

Innovation  
 Entrepreneurship  
 Relatedness  
 Collaboration  
 Amenities

- *The ability of firms and regions to renew themselves, i.e. to innovate and be entrepreneurial, is becoming increasingly important from the perspective of survival and competitiveness.*
- *What are the determinants of entrepreneurship and innovation in rural and peri-urban regions? The results are based on studies from Sweden, Austria, and France.*
- *Different factors seem to have impacts on various types of innovation, as well as on innovation and entrepreneurship in various types of regions, which calls for a national innovation policy that is flexible enough to enable “tailor-made” innovation policies at local level.*

### Main topics

- Firms benefit from being located in diverse environments due to the creation of new ideas that spill over between people and firms. In particular, diversity in related areas have been shown to stimulate knowledge flows and thus innovation and growth. The hypothesis is thus that relatedness in regional economic activities is a key issue in understanding smart development in rural areas.
- Knowledge is commonly perceived as the most important resource for renewal, and for smaller firms that commonly lack internal resources external knowledge may be especially important for innovation activities. The hypothesis is thus that networks and collaboration provide one important dimension in the development of rural smart growth policies.
- Place-specific goods and services that make rural locations attractive for individuals and firms, i.e. amenities, provide an important set of location-based resources that create opportunities for new firms. The hypothesis is thus that place-specific factors are key determinants in understanding smart development in rural areas.



### Contribution to smart development

The results show that, i) the drivers for innovation and entrepreneurship often differ between rural and urban regions, ii) external knowledge and collaboration, especially extra-regional interactions, are important for innovation in rural regions, which points to the importance of policy that supports link-building, iii) despite being a potential knowledge source, there is a lack of collaboration between universities and firms in rural regions, which indicates that policy may promote this type of networking, iv) related variety in education rather than industries is an important knowledge source for firm innovation in rural regions, which implies that smart policies for rural regions are related to human capital, v) both related and unrelated variety in industries are positively related to new firm formation, which downplays the importance of smart industry specialization, vi) the supply of nature- and culture-based amenities is important to explain new firm formation in rural regions, which implies that place-based amenities is an important rural resource that local entrepreneurs may exploit through new firms, and vii) since different factors have impacts on various types of innovation, as well as on innovation and entrepreneurship in various types of regions, calls for a national innovation policy that is flexible enough to enable “tailor-made” innovation policies at local level. That is: a multilevel policy for renewal.

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# Methods

## Sweden

### Data

The Swedish case studies employ full population, geo-coded, employer-employee matched micro data, collected by Statistics Sweden. In addition, survey data is used in the studies on innovation, both the Community Innovation Survey (CIS), and a survey on innovation of small food producers, conducted within WP 4. Two additional datasets are applied to identify amenities: *i)* the spatial distribution of nature-based amenities provided by the County Administrative Boards, the Swedish Board of Agriculture, and the Swedish Meteorological and Hydrological Institute, and *ii)* the spatial distribution of built heritages provided by the Swedish National Heritage Board.

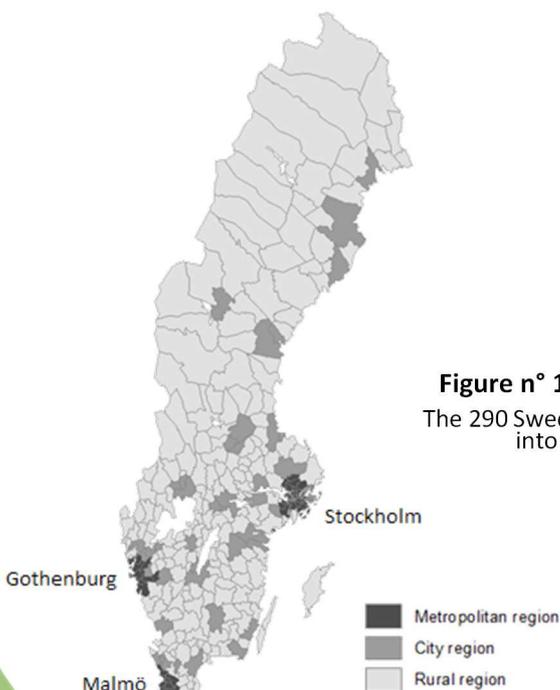
### Empirical strategy

The studies for Sweden are all of quantitative nature, and employ various statistical methods to analyze the relationships between renewal, i.e. innovation and entrepreneurship, and their potential determinants, as identified in the theoretical framework. Some of the studies employs category-wise estimations, based on the urban-rural hierarchy shown in Figure 1.

## Austria

The methodology used in the analysis of the two Austrian case study regions is twofold. First, the economic structure of the region is analyzed by secondary macro data at the regional, state and national level. The data stem from public statistical offices. .

Second, in-depth interviews with local entrepreneurs were conducted using a guideline-questionnaire with both open and closed questions. The interviews were held face-to-face at the firm site. From 22 selected and contacted firms in the Carinthian Lavanttal, and 33 in the Styrian Vulkanland, 15 entrepreneurs in each region agreed to take part in the survey.



**Figure n° 1. Urban-rural hierarchy**  
The 290 Swedish municipalities classified into three region types.

## France

### Landes

The Landes case study focuses on farmers' cooperatives. Cooperatives are engaged not only in terms of production and agri-food transformation, but also in terms of incomes' distribution, direct and indirect employment, social capital assets and local projects. In France, there are 2 700 agricultural cooperatives, 3 out of 4 farmers are members of at least one of them, and 1 out of 3 French food brands belongs to a farmers' cooperative. French farmers' cooperatives account for approximately 40% of the French agribusiness sector. For this case study, three farmers' cooperatives were selected for interviews.

### Aveyron

The Aveyron case study employs a qualitative method that aims at characterizing the resources used in innovative "industrial" rural projects. To collect and analyse the information about each project, the "quantified narrations method" is used. Five eco-innovative projects are studied. Four are located in the department of Aveyron, and one in the department of Tarn-et-Garonne.

The characteristics of the five projects analyzed for the case study are summarized in Table 1. Seventeen interviews were conducted with the main actors of the different projects, in addition to the four exploratory interviews with public institutional actors. An average number of three interviews were conducted for each project.

Project	Type	Main actors	Production	Main raw material
Professional association Régaloü	Agrofood	Association (20 farmers, 36 bakers, 2 millowners, 1 cooperative)		Wheat from south of Aveyron
Cooperative Bergers du Larzac	Agrofood	Cooperative (23 farmers)		Milk from Larzac and surrounding areas
Cooperative Qualisol	Agrofood	Cooperative (300 organic farmers)		Organic cereals from Tarn-et-Garonne and Gers
SAS Prometer	Energy production	Firm (70 farmers, a public bank, a firm)		Manure from local farms and wastes from surrounding agrobusinesses
SAS CAE Biogaz	Energy production	Firm (22 farmers and citizens, a regional agency, two other firms)		Manure from local farms and wastes from surrounding villages and shops

**Table n° 1. The case of Aveyron**  
Main characteristics of the projects.

## Entrepreneurship and innovation in rural and peri-urban regions

The results of the case studies conducted within WP 4, together with previous empirical research, show that in many cases, the importance of the various potential determinants for innovation and entrepreneurship differ between urban and rural regions.

Using the Swedish CIS from 2010, Table 2 shows that innovation is not only a phenomenon for large urban areas and technology-oriented and capital-intensive industries. Even though innovative firms are more commonly found in the industrial sector as well as in relatively more agglomerated regions, it is evident that also firms in the service sector and firms in rural regions are innovative.

Region	All regions	Metro	City	Rural
<b>Sector</b>				
<b>All industries</b>	39.66 1,792	43.70 697	38.05 457	37.05 638
<b>Industrial sector</b>	40.44 1,039	45.69 260	38.14 254	39.36 525
<b>Service sector</b>	38.64 753	42.59 437	37.94 203	29.12 113

**Table n° 2. CIS 2010 for Sweden**

Percentage and number of innovative firms in each category.

## Relatedness

### Innovation

- Related variety in education, rather than industry composition, is an important knowledge source for firm innovation in rural regions. This can be put into perspective to smart specialization strategies, which play a key role in the European Union's current regional innovation policy. While industry relatedness, which is emphasized in these strategies, may be beneficial for innovation in metropolitan regions, this is not the case for other types of regions. Hence, the support of innovative milieus in more rural regions may require complementing political measures that address human capital and education.

### Entrepreneurship

- Related and unrelated variety in industry composition are positively related to new firm formation in rural regions. Industry variety is thus important for entrepreneurship, but it is not only related variety, as emphasized in the European Union's current regional innovation policy, but also variety in broader terms. This downplays the importance of smart (industry) specialization strategies in rural regions.

## External knowledge

### Collaboration

- External knowledge and interaction, in terms of e.g. collaboration, is important for firm innovation in rural regions, see e.g. Table 3. SMEs commonly lack important internal resources and capabilities for innovation, such as human capital and finances. External knowledge and collaboration can thus be used in order to overcome these challenges. However, sparsely populated rural regions are commonly characterized by lower access to knowledge resources, such as highly educated employees, which implies that firms in rural regions may find it necessary to look for extra-regional partners. Our research shows the importance of extra-local and extra-regional connections for rural firms' innovation. This finding indicates that rural firms can compensate for lower accessibility and other disadvantages that firms located outside metropolitan regions have. However, such specialized links to selected extra-regional partners probably have higher establishment and maintenance costs than corresponding partner links in metropolitan regions. This is a strong argument for supporting this kind of link building for rural firms.

### Universities

- Knowledge acquisition and dissemination of firms in rural regions is not done through collaborations with universities and research institutes, but rather other types of organizations and firms. This may be due to cultural barriers and weak links between research oriented organizations and many firms, particularly SMEs in rural regions. Since universities, research institutes, and other R&D centres provide potential sources for external knowledge and fruitful collaborations, as well as access to skilled employees, as shown by the Austrian case studies, rural policy may promote both the scientific community and the firms themselves to take active part in the creation of these types of networks.

	New goods	New services	New processes	New markets	New suppliers	New organization	New distribution
<b>Collaboration:</b>							
Transports							
Purchases							
Production							
Marketing							
Sales							
R&D							
<b>External knowledge:</b>							
Own firm							
Intra-reg. firms							
Extra-reg. firms							
Intra-reg. uni.							
Extra-reg. uni.							
<b>Regional support:</b>							
University							
Municipality							
County							
Largest firm							
Competence center							

**Table n° 3. Small local food producers**

Bivariate relationships between innovation and collaboration, external knowledge, and regional support. Yellow color denotes statistical significance. Darker tint denotes stronger relationships.

## Results

### External knowledge continued...

#### Regional development agencies

▪ The networks and links of the local firms in the two Austrian case study regions are, to some degree, also established and fostered by the regional development agencies. They serve as a platform to connect and facilitate contact between local and external businesses, but also develop and promote the regional brand, which helps to increase the awareness of regional products outside of the region and also generates a common bond and a sense of belonging within the local population.

#### Amenities

##### New firm formation

▪ The supply of nature- and culture-based amenities, see Figure 2, are relatively more important in explaining new firm formation in rural regions, compared to urban regions. Hence, location-based amenities make certain rural areas more attractive than others. Entrepreneurs are attracted by rural locations rich in natural amenities, especially in terms of coastline and land devoted to preserve open spaces. Further, entrepreneurship in rural areas is also spurred by the presence of build heritages, which reflect the presence of amenities which have an important cultural component. Thus, place-based amenities seem to be important resources that local entrepreneurs may exploit through new firms.

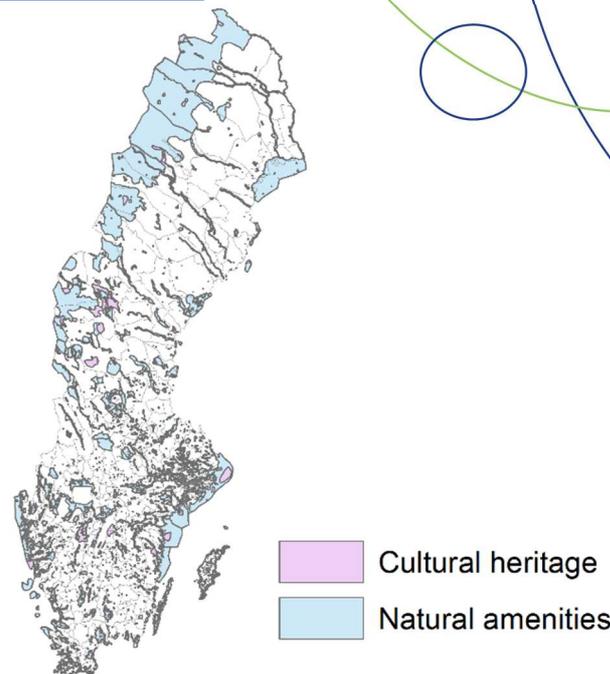


Figure n° 2. Amenities

Geographical distribution of amenities in Sweden.

#### Conclusions

From a more general point of view, the fact that different factors seem to have impacts on various types of innovation, as well as on innovation and entrepreneurship in various types of regions, calls for national innovation policies that are flexible enough to enable "tailor-made" innovation policies at local level. That is: a multilevel policy for renewal.

#### To go further ...

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