THE IMPACT OF TERRITORIAL RESOURCES ON THE FIRM PRODUCTIVITY: TOWARD A FIRM-BASED OR A REGIONAL-BASED DEVELOPMENT?

S18 – ENTREPRENEURSHIP AND LOCAL DEVELOPMENT

59TH ERSA CONFERENCE, LYON – AUGUST 29TH, 2019

PIERRE-FRANÇOIS WILMOTTE¹, MARCUS DEJARDIN², DIDIER VAN CAILLIE³, ISABELLE REGINSTER⁴ & JEAN-MARIE HALLEUX¹

(1) ECOGEO & Lepur – University of Liège (Belgium) ; (2) University of Namur & UCLouvain (Belgium) ; (3) HEC Liège (Belgium) ; (4) Walloon Institute of Evaluation, Foresight and Statistics, Namur (Belgium)
Wallonia?

- Southern and French-speaking part of Belgium
- Industrial decline
- Spatial disparities between …
  - Belgian regions
  - Brussels metropolitan area and the rest of the country

GDP x 100000 € (2014)  GDP per inhabitant (PPP) (2014)

- Moins de 23 000 euros
- De 23 000 à 26 000 euros
- De 26 000 à 29 000 euros
- De 29 000 à 32 000 euros
- De 32 000 à 35 000 euros
- Plus de 35 000 euros

Author: H. Maldague (2019)
Sources: Eurostat (2014)
CURRENT SPATIAL ECONOMIC STRUCTURE OF THE REGION

Number of members of Walloon clusters (by municipalities)

- 100 membres (échelle : commune)
- Biowin
- Greenwin
- Logistics in Wallonia
- Mecatech
- Skywin
- Wagralim

National and regional border (NUTS 0 and 1)
Provincial border (NUTS2)
Municipal border
Highways
Internal resources using the resource-based view framework

Agglomeration economies
1. Sharing of inputs
2. Transport costs related to market size
3. Transaction costs
4. Knowledge spillovers

Social and economic environment
1. Institutional structures
2. Economic structures
3. Social structures
4. Geographical structures
Towards a sample of SME

Start

Step 1
6-years period
All Walloon firms 99,494

Step 2
With data from Social Security Agency
74,792

Step 3
Be a SME
27,571

Step 4
Sectoral selection (“local services” versus “competitive manufacturing”)
4,787

2,183 SMEs
LOCATION OF THE SMEs SAMPLE
THE SPATIAL DIMENSION OF FIRM PRODUCTIVITY - DEPENDANT VARIABLE

Mean productivity (2011-2016; in €/FTE)
- 72000
- 74500
- 77000
- 79500
- 82000

- SME
- Main city
- Municipality
- Wallonia

Bruxelles
Maastricht
Aachen
Luxembourg
TOWARD A MODEL INCLUDING INTERNAL VARIABLES:

<table>
<thead>
<tr>
<th>LOG(PRODUCTIVITY) ~</th>
<th>Coefficient</th>
<th>Std</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>2.57690</td>
<td>0.00828207</td>
<td>&lt;0.0001 ***</td>
</tr>
<tr>
<td>Log(Capital)</td>
<td>0.0237717</td>
<td>0.00164243</td>
<td>&lt;0.0001 ***</td>
</tr>
<tr>
<td>Log(Wages)</td>
<td>0.0943276</td>
<td>0.00509301</td>
<td>&lt;0.0001 ***</td>
</tr>
</tbody>
</table>

Economic sector (20)  
Observation year (6)  

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Std</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creation period: age between 0 and 3</td>
<td>0.0028</td>
<td>0.002</td>
<td>0.1760</td>
</tr>
<tr>
<td>Emergence period: age between 4 and 7</td>
<td>0.0032</td>
<td>0.002</td>
<td>0.0822 *</td>
</tr>
<tr>
<td>Growth period: age between 8 and 20</td>
<td>0.0018</td>
<td>0.001</td>
<td>0.0375 **</td>
</tr>
</tbody>
</table>

OLS Model  
N = 2,183 x 6  
HAC Std robust  
R² adj = 0.498

References:  
• Economic sector with n max  
• Observation year 2016  
• Age period > 20 (maturity)
THE SPATIAL DISTRIBUTION OF INDEPENDENT VARIABLES

Capital Intensity (assets in €/ETP, mean 2011-2016)
- 300000
- 340000
- 380000
- 420000
- 460000

- SME
- Main city
- Municipality
- Wallonia
THE SPATIAL DISTRIBUTION OF INDEPENDENT VARIABLES

Mean wages 2011-2016 (in €/FTE)

- 48 000 €
- 50 000 €
- 52 000 €
- 54 000 €
- 56 000 €

- SME
- Main city
- Municipality
- Wallonia
The spatial distribution of independent variables

Interpolation de l’âge des entreprises

- 26
- 26.5
- 27
- 27.5
- 28

- Entreprise
- Principale ville
- Commune
- Région wallonne
... AND THE SPATIAL DIMENSION OF RESIDUALS WITH INTERNAL VARIABLES

Interpolation of mean residuals (2011-2016)

- 0.0015
- 0.00075
0
0.00075
0.0015

• SME
○ Main city
□ Municipality
□ Walloon region
TOWARD A METHODOLOGICAL PROBLEM

Theoretical situation

- Capital
- Technological shift (age and economic sector)
- Territorial resources
- Other - Undefined

Real situation

- Capital
- Labour
- Technological shift (age and economic sector)
- Territorial resources
- Other - Undefined
Wages as a territorial resource?

Verifying residuals as a proxy of capacity of investment of firms

Testing also the territorial resources?

Toward sectoral models: industry, logistics and services
Toward Some Conclusions

Methodological viewpoint
- Methodological challenge to detect the impact of location from the production factors
- Unexpected effect of wages on the territorial resources

But a real significance for economic geography
- The low impact of local and global accessibility … at Walloon scale
- In contrast with the key role of labour market!

Depending on the viewpoint
- Entrepreneur goal: maximising gross operating profit to develop business
- Public authorities goal: maximising wages and added value (tax)
- … not the same locational strategy
THE IMPACT OF TERRITORIAL RESOURCES ON THE FIRM PRODUCTIVITY: TOWARD A FIRM-BASED OR A REGIONAL-BASED DEVELOPMENT?

S18 – ENTREPRENEURSHIP AND LOCAL DEVELOPMENT

59TH ERSA CONFERENCE, LYON – AUGUST 29TH, 2019

PIERRE-FRANÇOIS WILMOTTE¹, MARCUS DEJARDIN², DIDIER VAN CAILLIE³, ISABELLE REGINSTER⁴ & JEAN-MARIE HALLEUX¹

(1) ECOGEO & Lepur – University of Liège (Belgium) ; (2) University of Namur & UCLouvain (Belgium) ; (3) HEC Liège (Belgium) ; (4) Walloon Institute of Evaluation, Foresight and Statistics, Namur (Belgium)