

The Location Strategies of Multinationals from Emerging Countries in the EU Regions

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Location Decisions of MNEs: Clusters, Markets, or Cities?
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Motivation

- Outflows of FDI from developing economies have reached the record level of \$553 billion in 2013: 39% of global FDI outflows, up from 16% in 2007 (UNCTAD, 2014);
- Open debate in both International Business and Economic Geography:
 - Are Emerging Market Multinationals (**EMNEs**) structurally different from Advanced Economies Multinationals (**AMNEs**)?
 - Are they catching-up and converging towards 'established' models of MNEs' behaviour?
- The focus of this paper is on the **similarities and differences of the location strategies of EMNEs and AMNEs in the EU-25 regions.**

Location between and within countries

- The economic and international business theory has dealt successfully with the reasons **why** a firm becomes multinational (O) and **how** it carries out its multinational activities (I) but so far the discussion about **where it goes to internationalize its activities (L)** has remained rather fuzzy;
- “MNE’s location decisions are becoming increasingly complex and dependent on the **variety and quality of highly localized assets**” (McCann and Iammarino, 2013: 360);
- **Sub-national spatial heterogeneity should be fully accounted for: MNEs are attracted to specific locations due to their particular characteristics** (McCann and Mudambi, 2005);
- It is critical to extend the location analysis of MNEs, integrating the factors explaining the **within-country variation** with those related with **between-country variation** (Beugelsdijk and Mudambi, 2013).

Location Strategies of Emerging Countries

Multinationals

- The analysis of EMNEs' location strategies has mainly focused on the alternative between investing in advanced economies vs. other developing/emerging countries: **no attention to sub-national factors.**
- Existing literature concludes that **EMNEs target:**
 - **developed countries** when they aim at **accessing new technologies and markets;**
 - **developing countries** when they have **labour seeking motivations** (Kedia et al. 2012; Makino et al, 2002);
- Their investments might respond differently to national and sub-national drivers but NO empirical testing (Cuervo-Cazurra and Ramamurti, 2014)
- It is necessary to identify (and operationalize) the key 'motives' attracting foreign investments in different (sub-national) locations.

Location is driven by investment motives

- **Market seeking:** MNEs are attracted by the **size and the potential of the host market**. They target specific customer segments and/or the wealthiest regions/cities (Beugelsdijk and Mudambi, 2013);
- **Efficiency-seeking: MNEs** are attracted by **low labour costs, unemployment, and availability of skilled and unskilled workers** (Flores and Aguilera, 2007);
- **Asset seeking: MNEs** search for **specialized, knowledge-related assets and agglomeration economies generating knowledge-spillovers**. Knowledge and in general, intangible L advantages are highly localized and concentrated in few sub-national units (e.g. Cantwell and Piscitello, 1999; Dunning, 2009; McCann and Iammarino, 2013);

Location is also driven by the behaviour of other MNEs

- **MNEs learn** about the different attractiveness of alternative locations **by observing the entry choices of previous investors (assessment learning)**;
- If MNEs are uncertain about alternative locations **they tend to follow firms with which they share some commonalities** such as the **same or related industry specialization** (Berbedos et al, 2011);
- At a certain point agglomerations can also generate **‘competition effects’** leading to price competition and higher input and labour costs (inverted U-shaped);
- The benefit of co-location is also the possibility to exploit **agglomeration economies** such as the availability of a skilled labour pool and specialized input suppliers and service providers.

Research questions

- Do EMNEs location strategies respond to **different investment motives** from AMNEs?
- Are EMNEs attracted by **a different set of characteristics of their destination economies** in comparison with AMNEs?
- Are **national and regional characteristics** valued differently by EMNEs and AMNEs?

Data

- *fDi Markets*: the dataset includes greenfield investments covering all sectors and countries worldwide since 2003;
- Our empirical analysis is based on 22,065 deals undertaken by MNEs from the entire world into the EU25 NUTS1/2 regions between 2003 and 2008;
- EMNEs (EME) include India, China, Russia, Turkey, Hong Kong, Brazil, Mexico, South Africa, Thailand and Chile (robustness checks with other groupings).
- Regional data from Eurostat

The Nested Logit Model

$$P_{ij} = P_{j|i} P_i = \frac{e^{\beta X_{ij}}}{e^{I_i}} \left(\frac{e^{\gamma Y_i + \sigma_i I_i}}{\sum_{m=1}^I e^{\gamma Y_m + \sigma_m I_m}} \right)$$

- P_{ij} is the probability of choosing region j in a country i ;
- $P_{j|i}$ is the probability of choosing region j conditioned on the choice of country i , depending on the characteristics of the n_i regions belonging to country i ;
- P_i is the probability of choosing a country i depending on the characteristics of the country and on those of all its regions.
- The model tests the **nested decision structure** - a) choosing a country i and b) selecting a region j in the chosen i country - of the investment decision, shedding light on the **relative importance of national vs. regional location factors**.

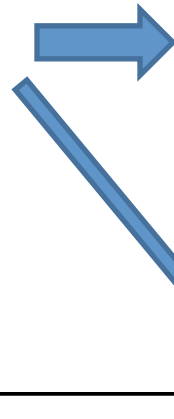
Investment location drivers

The probability of a certain region to be chosen as a destination of a foreign investment is estimated as a function of:

- ① **Market seeking motivation:** *Regional GDP per capita;*
- ② **Strategic asset seeking motivation:**
 - a) *Patent Intensity* to capture the extent to which MNEs expect to benefit from localised knowledge spillovers from indigenous firms;
 - b) *Social filter conditions*: structural pre-conditions to establish a fully functional regional systems of innovation;
- ③ **Efficiency seeking motivation:** *Regional unemployment* as a proxy of the labour market conditions in terms of the excess of labour supply over demand;
- ④ **Regional agglomeration of foreign investments:**
 - a) *Total pre-existing investments;*
 - b) *Investments in the same sector;*
 - c) *Investments in the same activity.*

Location Drivers of AMNEs vs. EMNEs in the EU regions

Market seeking



- Intra-EU de-concentration
- NA and EME concentration in large mkts

	(1)	(2)	(3)	(4)
VARIABLES	ALL	EU	North America	EME
Regional per capita GDP	-1.24e-06* (7.12e-07)	-2.81e-06*** (7.47e-07)	6.44e-06*** (2.40e-06)	1.73e-05** (8.43e-06)
Patents per capita	0.000208*** (3.47e-05)	9.52e-05*** (3.40e-05)	0.000408*** (9.64e-05)	0.000811 (0.000659)
Social filter	0.00800 (0.00503)	0.0143*** (0.00509)	0.0211 (0.0179)	0.0163 (0.0816)
Regional unemployment	0.000646 (0.000976)	0.000976 (0.00104)	-0.00340 (0.00314)	-0.00404 (0.0192)
Total # of investments same VC STAGE	0.00537*** (0.000381)	0.00484*** (0.000385)	0.00817*** (0.000770)	0.00751*** (0.00189)
Total # of investments same SECTOR	0.0142*** (0.000574)	0.0140*** (0.000813)	0.0117*** (0.00106)	0.00764** (0.00326)
Total # of existing investments	-0.000113 (0.000182)	-0.000328* (0.000198)	0.000254 (0.000478)	0.00205 (0.00131)

Location Drivers of AMNEs vs. EMNEs in the EU regions

Efficiency Seeking

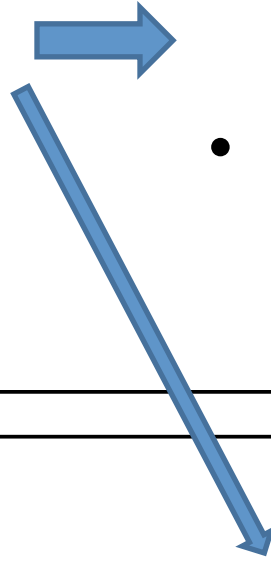


- **Never relevant contrary to policy emphasis**

	(1)	(2)	(3)	(4)
VARIABLES	ALL	EU	North America	EME
Regional per capita GDP	-1.24e-06* (7.12e-07)	-2.81e-06*** (7.47e-07)	6.44e-06*** (2.40e-06)	1.73e-05** (8.43e-06)
Patents per capita	0.000208*** (3.47e-05)	5.2e-05*** (1.0e-05)	0.000408*** (9.64e-05)	0.000811 (0.000659)
Social filter	0.00800 (0.00503)	6.3e-03*** (0.00509)	0.0211 (0.0179)	0.0163 (0.0816)
Regional unemployment	0.000646 (0.000976)	0.000976 (0.00104)	-0.00340 (0.00314)	-0.00404 (0.0192)
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Location Drivers of AMNEs vs. EMNEs in the EU regions

Asset seeking



- Intra-EU and NA attracted by technological dynamism
- ‘Soft’ innovation factors only relevant to intra-UE

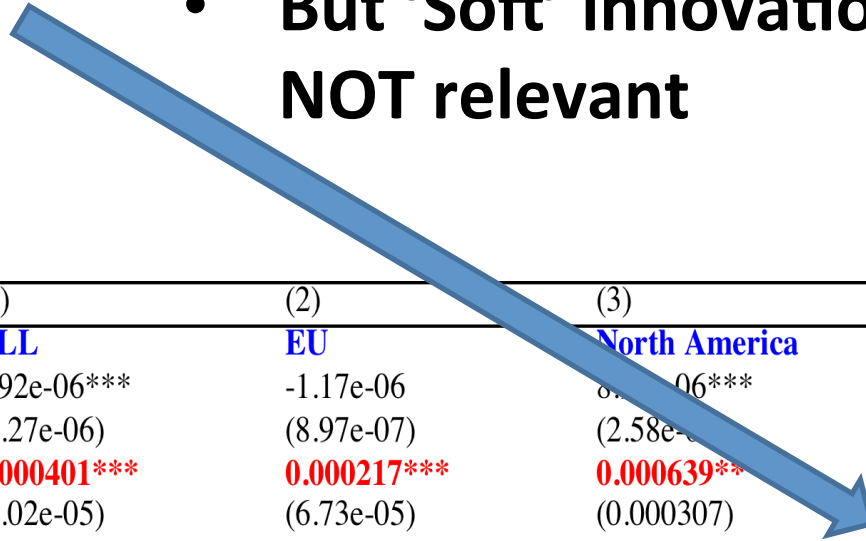
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Location Drivers of AMNEs vs. EMNEs in the EU regions

**Asset seeking
(only HQ, INNO,
SALES, LOG&DIST)**



- **EME** also attracted by technological dynamism
- But 'Soft' innovation factors NOT relevant



VARIABLES	(1) ALL	(2) EU	(3) North America	(4) EME
Regional per capita GDP	4.92e-06*** (1.27e-06)	-1.17e-06 (8.97e-07)	8.1e-06*** (2.58e-06)	1.94e-05 (1.63e-05)
Patents per capita	0.000401*** (6.02e-05)	0.000217*** (6.73e-05)	0.000639*** (0.000307)	0.00105** (0.000531)
Social filter	0.0326*** (0.00972)	0.0104* (0.00584)	0.00452 (0.0168)	-0.0183 (0.0676)
Regional unemployment	0.00712*** (0.00138)	0.000307 (0.00107)	0.00170 (0.00318)	0.00360 (0.0171)
Total # of investments same VC STAGE	0.00520*** (0.000365)	0.00390*** (0.000408)	0.00817*** (0.000713)	0.00862*** (0.00224)
Total # of investments same SECTOR	0.00981*** (0.000658)	0.0108*** (0.000858)	0.00935*** (0.00106)	0.00421 (0.00332)
Total # of existing investments	0.00155*** (0.000348)	0.000268 (0.000320)	0.000627 (0.000514)	0.00225 (0.00178)

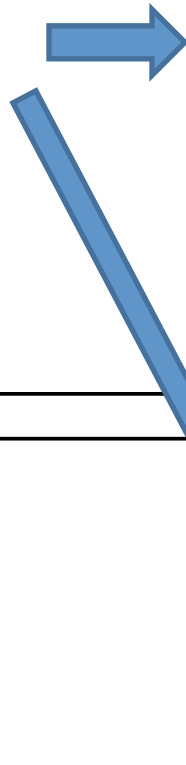
IV Parameters

Austria	0.138***	(0.0154)	0.0849***	(0.0212)	0.0923***	(0.0226)	0.242	(0.219)
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Poland	0.452***	(0.0722)	0.105***	(0.0215)	0.401***	(0.107)	0.450	(0.465)
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Location Drivers of AMNEs vs. EMNEs in the EU regions

**Imitation /
Agglomeration**

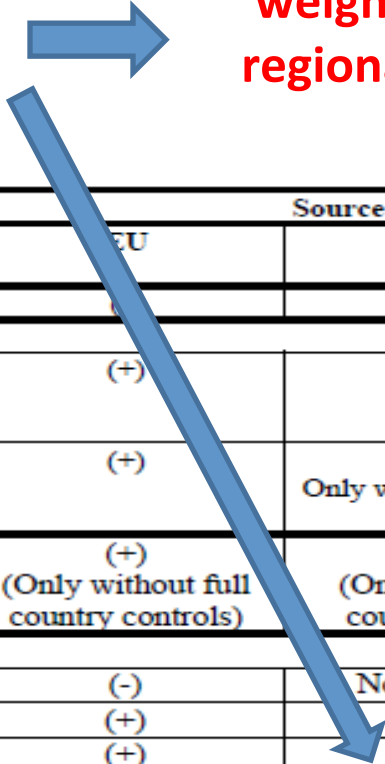


- Functional and sectoral links matter for ALL MNEs
- Decreasing returns from total agglomeration of un-related investments

	(1)	(2)	(3)	(4)
VARIABLES	ALL	EU	North America	EME
Regional per capita GDP	-1.24e-06* (7.12e-07)	-2.81e-06*** (7.47e-07)	6.44e-06*** (2.40e-06)	1.73e-05** (8.43e-06)
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A summary of the empirical findings

- Dissimilarity parameters measure **the 'weight' the investor ascribes to regional (1) vs national (0) drivers**



		Source of foreign investment		
Determinants of foreign investments		EU	NA	EME
Market-seeking*			(+)	(+)
Strategic asset-seeking*				
	• Hard drivers (patents)	(+)	(+)	(+) Only for NON-PRODUCTION FDI
	• Soft drivers	(+)	(+) Only without full country controls)	Never significant
Efficiency-seeking*		(+) (Only without full country controls)	(-) (Only without full country controls)	Never significant
Agglomeration*				
	• # of FDI	(-)	Not significant.	Not significant
	• Same Function	(+)	(+)	(+)
	• Same Sector	(+)	(+)	(+) Only for PRODUCTION FDI
Dissimilarity parameters**				
	• Sub-national drivers	UK, FR	UK, FR, D, BE	UK, D, NL, FR, I
	• National drivers	All remaining countries	All remaining countries	Most of remaining countries are not significant

Source: Authors' estimates in Tables 2 and 3.

* (+) and (-) reflect respectively positive and negative significant coefficients

** >0.3 in Table 3

Conclusions

- ① In the aftermath of a major economic crisis the attraction of EMNEs is crucially important to re-launch national and regional economic growth in Europe.
- ② EMNEs are not moved by efficiency-seeking motives;
- ③ Their interest for large markets – that cannot easily be influenced by public policies – is coupled by two other ‘attraction’ factors: strategic assets and functional and sectorial agglomeration.

Policy implications

- Policy makers can play multiple and diversified roles:
 - Leverage strategic asset seeking motives by:
 - a) reinforcing national and regional technological capabilities;
 - b) supporting the development of ‘institutional bridges’ able to facilitate EMNEs in their understanding of ‘soft’ innovation driver;
 - Leverage functional and sectorial agglomerations by:
 - Careful diagnosis of the national and regional economies + Information;
 - Coordination between national and regional levels.

Future Research

- Exploiting a new database (EMENDATA):
 - greenfield investments and M&As;
 - Unit of analysis: the **investing firm** therefore taking into account of the whole complexity of the internationalization strategy (multiple investments in the same and/or in different countries/regions).

Thank you

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Empirical results: Location Drivers of MNEs in the EU regions

	(1)	(2)	(3)	(4)
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Total # of existing investments	-0.000113 (0.000182)	-0.000328* (0.000198)	0.000254 (0.000478)	0.00205 (0.00131)
IV Parameters				
Austria	0.0674*** (0.0080)	0.0592*** (0.0088)	0.0851*** (0.0187)	0.133** (0.0667)
Belgium	0.132*** (0.0178)	0.101*** (0.0154)	0.311*** (0.0895)	0.358 (0.243)
CzechRep	0.122*** (0.0144)	0.104*** (0.0131)	0.216*** (0.0518)	0.470 (0.344)
Germany	0.225*** (0.0273)	0.135*** (0.0165)	0.498*** (0.0460)	0.717*** (0.129)
Spain	0.150*** (0.0109)	0.131*** (0.0117)	0.283*** (0.0420)	0.245** (0.0971)
Finland	0.0431*** (0.0086)	0.0313*** (0.0075)	-0.547*** (0.176)	-0.586 (0.359)
France	0.382*** (0.0180)	0.351*** (0.0202)	0.505*** (0.0347)	0.269*** (0.0735)
Greece	0.0599*** (0.0095)	0.0582*** (0.0105)	0.0619*** (0.0201)	0.00211 (104.7)
Hungary	0.197*** (0.0192)	0.184*** (0.0200)	0.152*** (0.0278)	0.264 (0.167)
Italy	0.163*** (0.0127)	0.146*** (0.0139)	0.253*** (0.0351)	0.330* (0.187)
Netherlands	0.113*** (0.0115)	0.0800*** (0.0109)	0.171*** (0.0313)	0.319 (0.258)
Poland	0.146*** (0.0172)	0.222 (0)	0.177*** (0.0402)	0.188 (0.122)
Portugal	0.0864*** (0.0134)	0.0927*** (0.0176)	0.116*** (0.0318)	0.747* (0.420)
Slovakia	0.138*** (0.0217)	0.136*** (0.0263)	0.183*** (0.0635)	0.376 (0.581)
UK	0.666*** (0.0154)	0.516*** (0.0189)	0.902*** (0.0267)	0.791*** (0.0932)
Log likelihood	-18413,131	-11657,179	-5777,207	-802,53648
LR Test (IIA)	1057.17***	566.12***	441.48***	76.08***
Observations	571,740	349,085	195,249	27,406

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

* p<0.1

‘Social Filter’ Index (Crescenzi et al., 2007, 2012; Crescenzi and Rodriguez-Pose, 2011)

- SF is an indicator based on the **structural pre-conditions** to establish fully functional **regional systems of innovation** and **socio-institutional conditions** favorable to the embeddedness of economic activities;
- SF includes two major domains combined through principal component analysis:
 - educational achievements;
 - productive employment of human resources;
- These two domains, combined simultaneously with Principal Component Analysis, generate a **socio-economic profile** that make some regions **prone** and others **averse to innovation**.



The 'Social Filter' combines, by means of Principal Component Analysis

- % employed people with tertiary education level
- % population with tertiary education level
- Agricultural employment as % of total employment
- Long term unemployed as % of total unemployment.
- People aged 15-24 as % of total population

Dissimilarity Parameters: regions vs country factors (NON MAN)

Table 4 - Location of MNCs in the EU regions by area of origin: excluding manufacturing activities

	(1)	(2)	(3)	(4)	(5)
IV Parameters	ALL	EU	North America	EME	EME2
Austria	0.138*** (0.0154)	0.0849*** (0.0212)	0.0923*** (0.0226)	0.242 (0.219)	0.182* (0.109)
Belgium	0.453*** (0.0723)	0.105*** (0.0315)	0.401*** (0.107)	0.459 (0.465)	0.624 (0.390)
CzechRep	0.117*** (0.0137)	0.0676*** (0.00977)	0.144*** (0.0356)	0.179* (0.104)	0.376 (0.232)
Germany	0.271*** (0.0372)	0.168*** (0.0257)	0.416*** (0.0586)	0.847*** (0.102)	0.750*** (0.144)
Spain	0.165*** (0.0122)	0.131*** (0.0156)	0.201*** (0.0253)	0.344* (0.177)	0.331** (0.148)
Finland	0.0437*** (0.00619)	0.0404*** (0.00984)	-0.362*** (0.129)	-1.341 (0.900)	0.00544 (0)
France	0.456*** (0.0247)	0.366*** (0.0283)	0.481*** (0.0378)	0.346*** (0.0948)	0.326*** (0.0786)
Greece	0.245 (0.176)	0.0596*** (0.0120)	0.0689*** (0.0236)	0.00336 (0)	0.00304 (0)
Hungary	0.0803*** (0.0131)	0.0696*** (0.0245)	0.0527* (0.0289)	-1.484 (1.559)	-1.598 (1.782)
Italy	0.206*** (0.0174)	0.158*** (0.0187)	0.239*** (0.0336)	0.318** (0.124)	0.468 (0.354)
Netherlands	0.135*** (0.0146)	0.133*** (0.0300)	0.274** (0.138)	0.461** (0.207)	0.487*** (0.181)
Poland	0.0898*** (0.0104)	0.0623*** (0.0108)	0.0731*** (0.0129)	0.136** (0.0545)	0.279 (0)
Portugal	0.0741*** (0.0103)	0.0904*** (0.0264)	0.0834*** (0.0274)	0.0547 (0.110)	0.00681 (0.0432)
Slovakia	0.0786*** (0.0137)	0.0683*** (0.0173)	0.0807* (0.0426)	0.0905 (0)	0.311 (0.331)
UK	0.811*** (0.0203)	0.588*** (0.0245)	0.930*** (0.0351)	0.921*** (0.114)	0.921*** (0.0932)
Log likelihood	-11779,971	-6770,0524	-4189,4893	-624,63652	-654.5
LR Test (IIA)	701.61***	484.31***	370.45***	61.95***	64.71***
Observations	379,377	207,789	149,303	22,285	23,362

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1