Economics of European and International Integration

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What did we learn ?

- ▶ Space organization is not homogeneous
- ▶ Local unbalances are due to differences in economic environment that drive their attractiveness
- ▶ People and firm move

What are we learning today ?

▶ Some fundamentals about the movement of factors of production

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- ▶ Delocation of firms
- ▶ Some insights about their impact in the host countries

Fundamentals

- In a perfect competitive setting, the returns of each factor of production are expressed as follows:

$$w = P(MP_L) \implies \frac{w}{P} = MP_L$$
$$r = P(MP_K) \implies \frac{r}{P} = MP_K$$

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- *In an international setting with free movement of factors, each factor moves versus the location that guarantee higher returns.*
- *Higher returs associate with lower aboundance of factor(s) of production.*

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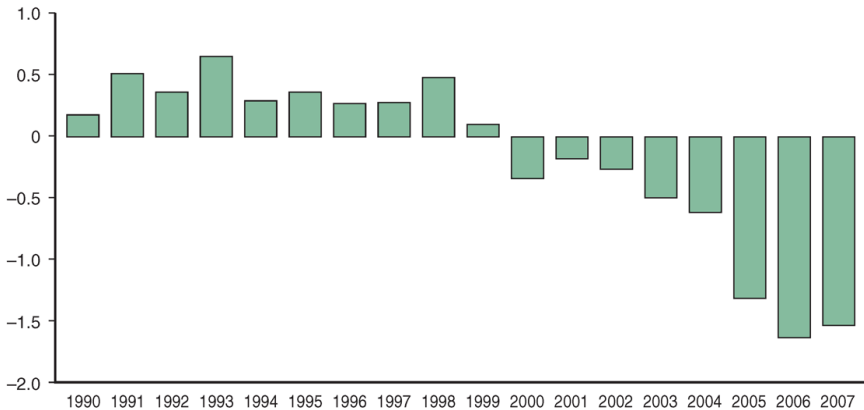- Therefore, capital should move from the most aboundant "areas" versus the less aboundant ones..
- .....but this is not true (no big movements in Sub-Saharian Africa)...why ?

Evidence

Flows of capital to developing countries as a % of GDP developed countries
(source: Krugman-Obstfeld)

Foreign direct investment (FDI)

- **Foreign direct investment** refers to investment in which a firm in one country *directly controls or owns* a subsidiary in another country.

- If a foreign company invests in at least 10% of the stock in a subsidiary, the two firms are typically classified as a **multinational corporation**.

  - 10% or more of ownership in stock is deemed to be sufficient for direct control of business operations.

  - In addition, international borrowing and lending sometimes occurs between a parent company and its subsidiary.

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- Helpman-Melitz-Yeats (2004) (see graph): productivity matters. Melitz-Redding (2012): more productive firms may export farther.

FDI

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2. The company prefers to replicate the production process elsewhere in the world (**horizontal FDI**).
3. **Internalization**: Why is production in different locations done by one firm rather than by separate firms?
4. Companies prefer to break up the production chain and to transfer parts of the production processes to the affiliate location (**vertical FDI**)

FDI

- Why production occurs in separate locations is often determined by

  ◆ the location of necessary factors of production:
    - mining occurs where minerals are;
    - labor intensive production occurs where relatively large numbers of workers live.

  ◆ transportation costs and other barriers to trade may also influence the location of production.

- These factors also influence the pattern of trade.

FDI

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- High density of skill workers ($\implies$ high wages)

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- This framework is known as the *knowledge-capital* model

The knowledge-capital model

The model relies on thee important properties:

A. Fragmentation: The location of knowledge-based assets may be fragmented from production.

B. Skilled-labor intensity: Knowledge-based assets are skilled-labor-intensive relative to final production.

C. Jointness: The services of knowledge-based assets are (at least partially) joint inputs into multiple production facilities.

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- Headquarters activities are more skilled-labor intensive than production plants.
- A plant alone is more skilled-labor intensive than the composite good Y sector
- The marginal costs (and trade costs) depend only on factor prices in the country of production and that they are independent of firm type.

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- *Type-h* multinationals will have higher fixed costs than either *type-d* or *type-v* firm from at least one country.

- *Type-h* multinationals will tend to dominate when total world income is high ($M_i + M_j$), when trade costs are relatively high (τ), and when two countries are relatively symmetric in both incomes ($M_i = M_j$) and in factor prices.

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2. Technological endowments or facilities
3. Human capital

Host country effects

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2. Trigger local development by boosting supply and increase employment (discussion cases of Ireland and Wales)
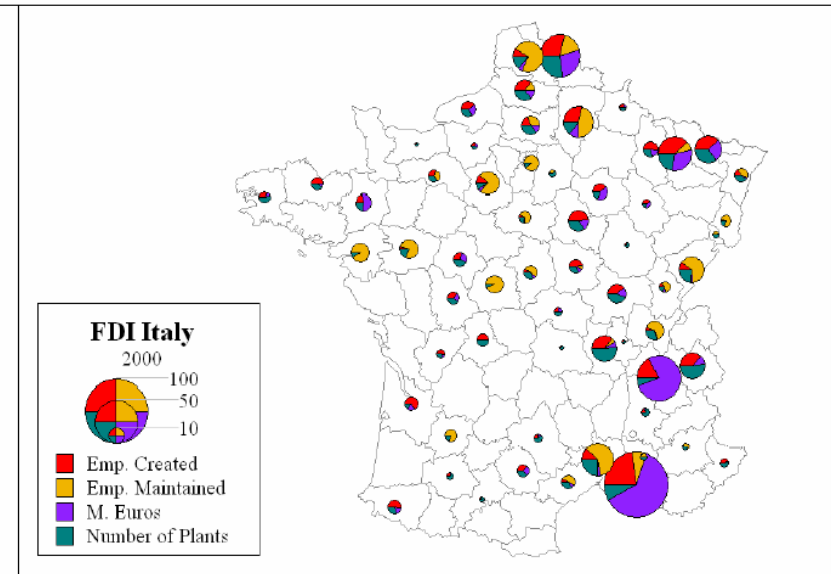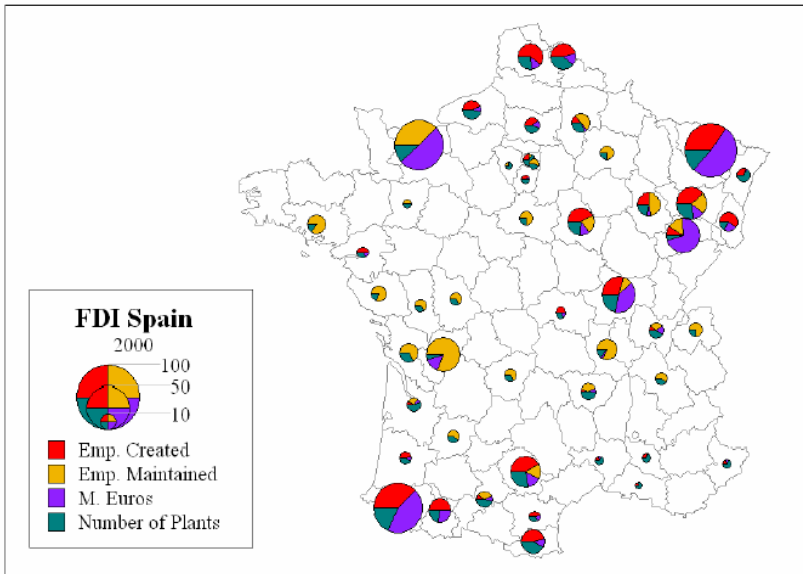
Host country effects

1. Technological transfer
2. Trigger local development by boosting supply and increase employment (discussion cases of Ireland and Wales)
3. Favouring human capital formation

FDI distribution evidence

Lafourcade-Paluzie (2011, RS)

FDI Belgium-Luxembourg
2000
100
50
10
- Emp. Created
- Emp. Maintained
- M. Euros
- Number of Plants

FDI Germany
2000
100
50
10
- Emp. Created
- Emp. Maintained
- M. Euros
- Number of Plants

FDI Spain
2000
100
50
10
- Emp. Created
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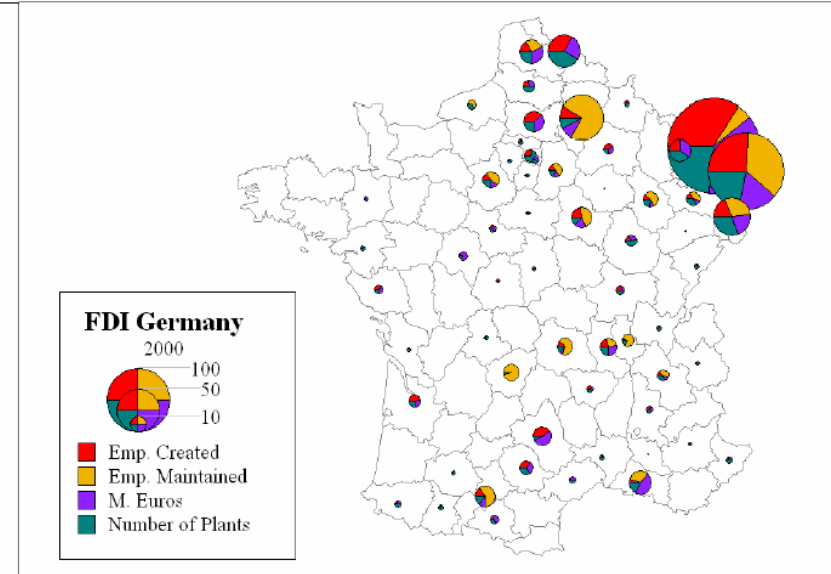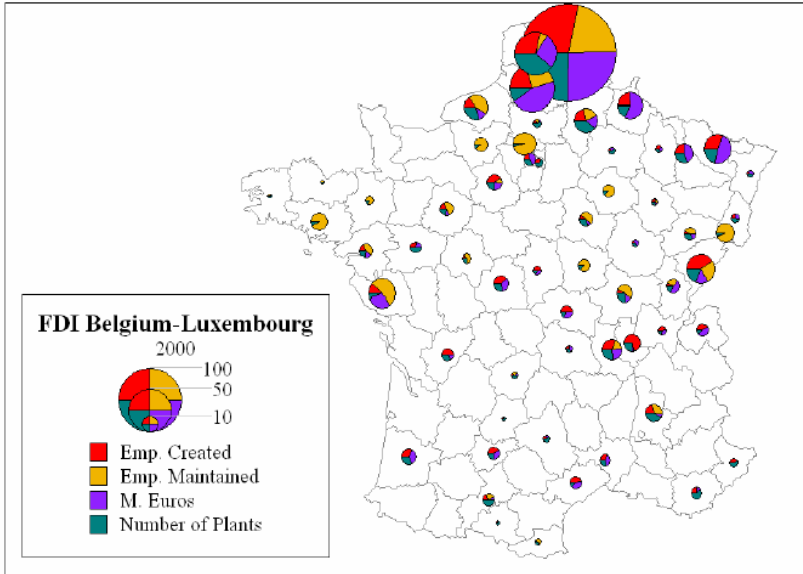
Employment evidence

Employment in foreign-owned firms in the United States

	As Percent of Total Nonfarm Employment	As Percent of Manufacturing Employment
1977	1.5	3.8
2005	3.8	14.0

Source: U.S. Commerce Department.

(source: Krugman-Obstfeld)

FDI and geography

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2. In Ekholm and Forslid (2001); factor prices differ across locations and this favours the creation of vertical/horizontal FDI; they study how MNE-headquarters (in charge of skill and R&D activities) may locate in the home country or well move to other destinations (costs factors and productivity drive this decision).

FDI and geography

1. Midelfart and Knavirk (2003): empirical approach to identify the distinguishing features of specialization in European regions/countries; these specialization patterns are particularly attractive for agglomeration of native firms as well as of MNE.

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2. Spatial lag in FDI and market potential: FDI tends to clusters; third country effect and market potential (Head and Mayer, 2004; Neary, 2008; Ekholm, Forslid, Markusen, 2007; Bloningen and others, 2007).

FDI and the regional dimension

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- ▶ Regions: Baden Württemberg(G), Catalunya, and Lombardia(I)

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- ▶ Selected determinants: productivity, market potential among others

- ▶ Regions: Baden Württemberg(G), Catalunya, and Lombardia(I)

- ▶ Selected sample of sectors: Finance (be attentive...); Services; Manufacturing; Mechanical (including automotives); Electrical and hight tech; Chemical.

FDI and the regional dimension: empirical evidence

Table 3. Cumulative FDI outflows by sector (1995–2005) (%)

	Baden-Württemberg	Catalunya	Lombardia[a]
Traditional manufacturing	11	28	35
Machinery and automotive	16	5	3
Finance and credit	45	17	34
Electrical and high tech	2	3	7
Chemical	—	14	5
Other services[b]	26	34	16
Total (million €)	700,135	38,530	122,379

FDI and the regional dimension: empirical evidence

Table 18. The size effect of the local surrounding markets

	(1)	(2)	(3)	(4)
Baden-Württemberg				
C	-6.11^{***} (1.55)	-7.65^{***} (1.84)	-5.24^{***} (1.27)	-4.19^{***} (1.19)
DAVARAGE	3.34^{***} (0.33)	3.34^{***} (0.33)	3.35^{***} (0.32)	3.35^{***} (0.32)
ULBV	-2.04^{***} (0.50)	-2.10^{***} (0.49)	-2.14^{***} (0.50)	-2.17^{***} (0.50)
GDP	$2.47 \, E-05^{***}$ $(5.97 \, E-06)$			
GGDP		$4.31 \, E-06^{***}$ $(9.97 \, E-07)$		
Market potential (by region) with total GDP			0.002^{***} (0.0004)	
Market potential (by country) with total GDP				0.001^{***} (0.0002)
Adjusted R^2	0.86	0.86	0.87	0.87
Observations	60	60	60	60

FDI and the regional dimension: empirical evidence

Catalunya				
C	−0.07 (0.07)	−0.07 (0.07)	−0.12 (0.08)	−0.14 (0.09)
DAVARAGE	0.09*** (0.02)	0.09*** (0.02)	0.09*** (0.02)	0.09*** (0.02)
ULBV	−0.21** (0.10)	−0.21** (0.10)	−0.21** (0.10)	−0.21** (0.10)
GDP	2.16 E−06*** (6.87 E−07)			
SGDP		4.01 E−07*** (9.23 E−06)		
D2003	−0.14*** (0.04)	−0.14*** (0.038)	−0.14*** (0.04)	−0.14*** (0.04)
D2004	−0.14*** (0.04)	−0.14*** (0.043)	−0.13*** (0.04)	−0.13*** (0.04)
Market potential (by region) with total GDP			0.0006*** (0.0001)	
Market potential (by country) with total GDP				0.0001*** (4.40 E−05)
Adjusted R^2	0.42	0.45	0.45	0.45
Observations	54	54	54	54

FDI and the regional dimension: empirical evidence

Lombardia				
C	-0.08^{***} (0.03)	-0.09^{***} (0.03)	-0.11^{***} (0.03)	-0.09^{***} (0.03)
DUM	0.02^{**} (0.007)	0.02^{**} (0.007)	0.02^{**} (0.007)	0.02^{**} (0.007)
ULBV	-0.02^{**} (0.01)	-0.02^{*} (0.01)	-0.02^{*} (0.01)	-0.02^{**} (0.01)
GDP	$4.00\mathrm{E}-07^{***}$ $(1.01\ \mathrm{E}-07)$			
IGDP		$9.62\ \mathrm{E}-08^{***}$ $(2.43\ \mathrm{E}-08)$		
Market potential (by region) with total GDP			$6.31\ \mathrm{E}-05^{***}$ $(1.62\ \mathrm{E}-05)$	
Market potential (by country) with total GDP				$4.09\ \mathrm{E}-05^{***}$ $(1.01\ \mathrm{E}-05)$
Adjusted R^2	0.45	0.45	0.44	0.45
Observations	36	36	36	36

FDI and the regional dimension: salient points

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- ▶ Market potential effect (calculated as $M_{ij} = \sum\limits_{j} \frac{Y_j}{d_{ij}}$)

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- ▶ Productivity index