

# MNEs and their effects on host economies

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# Concepts we have discussed (on *determinants* of FDI)

- Two way links between innovation and FDI
- Ex ante advantages and FDI
- Ex post advantages and FDI
- Asset exploiting (AE), Asset seeking (AS), Asset augmenting (AA) FDI

# Main results

- Technology as an important driver of FDI, more important than market drivers
- Among technological drivers, we need to distinguish **AS** Seeking (Technology sourcing), **AE** Exploiting and **AA** Augmenting strategies
- The importance of FDI strategies is affected by the nature of foreign investors and of local firms. Le Bas and Sierra's data refer to the most dynamic firms (sample bias) → **AS** and **AA** prevail
- **AA** identify a win-win strategy, that is more likely when high profile MNEs locate in centers of excellence
- **AA**, **AS**, and **AE** strategies co-exist
- Implications of the co-existence of **AA**, **AS**, and **AE** FDI on:
  - Changing organisation of MNEs innovative activities
  - MNEs as bridging institutions
  - MNEs' heterogeneity
  - Changing role of MNEs in global value chains

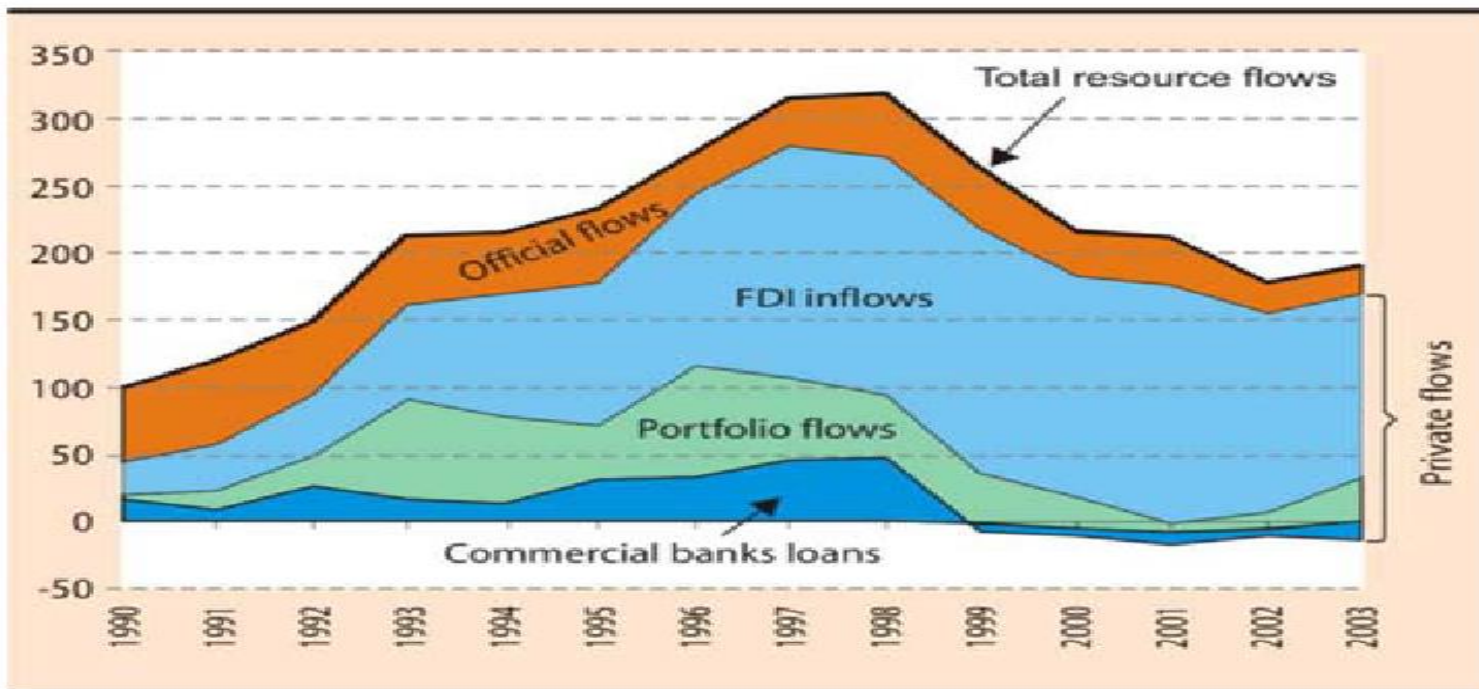
# To be done: on the *effects* of FDI on host economies

- How can we conceptualise the effects of MNEs on host economies
- Macro and micro effects
- Direct and indirect effects
- How are types of FDI and types of MNEs shaping the effects on host economies
  - How do asset seeking, asset exploiting and asset augmenting FDI affect host economies
  - How do MNEs differ in terms of their effects on host economies?

# Macroeconomic effects of inward FDI

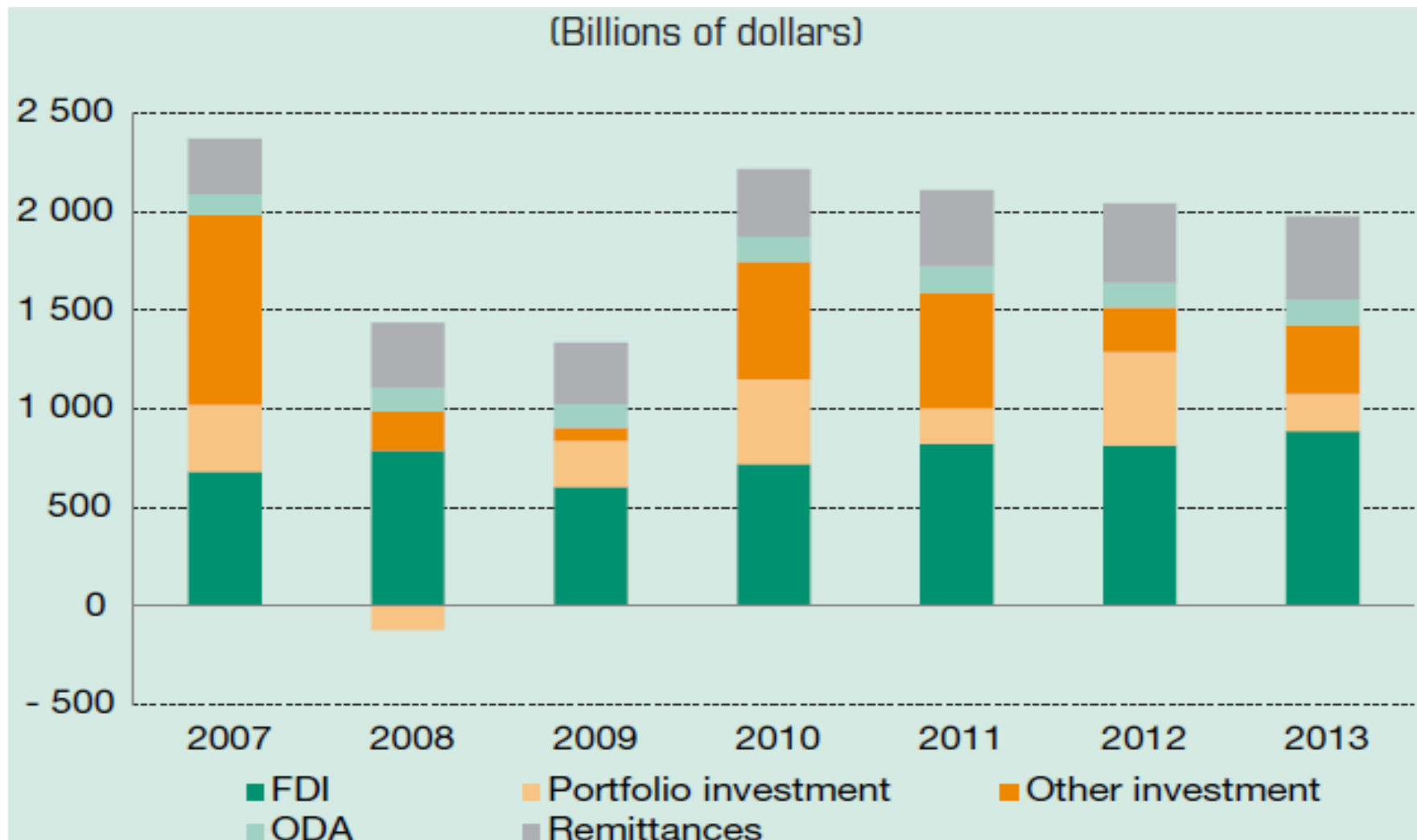
- Savings, investments and current account
  - FDI can substitute for domestic savings (especially in poorer countries)

**Figure 1.3. Total resource flows<sup>a</sup> to developing countries,<sup>b</sup> by type of flow, 1990-2003**  
(Billions of dollars)



Source: UNCTAD, based on World Bank 2004a.

The importance of FDI as financial resources has increased as other sources have shrunk in the years of crisis



## Macroeconomic effects of FDI (cont.ed)

- However FDIs may crowd domestic investments out by contributing to raise interest rates (if funded locally) and exchange rates
- They may contribute to national exports (both directly and indirectly)
- Employment effects depend on
  - The direction of FDI flows
  - Types of activities considered
  - Ex ante competitive conditions (need of a counterfactual analysis)

# Microeconomic *direct* (compositional) effects

## ▶ Between-sectors

- ▶ MNF are not uniformly distributed across sectors, thus they can contribute to modify the structural composition of the economy (usually towards relatively more knowledge (or intangible capital) intensive industries)

## ▶ Within-sectors

- ▶ MNFs are larger, more productive, more innovative, pay higher wages than other firms (even in the same sectors)
- ➔ MNFs can raise economic performance of the host country by bringing a bundle of assets
- ➔ But they can also bring indirect effects inducing exit of other firms or improving (worsening) performance of other local firms



# Microeconomic **Indirect** Effects of FDI

- MNEs may affect host economies indirectly, i.e. *through the behaviour and performance of local firms and institutions*
- This is the case of MNE spillovers (also called externalities)
- externalities = Indirect effects on local economy via costs and performances of local firms
  - Not paid for advantages: examples of pure externalities
  - Knowledge vs. pecuniary externalities: effects via production functions and via profit functions

# Indirect microeconomic effects of FDIs

- Channels through which externalities may occur
  - Procompetitive and anticompetitive pressures
  - Imitation and demonstration
  - Voluntary technology transfer
  - Labour market externalities
  - Backward and forward linkages

## Indirect microeconomic effects of FDI

- Efficiency enhancing competition effect
  - MNEs can overcome entry barriers and induce more competition → Induce domestic firms to greater efficiency
  - MNEs entering upstream industries (e.g. services) may sell inputs at lower prices (see also forward linkages)
- Anticompetitive pressures
  - MNEs may monopolize markets (thus prices may raise) or bid up on input prices
  - MNEs may induce higher wages: (i) induced scarcity of labor, (ii) skill composition, (iii) risk premium (iv) training e knowledge dissipation, (v) information asimmetries

# Indirect microeconomic effects of FDIs

- Imitation/demonstration
  - Local firms may imitate and demonstrate MNFs technological and managerial practices
- Labour mobility
  - MNFs train their workers which may eventually move to local firms or create his/her own firm (spin-off)

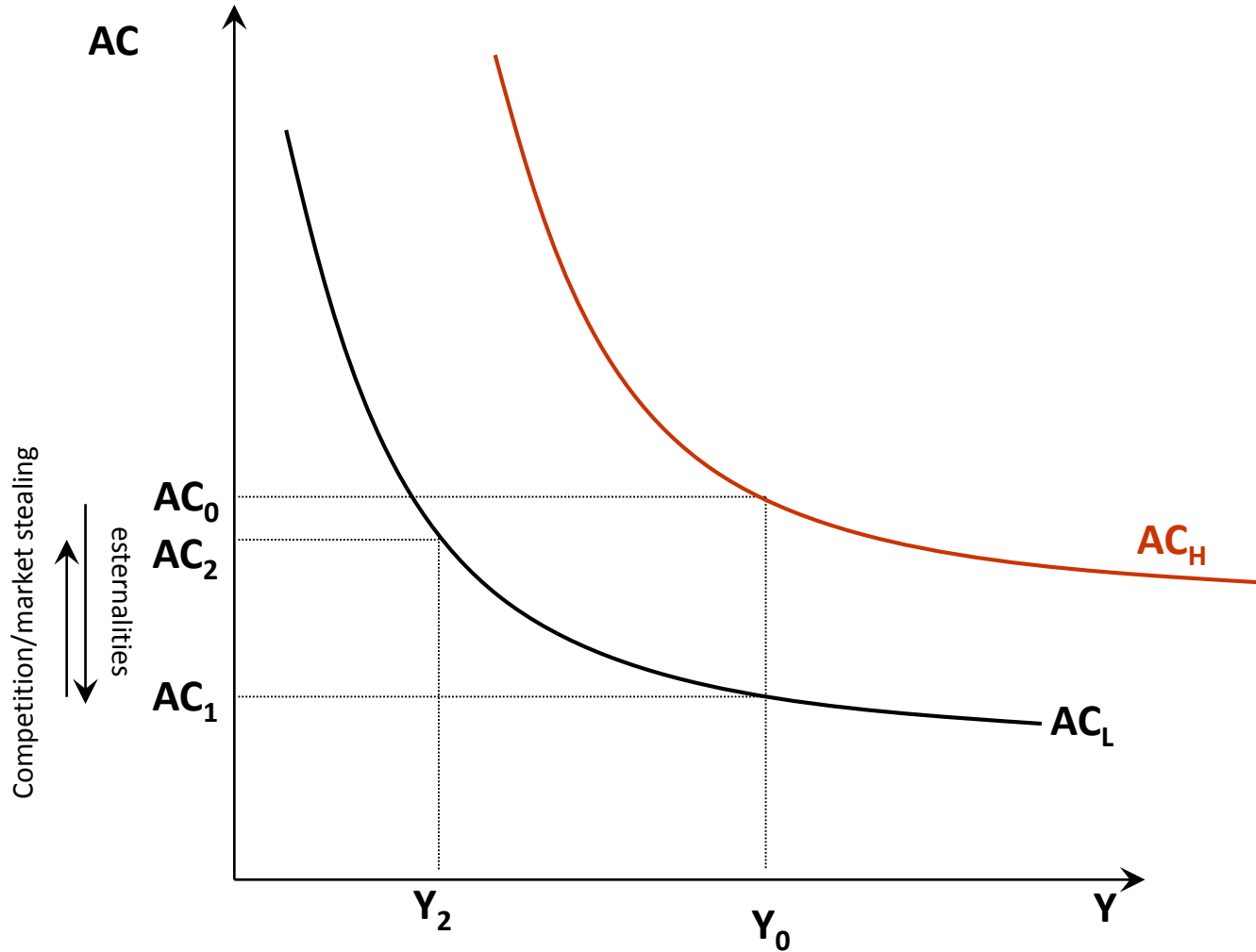
# Indirect microeconomic effects of FDIs

- ▶ Backward e forward linkages
  - ▶ MNFs need inputs both upstream and downstream
  - ▶ If they use local inputs, they contribute to create/enlarge the local market, and this induces incentives to local and foreign firms to enter those productions
    - ▶ This will most likely drive the price/quality down, thus creating a pecuniary externality to all firms (foreign and local) using those inputs (horizontal effect)
  - ▶ Within those relations MNFs may transfer knowledge (both on technology and management), which may increase their performance (vertical knowledge externality)
    - ▶ Knowledge may range from (i) information on markets, which make exports easier (ii) technical assistance on design, organization of production and quality (iii) assistance on purchases
  - ▶ Links with Universities and research centers are a particular type of those linkages

## Other microeconomic effects of FDIs

- Anti-competitive effects via market stealing are conceptually different from efficiency enhancing competitive pressures
  - MNEs' monopolising strategies do not depend on the behaviour of local firms, but
  - They do impact on efficiency conditions of local firms as their market shrinks

# Market stealing vs. externality effects



# However: MNE “effects” are themselves costly

- It may be misleading to identify the effects of multinational presence with the mere concept of externalities
- Externalities by definition entail the idea of “not paid for” advantages stemming to one or more actors from somebody else’s activity
- The analysis of negative or positive effects of multinational presence on local economies does imply a consideration of costs that are paid for by local actors, including firms and other institutions
- The idea that MNE effects are a costly affair is only partially captured by the concept of absorptive capacity which is often used in combination with externalities.
- However, there is a logical inconsistency between the two concepts: if externalities are not paid for, why should one need absorptive capacity to gain from foreign presence?



# Different channels, different costs

Extra costs that firms and institutions have to bear to benefit from MNE presence will vary significantly according to the different channels through which externalities are expected to occur

<b>Types of ext. Channels</b>	<b><i>Pecuniary Externality</i></b>	<b><i>Knowledge Externality</i></b>	<b><i>Local firm effort</i></b>
<b><i>Competition</i></b>	***	*	**
<b><i>Imitation/Demonstration</i></b>	*	***	*
<b><i>Labour Mobility</i></b>	***	**	*
<b><i>Linkages</i></b>	***	***	***

## More on the spillover story

- The quality of investors, of local firms and of local institutions matter (Cantwell 1989; Castellani et al. 2015)
- MNEs differ in terms of their linkage creation depending on:
  - What is the motivation of FDIs: Asset augmenting FDIs are more likely to generate spillovers
  - How extensive their internal and external networks are
  - How endowed they are with knowledge assets → spillover potential and absorptive capacity
  - How experienced of local contexts they are
- MNEs may be *less* prone to spill overs than domestic firms as they lack experience of local contexts and might be worse off at *local* linkage creation (Cozza, Perani and Zanfei 2016)

# Are MNEs better at linkage creation?

- The relative advantages/disadvantages of MNEs at linkage creation depends on a fundamental trade off.
  - MNEs are more prone to technical linkages because they have greater “technological advantages”, and benefit from higher “economies of common governance”, as compared to non-multinational firms.

*However*

- MNEs may face substantial costs to comply with technical, institutional and competitive conditions that are largely unfamiliar and location specific (“liability of foreignness”).

# MNEs' advantages at linkage creation

- MNEs are large R&D spenders, they conduct a substantial share of their R&D in host locations, and generally carry out more R&D than local counterparts (Unctad 2005, Dachs 2014)
- R&D effort signal the existence of a **superior technology** (Hymer 1960, Dunning 1977) that can be exploited through linkages and is a good proxy of **absorptive capacity** favouring access to external knowledge sources (Cohen&Levinthal 1989, Duchek 2013)
- Higher internal R&D expenditure and quality will shift the balance between incoming and outgoing spillovers from cooperation (De Bondt&Veugelers 1991, Cassiman et al. 2002, Spithoven&Teirlinck 2015)

→ *Hypothesis 1: R&D expenditures positively affect the relative propensity of MNEs to set up technical linkages with local firms and institutions*

# MNEs' advantages at linkage creation

- MNEs have relatively greater abilities to coordinate activities in, and learn from, heterogeneous contexts (*economies of common governance*, Dunning 1993)
- These advantages are associated with the intensity and, even more, with the geographic spread of internal and external MNEs' networks (Ietto-Gillies 1998, Zanfei 2000, Castellani and Zanfei 2007)
- Economies of common governance may be outbalanced by *coordination costs* (Teece 1977) and by *bandwidth scarcity* (Narula 2014) which increase more with network spread than with network intensity

→ **Hypothesis 2:** *MNEs propensity at linkage creation is affected by the balance between their abilities to govern, and learn from, cross-border activities, and their coordination and communication costs deriving from the intensity and spread of their cross-border activities.*

# MNEs' disadvantages at linkage creation

- MNEs may have a limited familiarity with local contexts and face higher costs at linkage creation
- Unfamiliarity increases with distance (of all kinds) and decreases with age.
- MNEs will differ in this respect, with unfamiliarity being highest for new entrants from distant counties and lowest for domestic owned MNEs
- Liabilities of foreignness reflect
  - Higher degrees of “behavioural uncertainty” due to low experience of local contexts (Robertson&Gatignon 1998, Castellani&Zanfei 2004, Perri et al. 2013)
  - Higher inertial forces when setting up relations with a new innovation system (Narula 2003, Carlsson 2006)
  - Shortage of local partners (Cantwell&Mudambi 2011) and asymmetries of incentives (Do Couto et al 2013)
  - Lower headquarter proximity as compared to domestic MNEs (Agraval et al. 2006, Hebersberger et. Al. 2011)

→ **Hypothesis 3:** Subsidiaries of foreign MNEs exhibit a relative disadvantage in the creation of local technical linkage as compared to affiliates of domestic MNEs

# How firms differ in terms of local linkage creation

	NMN	DMN	FMN
Number of observations	23,129	5,146	2,897
Number of firms <sup>15</sup>	8,748	1,465	829
Size (average number of firm employees)	129.35	839.90	667.64
Average Intra-muros R&D expenditure per firm (in thousand euro)	1062.38	5025.83	6861.48
ATFP	6.82	6.85	6.97
Average Extra-muros R&D expenditure per firm (in thousand euro)	235.61	1338.22	1010.13
Share of firms involved in R&D Cooperation	31%	46%	50%

# Controls

<i>Controls for firm categories</i>	
MN: dummy for “firm in a multinational group”	Istat-RS1 / Bureau Van <u>Dijk-Aida</u>
NMN: dummy for “non-multinational firms”	Istat-RS1 / Bureau Van <u>Dijk-Aida</u>
DMN: dummy for “firm in an Italian multinational group”	Istat-RS1 / Bureau Van <u>Dijk-Aida</u>
FMN: dummy for “subsidiary of a foreign multinational group”	Istat-RS1 / Bureau Van <u>Dijk-Aida</u>
<i>H1 – Measure of technological advantages</i>	
<u>IntraR&amp;D</u> : (Natural Log of) Intra- <u>muros</u> R&D expenditure	Istat-RS1
<i>H2 – Measures of Economies of Common Governance (Internationalisation<sup>12</sup> controls)</i>	
<u>NSi</u> : ratio of countries where the firm has subsidiaries on total countries where firms in the sample have subsidiaries	Bureau Van <u>Dijk-Aida</u>
li: ratio of foreign subsidiaries on total (including domestic) subsidiaries of MNEs	Bureau Van <u>Dijk-Aida</u>
<i>H3 – Measure of Experience of Local Context</i>	
<u>ITregions</u> : number of Italian regions where Intra- <u>muros</u> R&D is undertaken	Istat-RS1
<i>Other controls</i>	
Size: <u>Empln</u> , (natural log of) number of firm employees Full Time Equivalent	Istat-RS1
Age: (natural log of) number of years from firm establishment	Bureau Van <u>Dijk-Aida</u>
HQ: dummy for firms being the Headquarters	Istat-RS1
Sector: Hi-tech, medium-hi-tech, medium-low-tech, Low-tech, KIS, <u>L(ess)KIS</u> , Other	Istat-RS1
<u>Intcc</u> : Capital expenditures dummy for “Expenditure for machinery, equipment and software”	Istat-RS1
Approximate Total Factor Productivity <sup>13</sup>	Bureau Van <u>Dijk-Aida</u>
Time dummies	Istat-RS1



The propensity to R&D outsourcing to local firms and institutions (Extra-muros R&D expenditure). OLS pooled regressions with robust standard errors.  
Hypotheses 1 and 2

VARIABLES	(1)	(2)	(3)	(4)
		H1	H2	H1 & H2
MN	0.146***	0.084**	0.049	0.006
	(0.034)	(0.033)	(0.041)	(0.040)
<u>IntraR&amp;D</u>		0.248***		0.231***
		(0.012)		(0.012)
li			-0.348***	-0.288**
			(0.124)	(0.123)
<u>NSi</u>			9.261***	7.812***
			(0.956)	(0.944)
Constant	0.270*	-0.513***	0.456***	-0.302***
	(0.143)	(0.146)	(0.141)	(0.143)
Number of observations	31,172	31,172	31,172	31,172
R <sup>2</sup>	0.073	0.091	0.082	0.098

Size, age, capital expenditure, sector, productivity, headquarters controls and time dummies included

Robust standard errors in parentheses: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The propensity to R&D outsourcing to local firms and institutions (Extra-muros R&D expenditure). OLS pooled regressions with robust standard errors. Hyp 3

VARIABLES	(1)	(2)	(3)	(4)
MN	0.006 (0.040)			
DMN		0.234*** (0.063)	0.317*** (0.043)	0.210*** (0.062)
FMN		-0.130*** (0.047)	-0.094** (0.047)	-0.127*** (0.047)
<u>IntraR&amp;D</u>	0.231*** (0.012)	0.232*** (0.012)		0.204*** (0.012)
li	-0.288** (0.123)	-0.591*** (0.139)		-0.504*** (0.139)
<u>NSi</u>	7.812*** (0.944)	7.052*** (0.971)		6.751*** (0.967)
<u>ITregions</u>			0.364*** (0.030)	0.289*** (0.031)
Constant	-0.302*** (0.143)	-0.309** (0.143)	0.012 (0.146)	-0.444*** (0.146)
Number of observations	31,172	31,172	31,172	31,172
R <sup>2</sup>	0.098	0.099	0.088	0.107

Size, age, capital expenditure, sector, productivity, headquarters controls and time dummies included

Robust standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

# Conclusions

- MNEs may have direct and indirect effects on host economies
- Indirect effects are a combination of externalities and market stealing effects
- Linkages are among the most important channels through which knowledge (and pecuniary) externalities can be created
- MNEs propensity to linkage creation is associated to: (1) technological advantages; (2) economies/diseconomies of common governance; and to (3) the experience of local contexts
- *Overall, Italian MNEs show a substantial advantage in technical linkage creation vis-a-vis foreign MNEs*
- *But FMN are better at world linkages*
- *Hence attracting FMN does not per se favour technical linkages locally, but they are a key window to world technology*