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Building up Innovation Capabilities in Emerging Countries: The Role of Outward Foreign Direct Investments

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Outline

- A new geography of innovation?
- The role played by **Emerging Market Multinational Enterprises (EMNEs)**:
 - Some insights from the literature;
 - Findings from my own research;
- Concluding remarks.

A new geography of innovation?

- **Production capabilities: YES!**
- **Innovation capabilities? The empirical evidence is unresolved:**
 - ① **The impressed:** new emerging technological powers;
 - ② **The unimpressed:** many deficiencies and data unreliability;
 - ③ **The undecided:** some improvements but many remaining problems and high uncertainty about future prospects.

Multinationals are undoubtedly the most important actors in the worldwide cross-border creation of new technical knowledge

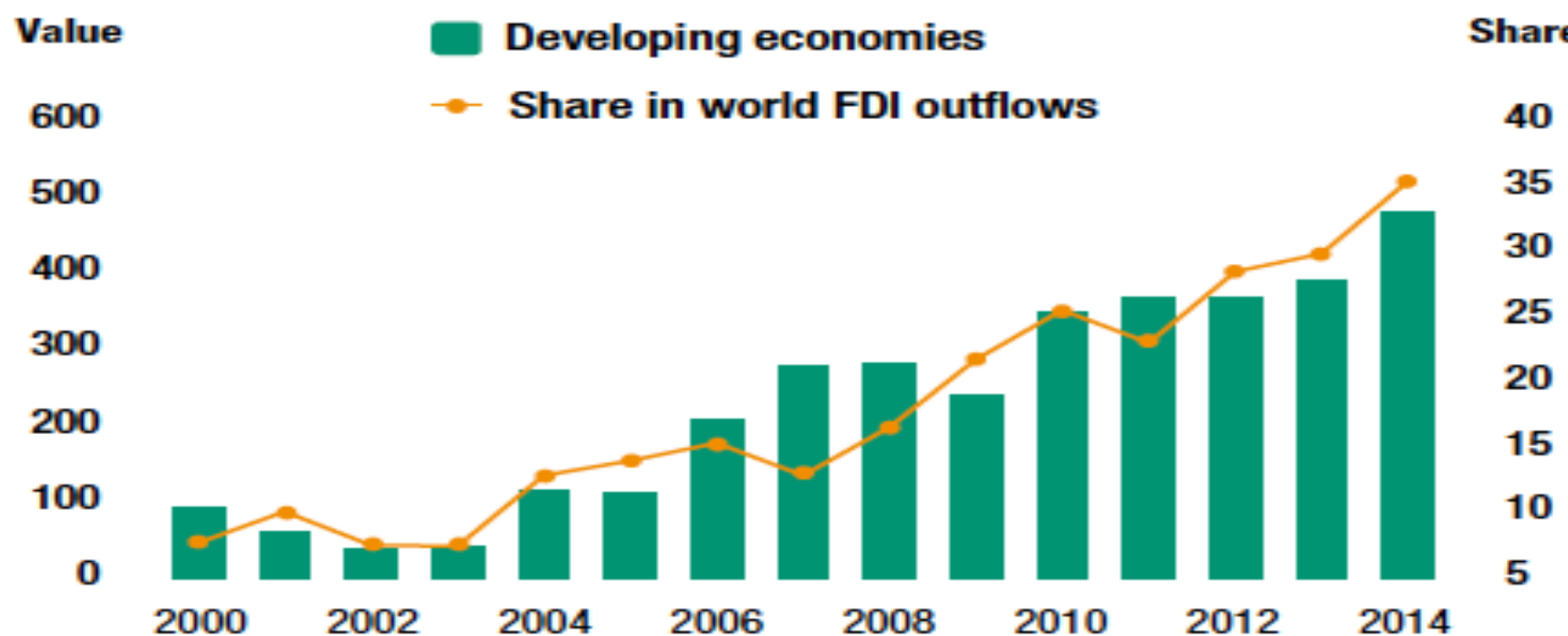
(Iammarino & McCann, 2013)

- **Advanced Country Multinational Enterprises (AMNEs)** have increasingly offshored R&D to emerging countries (Athreye & Cantwell, 2007; Iammarino & McCann, 2013; Fu et al, 2011; Reddy, 2011; Santangelo, 2005);
- **Emerging Market Multinational Enterprises (EMNEs)** have attracted more limited attention with respect to their role in building innovation capabilities through their foreign investments in advanced countries.

Figure 1.5.

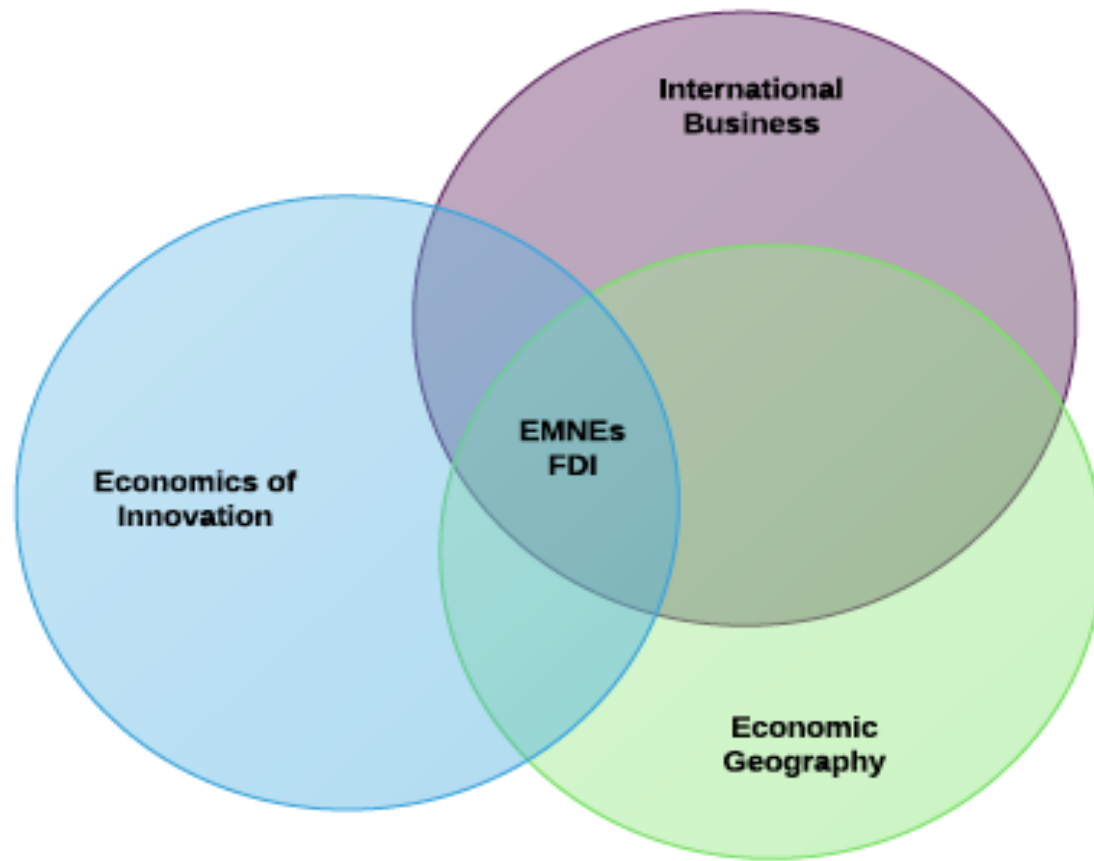
Developing economies: FDI outflows and their share in total world outflows, 2000–2014

(Billions of dollars and per cent)



Source: UNCTAD, FDI/MNE database (www.unctad.org/fdistatistics).

Note: Excludes Caribbean offshore financial centres.



INTERNATIONALIZATION STRATEGIES & INTERNAL ORGANIZATIONAL PROCESSES

MECHANISMS OF LEARNING, CAPACITY BUILDING AND INNOVATION

THE LOCATION AND AGGLOMERATION ISSUES AND THE SPATIAL DIMENSION OF THE KNOWLEDGE LINKAGES

Strategic Asset Seeking (SAS) FDI

- Acquisition of strategic intangible assets for catching up with the incumbent global leaders in the long run (Meyer, 2015);
- Exploration (rather than exploitation) investments aimed at enhancing capabilities for improving long-term global competitiveness (Dunning, 1993);
- Acquisitions in advanced countries.

Stylized facts about EMNEs SAS FDI (I)

- ① Production vs. Innovation Capabilities (Awate et al, 2015);**
- ② Reverse Knowledge Transfer (Awate et al, 2012; Andersen et al, 2015);**
- ③ Innovation catch up is hard and slow: close negotiation, **resistance and barriers** to knowledge transfer in the acquired companies (Hansen et al, 2014);**

Stylized facts about EMNEs SAS FDI (2)

- ④ Light touch approach** (Piscitello et al, 2015);
- ⑤ EMNEs do also enter into key innovative hubs,** establishing linkages with local suppliers and other relevant knowledge actors (e.g. universities) (Beugelsdijk and Mudambi 2013; Iammarino and McCann 2013);
- ⑥ Strong knowledge bases and absorptive capacity** can help in the assimilation and integration of the new acquired knowledge and in bridging distant technological contexts (Wu et al, 2015).

Regional strategic assets and the location strategies of Emerging Countries' Multinationals in Europe



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Research questions

- ① What are the characteristics of the destination areas that matter the most for EMNEs SAS investments?**
- ② Are EMNEs local attraction factors and spatial behaviours different from the location drivers of AMNEs investments?**

Empirical Setting

- Greenfield investments (2003 to 2008) from the entire world into the EU25 NUTSI/2 regions (22,065 deals; Source: fDi Markets);
- Classification in 18 functions, aggregated in two categories manufacturing investments and more knowledge intensive investments, including headquarters, R&D, design;
- Nested Logit Model testing the probability of a certain region to be chosen as a destination of a foreign investment.

Location drivers

① Regional innovation dimension:

- a) Patent Intensity to capture the extent to which EMNEs expect to benefit from localised knowledge spillovers from indigenous firms (McCann and Mudambi, 2005);
- b) Social filter: to capture the existence of socio-economic conditions favourable to innovation measuring the “soft” features of the regional innovation systems (Crescenzi et al, 2007 and 2012);

② Established patterns of regional agglomeration of FDI:

- a) Total pre-existing FDIs;
- b) Total FDIs in the same sector;
- c) Total FDIs in the same function.

Table 4 – The location drivers of MNEs in the EU regions: A summary

| SAS investments | | ORIGIN | | |
|-----------------|--------------------------------|--------|-----------------|---|
| | | EU-25 | NA | EE |
| Innovation | | | | |
| | • Hard drivers (patents) | (+) | (+) | (+) Only for KNOWLEDGE INTENSIVE FDI |
| | • Soft drivers (Social Filter) | (+) | (+) | Not significant |
| Agglomeration | | | | |
| | • # FDI | (-) | Not significant | Not significant |
| | • Same Function | (+) | (+) | (+) |
| | • Same Sector | (+) | (+) | (+) Only for MANUFACTURING FDI |

Conclusions

- EMNEs seek technological competences (i.e. patent intensity) only when investing in more knowledge intensive functions;
- Technological and cognitive gaps still prevent EMNEs to directly capture the potential asset seeking advantages generated by innovation prone regional environments (i.e. the Social Filter);
- The imitation of the location choices of other 'selected' (in functional and sectorial terms) foreign investments offers a **more easily intelligible indication of the availability of specialized pools of strategic assets** than soft innovation factors.

EMERGING MARKET MULTINATIONALS INVESTING IN THE NORTH: ASSESSING IMPACTS ON INNOVATION (work in progress)



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Research question

- **RQ: Do EMNEs benefit – in terms of their innovative output – from their acquisitions in advanced countries?**
- **Focus on medium high-tech acquisitions (Sources: Zephyr and SDC Platinum) of EU27, Japanese and US companies (466 deals) made by 301 Chinese and Indian multinationals in the period 2003-2011.**

Conceptual framework

- EMNEs face a **liability of emergingness** (LOE) which endanger their capacity to benefit from their acquisitions:
 - The **more innovative acquired firms** perceive a stronger distance from their acquiring companies and they are likely **to resist more to EMNEs sourcing of knowledge**;
 - In the **more innovative regions** the EMNEs opportunity to tap into the local knowledge is affected by a possible **discontinuation of the pre-existing networks**;
- A **strong knowledge base** moderates LOE: direct impact and signaling role.

Dependent and Independent Variables

- **EMNE_INNOVATIVE_OUTPUT**: # of patent families (INPADOC – International Patent Documentation) filed by the acquirer in the **3 years after the acquisition** (control with USPTO).
- **TARGET_INNO**: # of patent families filed by the acquired company in the **5 years before the acquisition**;
- **REGIONAL_INNO**: log of cumulative number of per capita patent applications in the **5 years before the acquisition** in the TL2 (e.g. NUTS2) regions where the acquired firms are located;
- **ACQUIRER_KNOW_BASE** # of patent families of the acquiring EMNE filed **in the 5 years before the acquisition** augmented with the number of their citations.

The moderating effect of the EMNE knowledge base

- **TARGET_INNO** is negative and significant therefore *‘the more innovative the acquired firm, the less innovative is the acquiring EMNE after the deal’*;
- The interaction effects
 - **ACQUIRER_KNOW_BASE*TARGET_INNO**
 - **ACQUIRER_KNOW_BASE*REGIONAL_INNO**are positive and significant confirming the moderating role on LOE of the EMNE knowledge base.

General takeaways

- EMNEs pre-deal knowledge base conditions the capacity to benefit from the acquisitions of innovative target firms
 - Which other firm characteristics influence EMNEs capacity to acquire knowledge through SAS FDI?
- LOE creates barriers to knowledge transfers:
 - Which are the sources of spatial stickiness of knowledge in the relations between EMNEs and the acquired firms? Between EMNEs and other local actors?
 - How do the presence of EMNEs affect knowledge flows (e.g. density, trust, cooperation) in local innovative hubs? Are EMNES just sourcing knowledge or do they somehow nurture the local system?
- Patents only capture one of the several dimensions of innovation:
 - What strategies EMNEs do adopt to appropriate tacit knowledge? How is tacit knowledge transferred within EMNEs?

Thank you

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| | <i>Only controls</i> | | <i>Controls+indep. variables</i> | | | <i>Interactions</i> | |
|--------------------|-----------------------|------------------------|----------------------------------|------------------------|------------------------|------------------------|------------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| CHINA | 1.8317*** (0.1391) | 1.8365*** (0.1454) | 1.8982*** (0.1619) | 1.9055*** (0.1678) | 2.2399*** (0.6049) | 2.2753*** (0.5890) | 2.3133*** (0.6777) |
| JP | -1.1883** (0.4146) | -0.9747* (0.4551) | -1.1069** (0.4270) | -0.8932* (0.4508) | -0.4629 (0.3610) | -0.4256 (0.4097) | -0.4507 (0.3924) |
| US | -0.0756 (0.5768) | -0.0806 (0.5869) | 0.0097 (0.5963) | 0.0103 (0.6057) | 0.1752 (0.2148) | 0.1193 (0.2509) | 0.1246 (0.2282) |
| TOT_EXP | 0.2573*** (0.0301) | 0.2522*** (0.0299) | 0.2569*** (0.0364) | 0.2515*** (0.0360) | 0.0529* (0.0248) | 0.0734*** (0.0173) | 0.0735* (0.0298) |
| INSTITUTIONAL_DIST | -0.0466 (0.0297) | -0.0468 (0.0303) | -0.0456 (0.0358) | -0.0463 (0.0364) | -0.0244*** (0.0023) | -0.0272*** (0.0023) | -0.0194*** (0.0027) |
| HORIZONTAL_MA | 0.9806 (0.5664) | 1.0056 (0.5759) | 0.6611 (0.5579) | 0.6835 (0.5654) | 0.8023* (0.3427) | 0.8088* (0.3516) | 0.8730** (0.3282) |
| NO_BIG_ACQ | -2.9471** (0.9592) | -2.9485** (0.9694) | -2.9606** (0.9582) | -2.9642** (0.9698) | -2.9650** (0.9432) | -2.9489** (0.9538) | -2.9417** (0.9705) |
| TARGET_INNO | | -0.0337*** (0.0062) | | -0.0352*** (0.0087) | -0.0200*** (0.0037) | -0.0405*** (0.0058) | -0.0167*** (0.0025) |
| REGIONAL_INNO | | | -0.0423 (0.0322) | -0.0344 (0.0334) | -0.0163 (0.0369) | -0.0179 (0.0407) | -0.0825** (0.0307) |
| ACQUIRER_KNOW_BASE | | | | | 0.0030*** (0.0003) | 0.0030*** (0.0003) | -0.0047 (0.0027) |
| ACQUIRER*TARGET | | | | | | 0.0002*** (0.0000) | |
| ACQUIRER*REGIONAL | | | | | | | 0.0010** (0.0004) |
| YEAR DUMMY | YES | YES | YES | YES | YES | YES | YES |
| OBSERVATIONS | 428 | 428 | 414 | 414 | 414 | 414 | 414 |
| LOG LIKELIHOOD | -9.0e+03 | -9.0e+03 | -8.8e+03 | -8.8e+03 | -5.8e+03 | -5.7e+03 | -5.4e+03 |

The moderating effect of the EMNE knowledge base

