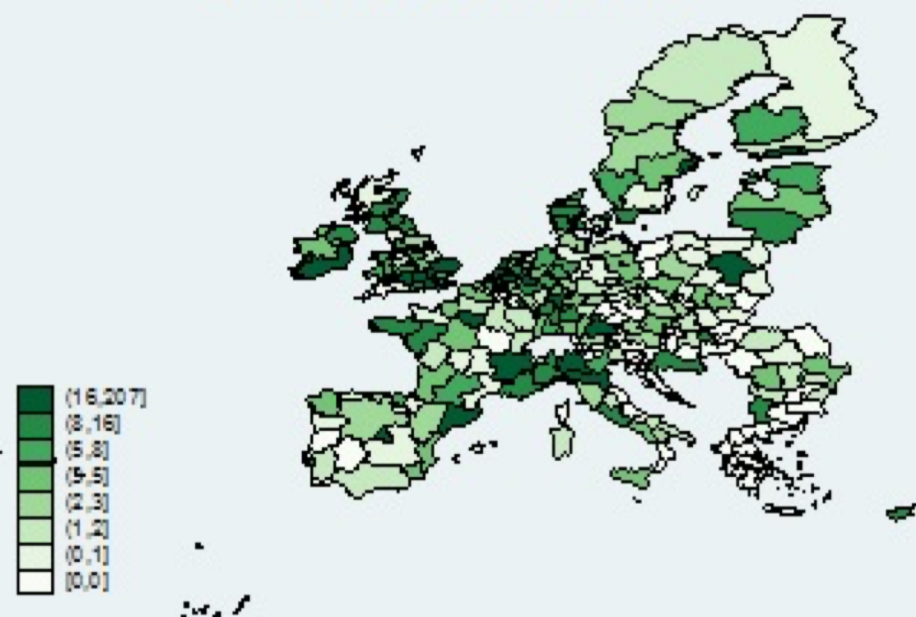
# Data

- Investors are selected from the **Forbes Global 2000 list** (2015): 1,116 companies with at least one investment in the EU-28 during the period from 2003-14 (40% of the total value of greenfield and M&A deals directed to the EU-28 in 2014: UNCTAD 2016);
- For each company, we identify all foreign investments in the EU-28 (2003-2014): M&A (Zephyr) and Greenfield FDI (fDi Markets):
  - For each investment we know the establishment mode, year, sector, country, region, city and financial value;
- After dropping greenfield investments where there are not potential acquisition targets (i.e. domestic companies in the same NACE 2-digit sector as the investment):
  - 7,338 deals: 2,001 majority-owned acquisitions (27%) and 5,337 greenfield investments (73%).

all greenfields 2003-2014



all M&As 2003-2014



## The empirical model

- Logit model (Nocke & Yeaple, 2008)
- Dependent variable:
  - 1 if the company opts for a **greenfield FDI** in industry **k** within country **l**;
  - 0 if parent firm **i** in the industry **j** **acquires** a foreign company in industry **k** within country **l**.

## Drivers of the mode choice

- **Firm-level characteristics**: productivity, size, industry diversification, past FDI experience; # of patents;
- **Regional characteristics** (as deviation from the national mean): size; GDP per capita, institutional quality, innovation level;
- **Country characteristics**: openness, geographical distance between the origin and the destination country of FDI;
- Time controls; country and industry fixed effects.



# Preliminary findings in a nutshell

- Are different types of firms involved in different modes?
  - More efficient and innovative MNEs are more likely to undertake greenfield investments;
  - MNEs with previous investments in the same country enter with acquisitions;
- Do local strategic assets influence the entry mode choice?
  - National and Regional QoG and innovative capacity increase the probability of foreign acquisitions;
  - Regional QoG helps with the ‘selection’ of greenfield investments by the most efficient MNEs.

Regional (and national) FDI policies should be tailored towards the particular FDI mode: greenfield vs. acquisitions.

# Final takeaways

- MNEs are driven by different location drivers according to their **value chain activities, country of origin, establishment mode choice**;
- This heterogeneity results in complex sub-national strategies of internationalization;
- Regional development policies should evolve from the attraction of '*inward FDI no matter what*' to more diversified and place-sensitive policies accounting for this heterogeneity;
- Local policy makers need to know more about the relationships between local and international knowledge networks (in particular those involving EMNEs) and about how and whether these networks help to promote or rather impede local innovation and economic development.

**Thank you**

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# The variables

VARIABLES	DESCRIPTION
Dependent Variable	
GREEN	Indicator =1 for greenfield, 0 otherwise
Investing Company Firm-level Variables	
EFFICIENCY	Sales/Employee (log)
SIZE	Employees (log)
DIVERSIFICATION ACROSS INDUSTRIES	Number of SIC sectors in which the firm is active
INNOVATION	Cumulative EPO patents (log)
EXPERIENCE	Indicator for previous experience in the country of destination
INTERNATIONALISATION	N. of countries with affiliates of the company (log)
FOREIGN SALES RATIO	Foreign sales/Total Sales (log)
Host Economy Variables	
OPEN_COUNTRY	(Exports plus imports)/GDP
DISTANCE_COUNTRY	Origin-Destination country distance
AGGLOMERATION_REGION	# companies in the target region (log)
QoG_COUNTRY	Quality of Government (country level average)
QoG_REGION_REL	Quality of Government (regional deviation from national average)
EPO_PC_COUNTRY	Log n. of EPO patents pc (country-level average, log)
EPO_PC_REGION_REL	Log n. of EPO patents pc (regional deviation from country-level average, log)
GDP_PC_COUNTRY	GDP pc (country-level average, log)
MOTORWAY_GDP_REGION	Kms of motorways per million euros of GDP (region-level)
HC_REGION	% employed people (aged 25-64) with completed higher education

# KEY RESULTS

	Baseline		QoG		EPO_PC	
	(1)	(2)	(3)	(4)	(5)	(6)
SALES_EMPLOYEES	0.5303***	0.5173***	0.5268***	0.4910***	0.5195***	0.3111
	(0.0908)	(0.0912)	(0.0908)	(.0941)	(0.0915)	(.1912)
INNOV	0.0403*	0.0421*	0.0422*	0.0719***	0.0425*	.2085***
	(0.0232)	(0.0231)	(0.0232)	(0.0249)	(0.0232)	(0.0553)
EXP	-0.7174***	-0.6488***	-0.6413***	-0.6406***	-0.6550***	-0.6515***
	(0.1544)	(0.1568)	(0.1568)	(0.1580)	(0.1577)	(0.1574)
AGGLOMERATION_REGION	-0.0823*	-0.0948*	-0.1574***	-0.1635***	-0.0688	-0.0779
	(0.0451)	(0.0503)	(0.0489)	(0.0495)	(0.0471)	(0.0480)
QoG_REGION		-0.1678**				
		(0.0785)				
EPO_PC_REGION		-0.1983***				
		(0.0531)				
QoG_COUNTRY			-0.4026***	-.7881**		
			(0.0839)	(0.3983)		
QoG_REGION_REL			-0.1756	-2.0218***		
			(0.1245)	(.7567)		
SALES_EMPLOYEES # QoG_COUNTRY				0.0966		
				(0.0672)		
SALES_EMPLOYEES # QoG_REGION_REL				0.3375***		
				(0.1272)		
LOG_EPO# QoG_COUNTRY				-0.0673***		
				(0.0190)		
LOG_EPO#QoG_REGION_REL				-0.0339		
				(0.0340)		
EPO_PC_COUNTRY					-0.2927***	-.4653**
					(0.0492)	(.2263)
EPO_PC_REGION_REL					-0.1710**	.3800
					(0.0676)	(.3925)
SALES_EMPLOYEES#EPO_PC_COUNTRY						0.0472
						(0.0379)
SALES_EMPLOYEES#EPO_PC_REGION_REL						-0.1062
						(0.0677)
LOG_EPO#EPO_PC_COUNTRY						-0.0380***
						(0.0111)
LOG_EPO#EPO_PC_REGION_REL						0.0274
						(0.0205)
Constant	3.0156	-2.3757	-0.9471	-0.5015	-2.2708	-0.9308
	(2.1268)	(2.2318)	(2.2503)	(2.2260)	(2.2042)	(2.4303)
TIME CONTROL	YES	YES	YES	YES	YES	YES
INVESTOR INDUSTRY FE	YES	YES	YES	YES	YES	YES
Observations	4995	4961	4995	4995	4961	4961

**Notes:** Logit estimator. Dependent variable: GREEN=1 if greenfield and 0 if acquisitions. Robust standard errors are shown in parentheses and clustered by investor. \*\*\*, \*\*, \* indicate significance level at, respectively, 1%, 5%, 10%. We also control for: **firm-level size, sectoral diversification and n. of foreign countries where they invested; country-level distance and openness; region level GDP pc, infrastructure quality and human capital.**