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

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Location Decisions of MNEs: Clusters, Markets, or Cities?
Copenhagen 11-12 may 2015

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Motivation

- Outflows of FDIs 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 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

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

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

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*	**-2.81e-06*** **	**6.44e-06*** **	**1.73e-05** **
	(7.12e-07)	(7.47e-07)	(2.40e-06)	(8.43e-06)
Patents per capita	0.000208***	**.52e-05*** **	**0.000408*** **	0.000811
	(3.47e-05)	(0e-05)	(9.64e-05)	(0.000659)
Social filter	0.00800	**6.[illegible]3*** **	0.0211	0.0163
	(0.00503)	(0.00509)	(0.0179)	(0.0816)
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	(0.000182)	(0.000198)	(0.000478)	(0.00131)
IV Parameters				

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**

	(1)	(2)	(3)	(4)
VARIABLES	**ALL**	**EU**	**North America**	**EME**
Regional per capita GDP	-1.24e-06*	**-2.81e-06*** **	**6.44e-06*** **	**1.73e-05** **
	(7.12e-07)	(7.47e-07)	(2.40e-06)	(8.43e-06)
Patents per capita	0.000208***	**9.52e-05*** **	**0.000408*** **	0.000811
	(3.47e-05)	(3.40e-05)	(9.64e-05)	(0.000659)
Social filter	0.00800	**0.0143*** **	0.0211	0.0163
	(0.00503)	(0.00509)	(0.0179)	(0.0816)
Regional unemployment	0.000646	0.000976	-0.00340	-0.00404
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Total # of investments same VC STAGE	**0.00537*** **	**0.00484*** **	**0.00817*** **	**0.00751*** **
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IV Parameters				

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**

	(1)		(2)		(3)		(4)	
VARIABLES	**ALL**		**EU**		**North America**		**EME**	
Regional per capita GDP	4.92e-06***		-1.17e-06		8.[illegible]06***		1.94e-05	
	(1.27e-06)		(8.97e-07)		(2.58e-[illegible]		(1.63e-05)	
Patents per capita	**0.000401*** **		**0.000217*** **		**0.000639*** **		**0.00105** **	
	(6.02e-05)		(6.73e-05)		(0.000307)		(0.000531)	
Social filter	0.0326***		**0.0104***		0.00452		-0.0183	
	(0.00972)		(0.00584)		(0.0168)		(0.0676)	
Regional unemployment	0.00712***		0.000307		0.00170		0.00360	
	(0.00138)		(0.00107)		(0.00318)		(0.0171)	
Total # of investments same VC STAGE	**0.00520*** **		**0.00390*** **		**0.00817*** **		**0.00862*** **	
	(0.000365)		(0.000408)		(0.000713)		(0.00224)	
Total # of investments same SECTOR	**0.00981*** **		**0.0108*** **		**0.00935*** **		0.00421	
	(0.000658)		(0.000858)		(0.00106)		(0.00332)	
Total # of existing investments	0.00155***		0.000268		0.000627		0.00225	
	(0.000348)		(0.000320)		(0.000514)		(0.00178)	
IV Parameters								
Austria	0.138***	(0.0154)	0.0849***	(0.0212)	0.0923***	(0.0226	0.242	(0.219)
Belgium	**0.452*** **	**(0.0723)**	**0.195*** **	**(0.0315)**	**0.401*** **	**(0.107)**	0.459	(0.465)

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*	**-2.81e-06*** **	**6.44e-06*** **	**1.73e-05** **
	(7.12e-07)	(7.47e-07)	(2.40e-06)	(8.43e-06)
Patents per capita	0.000208***	**9.52e-05*** **	**0.000408*** **	0.000811
	(3.47e-05)	(3.40e-05)	(9.64e-05)	(0.000659)
Social filter	0.00800	**.0143*** **	0.0211	0.0163
	(0.00503)	0509)	(0.0179)	(0.0816)
Regional unemployment	0.000646	0.000976	-0.00340	-0.00404
	(0.000976)	(0.00104)	(0.00314)	(0.0192)
Total # of investments same VC STAGE	**0.00537*** **	**0.00484*** **	**0.00817*** **	**0.00751*** **
	(0.000381)	(0.000385)	(0.000770)	(0.00189)
Total # of investments same SECTOR	**0.0142*** **	**0.0140*** **	**0.0117*** **	**0.00764** **
	(0.000574)	(0.000813)	(0.00106)	(0.00326)
Total # of existing investments	-0.000113	**-0.000328***	0.000254	0.00205
	(0.000182)	(0.000198)	(0.000478)	(0.00131)
IV Parameters				

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