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Agro-food Products:

a Cultural Paradigm for a Sustainable Rural Development

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Agro-food Products:
a Cultural Paradigm
for a Sustainable Rural Development

by

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Abstract

The dissertation deals with agro-food products steeped in European rural areas. The grass-roots assumption is that development could be actively promoted through agro-food products' cultural traits. Therefore, rural areas are suggested to represent a fine reservoir of development patterns, considered from a sustainable stance.

From the standpoint of the analysis being elaborated here, traditional agro-food products are considered to eloquently express the peculiar territorial culture. Specific theoretical tools were addressed with the aim to construct a solid framework to understand and unearth the economic potential of the subject analysed. In particular, French literature was deeply explored and applied as a guideline, thanks to its extended interdisciplinary approach.

The aim to detect territorial potentiality was accomplished by implementing a spatial model, namely an attraction constrained gravity model.

This model was applied to two case studies: two mountain borders areas in Italy and France, respectively.

The proposed methodology provides empirical basis for academic and political debates over the territorial attraction power exerted by cultural features.

The thesis here is that this attraction capability could be an effective underpinning for new sustainable development patterns.

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List of acronyms

AOC	Appellation d'Origine Contrôlée
CAP	Common Agricultural Policy
COE	Council of Europe
CPIE	Centre Permanent d'Initiatives pour l'Environnement
ENRD	European Network for Rural Development
ERSA	Agenzia Regionale per lo Sviluppo Rurale del Friuli Venezia Giulia
FAO	Food and Agriculture Organization
GI	Geographical Indication
HPTE	Hautes-Pyrénées Tourisme Environnement
INAO	Institut National de l'Origine et de la Qualité
INRA	Institut National de la Recherche Agronomique
INSEE	Institut National de la Statistique et des Études Économiques
ISTAT	Istituto Nazionale di Statistica
ITP	Istitut Technique du Porc
LAG	Local Action Groups
MIPAAF	Ministero delle Politiche Agricole Alimentari e Forestali
PDO	Protected Designation of Origin
PGI	Protected Geographical Indication
SYAL	Systèmes Agro-Alimentaires Localisés
UN	United Nations

Introduction

The last decades have faced an increasing attention for high quality products, short food supply chains, zero-miles products, and traditional foodstuffs. Somehow, this interest reveals the need to preserve and recapture goods and cultural aspects that are perceived ever more unique.
A possible explanation of this hectic search for tradition and quality in food products is the attempt to mend the *anthropological fracture* between the past rural societies and the broad diffusion of homologised products. In this framework, a central role is then played by rural areas.
This emerging interest takes shape in the preservation of traditions (Blakeney, 2009) and biodiversity (Cardinale et al., 2012). Agro-food products stemmed and rooted in rural areas represent one of the most interesting examples of this trend.
Agro-food typical products enshrine by themselves the distinctive local resources: the natural and human values, which *generate* them. Here the emphasis is that these goods are more than merely a result of a production process: more specifically, they are the concrete manifestation of the synergy between mankind and nature. The human and natural heritages can be conceived as belonging to the same multidimensional expressions of a territory: its *culture*.

The scientific community deepened the peculiarity of rural regions (Ashley

and Maxwell, 2001; Ploeg et al., 2008), the products strictly linked to the territory (Barjolle, Boisseaux, and Dufour, 1998; Ilbery and Kneafsey, 1999; Bérard and Marchenay, 2006b), and the economic impacts of these products on the local areas (Paus and Reviron, 2011).

In Europe, the same attention is acknowledged also on a political level, as demonstrated by the measures implemented in favour of rural areas. Indeed, for the period 2014-2020, the European budget spent on the specific fund created for rural development (the European Agricultural Fund for Rural Development - EAFRD) amounts on 100 billions euro. This amount will leverage a further 61 billions euro of public funding in the Member States.

What the agro-food products concern, since 1992 Europe has set up a legal certification process aimed at protecting Geographical Indications and Designations (ruled by the Council Regulation (EEC) 2081/92, on the Protection of Geographical Indications and Designations of Origin for Agricultural Products and Foodstuffs, 1992 O.J. (L 208) 1, as repealed by Regulation (EU) 1151/2012, on Quality Schemes for Agricultural Products and Foodstuffs, 2012 O.J. (L 343) 1).

On account of the large variety of cultural sides incorporated in Geographical Indications (GIs) – from traditional processing methods to typical cultivation or breeds, from a particular landscape structure to representative bodies and authorities structured around the product – their legal protection matters not only economically, but also culturally. This is equally stated by the European Commission: "They can create value for local communities through products that are deeply rooted in tradition, culture and geography. They support rural development and promote new job opportunities in production, processing and other related services" (as cited in Calboli and Ng-Loy, 2017).

Objectives and research questions

Within the economic analyses, several heterodox approaches have been adopted along with the classical indicators in the last decades.
In such a renewed framework, the cultural aspects acquire a fundamental role and in economic literature they have gained an increasing attention (Throsby, 1995). Due to the extensive interpretation of the concept of *culture* – from the standard one (which embraces *sensu stricto* the traditional cultural expressions) to a more flexible one (which can include a large variety of aspects and issues) – it is possible to extend the attention on specific intangible features, identified as *cultural*.

Accordingly, in the research I address the following questions: which cultural aspects are relevant in the analysis of agro-food products rooted in rural areas? Could agro-food products represent a leverage to promote rural districts, encouraging endogenous development patterns? Are there impacts, other than mere classic economic ones, which could strengthen the territorial vibrancy? And, finally, how can the economic effects be interpreted as a direct result of *cultural* features?
To the best of my knowledge, albeit several scholars focused on the importance of soft features in a general way, yet no many attempts to unearth them in a precise and structured way have been proposed. Consequently, analyses were mainly addressed to evaluate trade balances and monetary value conferred by agro-food products to the local territories.
In the current research, it is argued that the investigated *cultural* features can favourably affect the sustainability of a particular production and, as a result, the cultural territorial heritage, as well.
Hence, the aim of my research is to investigate whether agro-food productions steeped in rural areas exert positive impacts in terms of heritage and

preservation, and to assess the degree of these impacts. This aim is pursued by implementing a gravity model constructed from touristic flows, adopted as proxy to depict the territorial attractive force.

Therefore, the first step to be accomplished was the definition of a theoretical framework. It was outlined to get a precise compass to better understand the specific context the interested areas under investigation are part of; after a general introduction presented in chapter 1 to catch the importance of rural areas, chapter 2 portrays these areas from both a statistical and from a conceptual stance.

Thanks to these description and outline, agro-food production appears as a paramount sector, which, in turn, points to the role played by *culture*.

On the basis of these assumptions, chapter 3 illustrates the relevance of agro-food sector from a territorial development perspective, detailing the concept of *resource*, and the "activation" process thereof. This first theoretical description represents the necessary prelude for introducing key concepts, such as the notion of *terroir* and *Systèmes Agroalimentaires Localisés* (SYAL), addressed at length in chapter 4.

At this stage, collected the appropriate theoretical tools, it was possible to dwell upon the possible effects and a methodological proposal, presented in chapter 5, was developed.

An econometric spatial model was selected and implemented on the basis of the preceding conceptual underpinning and premises. The spatial model adopted was a gravity model designed on touristic flows. More specifically, it consists of an *attraction constrained gravity model*. It was applied to two specific case studies, described in chapter 6. The two case studies were selected by reason of their intrinsic features of being border areas, with consequent peculiar cultural traits.

Finally, a conclusion part outlines remarks and insights derived from the observations and evidences arisen during the research activity, stressing the possible future lines of research to further investigate the topic.

The novelty of the research lies in its theoretical underpinning: the approach argues agro-food products can be considered according to their peculiar cultural kernel. Cultural features are referred to as coherent territorial leverages, especially for rural and marginal areas.

Thanks to these premises, virtuous circles to sustain rural territories can be named.

Chapter 1

Preliminary considerations

During the XX century, Europe experienced pivotal changes in the economic, political, and society domains. Due to the automation process, started in the XIX century with the industrial revolution, all the economic sectors had already been strongly affected, so had the agricultural one. In turn, the huge changes in the production systems had deeply influenced the demographic and social structures, as well.

Narrowing the investigation on the agricultural sector and its common geographical setting (i.e. the countryside and the rural milieux), the effects of these changes are exceptionally detectable and tangible. The long-established agricultural areas appointed to produce primary goods for the human communities were set in the countryside, clear of the cities and the urban centres, which, in fact, developed with the aim of providing services. With the beginning of the industrial revolution, not only cities experienced a radical change, but remarkably rural and marginal territories came across major upheavals. Marginal areas had been suffering for decades from migration flows of the local inhabitants towards the big urban centres, with a severe impact on both their natural and immaterial cultural heritages. Furthermore, the production

systems had been optimized according to the mass production argument, which led the agricultural sector to intensive and mono-cultural cultivations. The negative effect of the extant intensive production system has drawn a compelling attention in the last decades, due to the severe climate change and the high risk of irretrievably destruction process of natural resources.
In addition, issues related to a correct and rigorous management of the natural resources linked with the human diet came under the spotlight when some cases, such as the one of the Bovine Spongiform Encephalopathy (BSE), had shown their extreme impacts on human health. As already highlighted by Latour (as cited in Faure, 1998), in the contemporary society "*la maladie n'est plus un malheur privé, c'est une atteinte à l'ordre public*" (illness is no longer a private disease, it is a public security issue).
Hence, it is not surprising that new waves aiming at a responsible management of natural resources, an increasing attention towards safe food-chains, or the increasing consumption of zero miles products are likely linked with a critical evaluation of the modern trends and their possibly negative related consequences.

Besides natural and healthy concerns, the category of immaterial and intangible goods is seriously threatened, as well. Local artisanal knowledges, productive know-how processes, peculiar traditions, or long-established social structures have to deal with an increasing standardizing pressure. Along with the standardizing processes, the depopulation of marginal areas induces a know-how reduction and a place-based knowledges loss. The rapid dwindling of knowledges leads to an impoverishment of culture in its more general sense. Thereby, the impoverishment of culture results in a peculiarity fade and in a simplification of the great variety of human cultural expressions raised over centuries. Thus, a cultural attenuation causes a considerable simplification of

the humankind, with a significant loss of a great heritage and of an important development engine, though this aspect is not directly quantifiable in classical economic terms and is hence a concern less visited.

Among the several possible facets to investigate this topic, the analysis performed in this research project focuses the attention on the subjects, which I consider to better express the bridge between rural areas and their intangible cultural values: the typical agro-food products.

Trying to find an interpretative key for cultural values, which are *per se* intangible, typical agro-food products give the opportunity to work on tangible goods, which express a whole world entrenched in a particular geographical and temporal context. Indeed, agro-food products consists both of a biological and of a human dimension: they represent a territory in its natural peculiarities linked with the distinctive human factors. The latter refer non only to the processing stages, but also to the cultivation methods or breeding systems and the traditional organisation management. The cultivation systems are easily visible on a landscape frame, which offer for instance an insight to understand how similar crops might be managed differently, with several ways to conceive both the space and the properties rights. As a result, observing agro-food products could be a preferred field of investigation, which can reveal the great potential exerted by cultural aspects from a territorial development perspective.

This research project is based upon the idea that not only the visible and tangible spheres are worth of analysis and observation, yet the intangible features may exert even a more considerable impact on everyday concrete realms.

Along with the several major changes experienced by the contemporary world, all the disciplines have evolved embracing new concepts and ideas, according

to the evolution in thoughts and contexts.

What economics concerns, the idea that only visible facts and assessable data exert concrete effects has been overtaken by a more dynamic and extensive interpretation. As an example, the main indicator, which has been used for years with the purpose of describing the economic performance of a country: the GDP, has been questioned. In fact, in different contexts alternative approaches have emerged. The most emblematic one is the line adopted by the King of Bhutan, King Jigme Singye Wangchuck, who proposed the computation of a Gross National Happiness Index in 1972. What Italy concerns, the National Statistic Institute (hereinafter ISTAT) publishes from 2013 on a yearly report on equitable and sustainable well-being (i.e. *Rapporto sul benessere equo e sostenibile*), taking into consideration some variables such as the landscape and the cultural heritage, the environment, and the social relations.

Furthermore, also at international level, attempts to reach a "better future for everyone"[1] have been underlined by the United Nation Organisation (UN) through the campaign of Global Goals for sustainable development. Among the 17 UN-goals, "new" values are fostered along with the ones assessed in a classical economic scenario.

All these trends are clear clues of a new stream in the economic theorization and conceptualization.

The major conceptual contradiction which immediately emerges is that, in spite of these new attempts to consider a wider rage of features, there are no suitable tools to conduct such analyses yet. In fact, most studies and investigations are still based on evaluation processes, which can be subsumed under a sole measurement purpose.

[1] https://www.globalgoals.org/ retrieved on May 10, 2019.

On the one hand, it seems that the community, also the scientific one, is evolving through a more flexible and heterodox understanding of the economic concerns. However, the tools are still the ones conceived within another conceptual frame. As a result, we observe a substantial detachment.

The present research adopts an enlarged interpretation of the economic impacts with the objective to trace cultural aspects. They are investigated starting from agro-food products steeped in rural areas and it is claimed that they actively boost an economic development, as well as a cultural one. In other words, cultural dimensions exert a twofold effect: they preserve the local knowledges and know-how and they encourage the territorial viability. Obviously, these two effects enforce each other respectively.

At the same time, such an analysis could be useful in discovering whether small typical agro-food products may strive for a more sustainable alternative to the prevailing productive model and whether such an example could be promoted in other sectors, as well.

The alternative way to the prevailing one is supposed to be more sustainable, since resources (biological and human ones) are managed in a more responsible way by reason of their role: resources really represent the added value, which enriches the final product.

The powerful link between *sustainability* and *resources* is easily traceable when looking at the word etymology. *Sustainability* directly derives from the Latin verb *sustinere*,[2] which well transcribes the image of something supported by something else, like a pillar. Similarly, the word *resource* stems from the obsolete French *ressourse*, which in turn has its origin in the Latin noun *resurgĕre*, with the meaning of "rising again".

The image of something rising again, thanks to the support and the solid

[2] Sustĭnēre derives from tenēre "hold", with the prefix sus-, variation of sub-: http://www.treccani.it/vocabolario/sostenere.

help received by an underground process, is a key idea, which secures the two concepts together and clarifies the causal effect which let the resources to be reproducible over time.

This topic has a broad geographic and social relevance: for the "developed" as for the "developing" countries. Nevertheless, the current analysis was mainly based on the European context for sake of simplicity. For further application to other historical and cultural fields, an *ad hoc* study should be carried out.

The limit of the present study is therefore linked to the cultural and geographical circumstances analysed. However, it could suggest a path and a theoretical framework equally applicable to different contexts.

In this respect, the approach adopted in the current dissertation was based on a heterodox view. The idea beyond the need to preserve cultural heritages based in rural context is not linked with a nostalgic view or with a "*passéisme souvent teinté de pétainisme*" (an attachment to the past frequently painted with a pétainiste feeling) as expressed by Marchenay and Bérard (1995), rather more with the consciousness of the vital and unique role played by the historical evolution and inheritance gather from the past. Furthermore, it is also taken for granted that the mere glorification of the pastoral world is more related with specific political and ideological purposes rather than a description of a real historical situation (Shucksmith, 2018).[3] Indeed, it is clear that the political, as well as the socio-economical conditions in the ancient times should not be considered as a "golden age". Nevertheless, an interesting interpretation on the value of agricultural activities is expressed by Poli (2013), who argues that agriculture represents the first artistic expression.

[3] By adopting an ideological rhetoric the risk is to incur some deviation, like the one expressed in Germany by the so-called *Öko-nazi*. Indeed, this "movement" is based on the exaltation of some values linked to utopic ideals, which are however strictly intertwined with an extreme rightist political view (Schmidt, 2014).

This thought could be easily linked with the concept of a *multifunctional agriculture*. Farming is considered not only from an utilitarian perspective: the production of food and related goods, but also from a more extended view comprising all the side activities which result from the primary one. Accordingly, applying this concept means that the value of agriculture is judged also on some intangible features, which could not be directly evaluated with the usual economic tools developed within the mainstream interpretation. Therefore, the study hereby developed was not aimed at celebrating an utopic, pastoral lost world, instead it was intended to arise the consciousness around the values of the immaterial goods inherited from centuries of history and interaction between the men and women and their geographical surroundings, which are mainly preserved in rural areas. The political connotation is in no case the starting point nor the end or the aspiration beyond the research questions and purposes.

The idea of being the inheritors of centuries of history, traditions, and knowledges should let us feel more responsible in front of both the material and immaterial resources. In my opinion, on the grounds that immaterial resources are more difficult to be evaluated and estimated, they are more subjected to the risk of disregard. In consequence of this, a lot more focus on further analysis into those domains is needed.

Chapter 2

Rural areas in Europe

2.1 A general outline

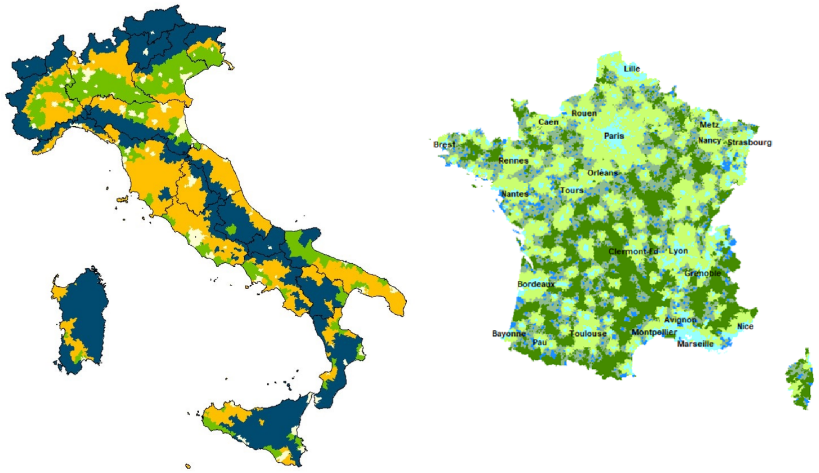
With the development of the Western economic system grounded on a growth logic predominantly based on industrialised contexts, the impact on rural areas has been considerable.

Due to their structural setting, a great percentage of rural areas is subjected to some disadvantages, such as land abandonment because of a low rural vitality and a lack in infrastructures and services for local citizens.

This leads to further differentiation among the wider label *rural areas*, which can be subdivided again according to the related specificity.

If we focus on Italy, for instance, the national Ministry of Agricultural, Food and Forestry Policies (*Ministero delle politiche agricole alimentari e forestali* - MIPAAF) classifies rural areas in three subcategories: i. rural areas with specialized intensive agriculture marked in figure 2.1a with the green colour, ii. intermediate rural areas labelled with the yellow, and iii. areas with comprehensive development problems: the dark-blue ones. What France concerns, there is also a suggestion to differentiate among i. isolated rural territories,

in figure 2.1b dark-green coloured, ii. rural territories surrounding the big employment areas identified with the lemon green, and iii. the territories surrounding the little and medium employment areas illustrated with the olive tone.



(a) Italy **(b)** France

Figure 2.1: National rural specification

Source: Rete Rurale Nazionale and Ministère de la Cohésion des territoires

Apart from the disadvantages generally highlighted, rural areas are also characterized by valuable natural resources and amenities.
Furthermore, the most relevant productive sector has been historically related with an agricultural production heavily associated to the *genius loci*. In consequence of this, these territories become the preferable field of investigation as a source for observing the relevance of cultural features and the related impacts at a territorial level. Moreover, at present these territories are recognized as playing a key role from a sustainable and development stance, especially in preserving biodiversity.[1]

[1] With regard to its role, the European Green Deal is striving towards a comprehensive strategy including the protection of biodiversity (European Commission, 2020a).

What the activity sector concerns, the literature has acknowledged the function played by agriculture in providing other services and fostering public goods, such as biodiversity, quality of natural resources, renewable energy production, but also cultural heritage and tradition.[2] The principle of multi-value represented by agriculture is known as *multi-functional agriculture* (see chapter 3). Even though it is very difficult to describe these factors in a pure and unambiguous quantitative way, the current work adopted the *multi-functional* assumption and this line of thinking guided remarks and observations, in which also collateral and complementary services arising from intangible goods were taken into consideration. Once more, through the application of this concept, rural areas can easily be acknowledged to encompass a great variety of public goods, in term of resources, both natural and anthropic.

In order to describe rural areas, I mainly relied on EUROSTAT database and on the definition provided by the European Union.
This choice is strictly methodological since it is linked with the opportunity to gather a general and uniform picture over the investigated areas and the possibility to rely on a consistent database, which is predominantly used to implement the proposed model, presented in chapter 5. Unfortunately, there are also severe limitations, since the EUROSTAT dataset is not complete: for this reason, it is difficult to gather an image and description, which reflect the real peculiarity of each country. In the subject treatment, I stressed for each dataset the missing information: further studies profiting from more precise and complete data, need to be performed. However, in section 2.2 European rural areas are presented from a statistical perspective and are compared with

[2] The European Commission has been longly recognizing the contribution of specific agricultural products, the Geographical Indications, in promoting cultural heritage and traditional methods. See MEMO 03/160, 30 July 2003: *Why Do Geographical Indications Matter to Us?*

the other two territorial categories adopted at European level: the urban and the intermediate territories. From the descriptive portrayal, elements around the importance and the intrinsic features of these areas emerge very clearly.

2.2 A statistical portrayal

The following description is based on statistics collected from the EUROSTAT database. For each data set, the most recent entries were processed and United Kingdom was included as well, since most recent data date back to 2019 and the country formally withdrew from the Union on 31 January 2020. The attention focused on geographical, demographic, and labour-related aspects. This choice is linked with the assumption which obviously connects the vibrancy and vitality of territories to the demographic dimension and the possibility for inhabitants to live in these regions and, as such, to enshrine their cultural and historical heritage.

From a territorial perspective, illustrated in figure 2.2, despite rural areas cover geographically almost 44% of Europe's surface,[3] only 18,3% of citizens live in them, according to the most updated EUROSTAT data (year 2019).[4] As clearly observable, some EU countries are predominantly rural, such as Ireland (72,5%), Finland (40,6%), Croatia (56,3%), Slovenia (43,59%), Austria (44,33%), and Romania (45,14%). Meanwhile, in quite all other countries there is a significant percentage of rural areas.

Focusing on the fieldwork conducted, in Italy rural regions represent the

[3] The new methodology applied by the EU moves forward from the one conceptualized by the OECD. In order to define the smallest statistical units, the so called: Nomenclature of Territorial Units for Statistics (NUTS), level 3, three steps are required: "The first step is to identify populations in rural areas [...], in the second step, NUTS 3 regions are classified on the basis of the share of their population in rural areas [...] and in a third step, the size of the urban centres in the region is considered" (EUROSTAT, 2019).

[4] Source: EUROSTAT data set urt_pjanaggr3.

20,26% over the total, the urban 36,48% and the intermediate the 43,26%. In France rural areas cover the 29,77%, whereas the intermediate and urban cover the 35,17% and the 35,05% respectively.[5]

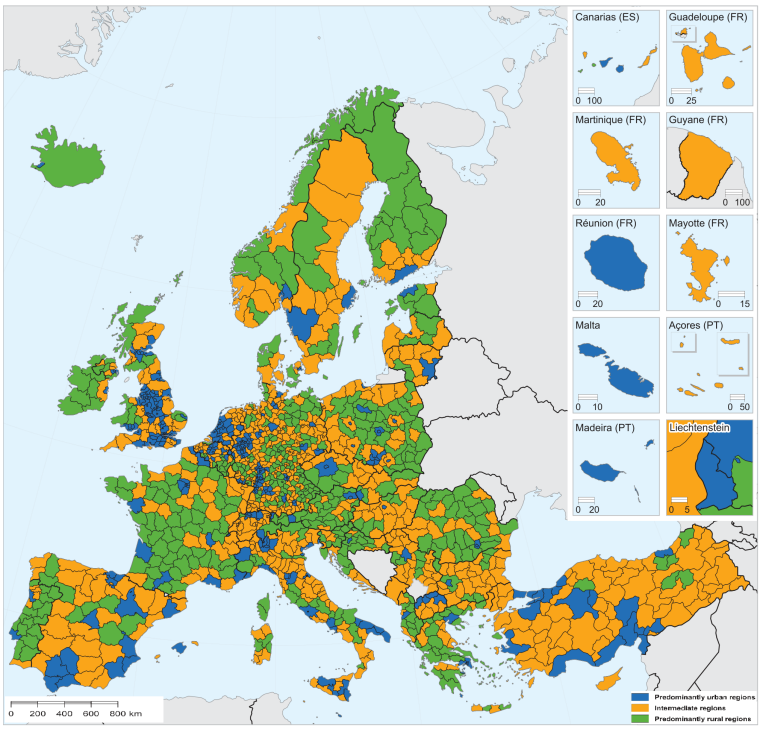


Figure 2.2: NUTS-3 areas in Europe

Source: EUROSTAT

Figure 2.3 illustrates the European trend of the three typologies: urban, intermediate, and rural, on a time series from 1990 to 2016. Source data are incomplete: obviously for the "new" member countries entered the Union in 1995, 2004, and 2013 there are no data before their joining date, but unexpectedly even for several founding members there are critical gaps in

[5] Source: data gathered from Regions and Cities Illustrated (RCI) EUROSTAT tool: https://ec.europa.eu/eurostat/cache/RCI/#?vis=urbanrural.urb_typology&lang=en, retrieved July 13, 2020.

data entries. Albeit the graph was conceived taking into account the surface totally registered in the five years respectively, it offers a first insight on the great extent of rural regions (in 2016 they account for 43,8% of the total), despite the urbanisation processes and the land abandonment going on in the last decades, as it is highlighted by the loss of almost 25% of rural surface in almost 25 years.

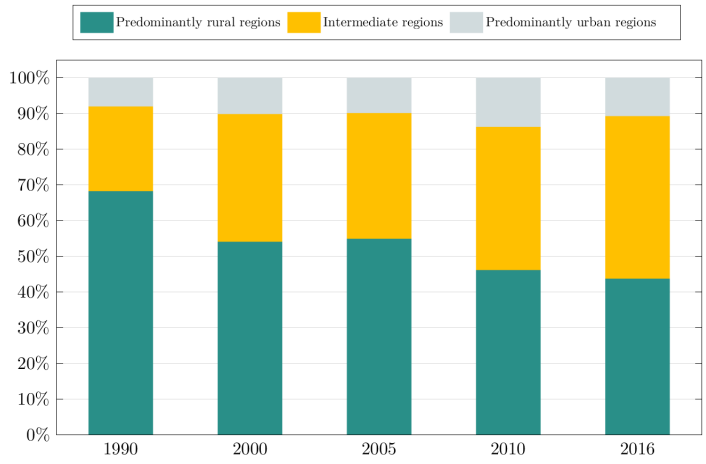


Figure 2.3: Trend typology-categories

Source: Own elaboration from EUROSTAT *data set urt_d3area*

As already stressed, these data can not be interpreted as absolute values, since the statistic begins to record more countries in recent years (year 2016 is quite satisfactory), nevertheless it is still interesting looking at the trend and rural coverage by comparison to the other two categories. Although the number of recorded countries has increased (because of new member countries and data available for old ones), the percentage of rural surface decreased by almost 10% in sixteen years, meanwhile intermediate regions augmented by the same percentage during the same time span.

What the demographic flows concerns, different EU countries face different

trends. The percentage of the people living in rural areas in Europe represented last year (2019) around the 18% of the total, but the demographic flow indicates a strong decrease of rural residents, as can be seen from figure 2.4. Due to the fact that this dataset is quite complete, we can easily rely without too much doubt on the outlined trend, since there are not so many uncertainty in the interpretation of such data: only for Portugal (year 2015) data are estimated, for France (year 2018) they are still provisional, and there are no data for Luxembourg, Malta, or Cyprus for none of the years plotted in figure 2.4.

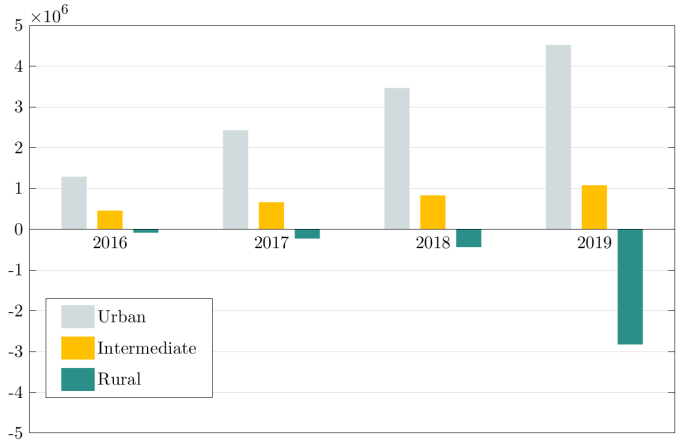


Figure 2.4: Demographic increase

Source: Own computation from EUROSTAT *data set urt_pjanaggr3*

Despite the trend outlined upon these data, several analyses showed a slight increasing percentage of people moving to rural areas,[6] especially during the first years of the XXI century. Sometimes this phenomenon was explained in relation to extra-EU migration flows and regional reports outlined how this choice is linked with rent prices, which are definitely cheaper in rural regions

[6] For example the regional outlook released by the OECD.

than in big cities or urban and sub-urban areas. Another reason is strictly linked with the concentration, in rural districts, of primary and secondary sectors activities, which absorb a great percentage of foreign workers. These explanations offer interesting hints to be taken into account in analysing rural issues, in order to explore each case observing social and cultural aspects, along with mere demographic flows.

In France since the Seventies the demographic trend in rural spaces reveals a slight increase, following the same general national path of an yearly 0,7% (Bessière, 2012). The trend, somehow a counter-movement compared to the historical rural exodus, had already been outlined by Rouzier (1995), who observed how the about-face started in the Seventies definitely established in the Nineties. This new tendency can eventually be explained with an increase of retired people, moving to the countryside, but also young people who seek to benefit from a higher quality of life, in terms of quality of air and water, for example. A weak return to the rural areas can be detected in many other countries, the reasons could yet differ from one context to the other. Thus, it is of crucial importance to analyse each context in very detail to discover the peculiarities starting from national differences, which sedimented during the historical courses. Figure 2.5 provides a striking estimation of the scenario for the coming years 2030, 2040, and 2050: the trend of citizens living in the three-areas-typologies remains the same, with a severe downward trend for both rural and intermediate areas. Taking for granted these data and relying on this analysis, it is evident how urgent policies and measures must be conceived in order to promote lagging areas for a better resources exploitation (also in terms of surface exploitation).

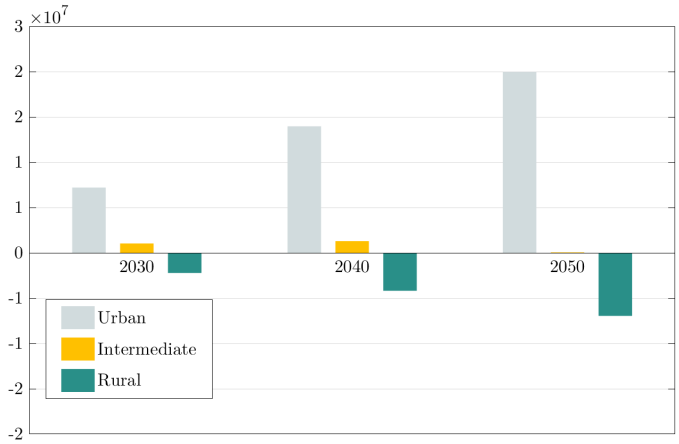


Figure 2.5: Demographic increase projection

Source: Own elaboration from EUROSTAT *data set urt_proj_pms3*

Policies preventing land abandonment and sustaining the weakest regions could also slow a much too fast and increasing ageing of such areas. Indeed, examining the structure of the population, a serious weakness emerges with great evidence and the share of elderly people (over 65 years-old) is an aspect worth observation. Over a five-years time span (from 2015 until 2019), over-65 citizens increased by 1,55% in rural areas, by 1,32% in intermediate ones, and by 0,81% in urban ones, as indicated by the slope of the relating lines illustrated in figure 2.6.[7] This factor represents by far one of the major threat for rural areas, since that it combines itself with the already weak public facilities offer and infra-structural network, which can really compromise the vitality and the cultural preservation of such regions. It follows that the birth rate is often used as a proxy for detecting the territorial vitality. Equally, the ageing of the population could also impact on the sustainability of other public services, such as the educational system, which in turn can exert a big effect

[7] Missing countries in the EUROSTAT urt_pjanaggr3 data set: Luxembourg, Malta, and Cyprus. Estimated value for Portugal (2015 and 2016) and Ireland (2019).

on knowledge and heritage transmission linked to the specific geographical peculiarity.

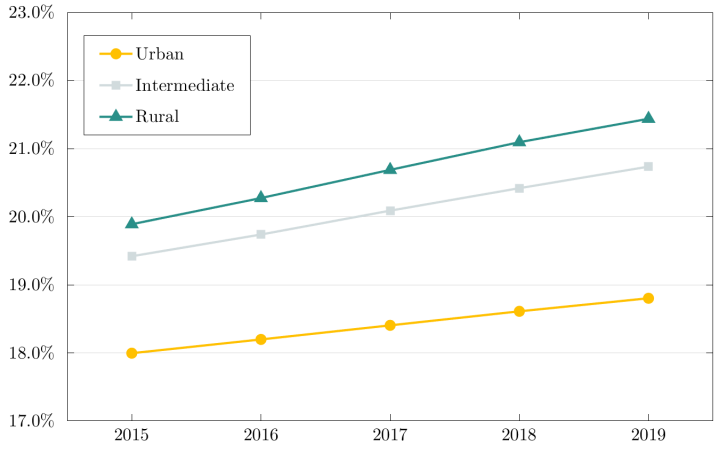


Figure 2.6: People aged 65 years and over

Source: Own computation from EUROSTAT *data set urt_pjanaggr3*

In addition, considering the birth and the dependency rates,[8] it can be easily acknowledged how the drawback becomes stronger, when comparing the same indexes registered in the other area-typologies. According to 2018 data, the average crude birth rate[9] was 9,10 in rural territories, while in urban (10,68) and in intermediate ones (9,54) it was slightly higher.[10] Likewise, observing the dependency ratio the weakness is confirmed: in rural areas the average ratio is higher (0,57) than in the intermediate (0,56) or in the urban (0,53) ones.[11]

A further relevant aspect in the analysis of rural territories is the accessibility to and from these regions. This feature has a direct impact on negative

[8] Dependency Ratio = Population (<15 years + >65 years) / Population (15-64 years).

[9] The crude birth rate is expressed by the ratio of the number of live births during the year to the average population in that year. The value is expressed per 1 000 persons. URL: https://data.europa.eu/.

[10] Data source EUROSTAT data set urt_gind3.

[11] Data source EUROSTAT data set demo_r_pjangrp3.

externalities that could be observed within rural regions, such as a high grade of commuters travelling to areas with an higher concentration of economic activities; fact which puts under pressure the transport infrastructure and environmental preservation.
In line with the present thesis, encouraging local food production can represent an option to be endorsed as key activity sector: it can promote an overcoming of the major mentioned threats through an economic field perfectly fitting the peculiar features and historical assets of the territories.

Looking at the labour market, rates referred to rural areas follow the same trend of the other typology regions.
Taking into consideration the unemployment rate, the overall European mean in 2019 was 5,7%: in the urban regions it was 5,3% and in the intermediate ones represented the 5,8%, meanwhile the rural ones registered an higher percentage (6%). The slight differences could also be explained in terms of economic structure and in terms of activity concentration (higher in big centres), which in turn reflect in the employment rate: higher in urban centres (78,2%) if compared to the one shown by rural areas (73,4%), or intermediate ones (73,9%).[12]
What Italy concerns, since 2010 rural areas reported a 1,9% increase in employment rate, intermediate regions a 2,3% increase, whereas the urban territories a 2,9% one. Considering the structure and the economic concentration, the increase could be interpreted as being indicative of a undervalued potentiality. For France unfortunately no data are provided (none for the three territory-categories and none for both indexes, employment or unemployment). The latter remark over the employment increase in Italian rural areas corroborates

[12] Data source around unemployment and employment rates are gathered from EUROSTAT data set urt_lfu3rt and dataset urt_lfe3emprt respectively. The age class considered is from 20 to 64 years.

the idea that in some countries rural based activities induce positive economic outcomes. Obviously, a deepening assessment regarding the sectors is needed. In fact, activities which most contribute to a real territorial growth are to be selected.

In short, rural areas suffer from some intrinsic disadvantages intertwined all together (i.e. the ageing, the depopulation, etc.). Nevertheless, at the same time, they can better adapt to some challenges, offering better answers: especially with the on-going health crisis, they represent a realistic alternative to big cities and metropolises to be deeply investigated and valorised.

The foregoing outlined a first statistical picture, helpful to an understanding over the strengths and weaknesses of the investigated areas. Still, a further conceptual and historical deepening is needed to attain a more comprehensive insight.

2.3 A historical and conceptual portrayal

To unearth the manifold facets these regions own, in developing the analysis, along with the classic economic indexes, an observation of the historical and conceptual evolution was encompassed, as well.
Re-introducing a historical review into the economic domain perfectly suits the theoretical frame and the final objective. In fact, it is necessary to acquire a critical understanding of the cultural dynamics this research aimed at spotlighting. From the prevailing of the neo-classical view, which neglected this approach, re-considering historical and cultural features into the economic realm was a matter for debate in economics discussion (Pecqueur, 2004).
Sivignon (1992) consecrated a very detailed *excursus* to the agricultural revolutions occurred in Europe since the XVIII century, their political and

social origins, the rise of different agrarian models, and their consistency with different economic models. In his analysis, he mentioned the European attitude of assigning a great significance to the values embodied in rural territories.[13]

In carrying out the evaluation on the fieldwork, for each of them historical traits are highlighted in chapter 6. However, there is still a need for further deepening the historical background of rural areas at the two national levels, with the aim to have a complete description of the trends and their evolution over time from a national geographical perspective.[14]

Narrowing the analysis to the most recent years and observing the political committent, a considerable attention directed towards the territorial units herein investigated can be found at an institutional level.

A growing heed of rural development issues emerged since the very beginning of the European Community path: immediately after the Rome Treaties and the founding of the first European Institutions, in 1962 the common agricultural policy (CAP) was launched aiming at supporting farmers, whose incomes were lower compared to non-agricultural ones. It obviously exerted significant impacts over rural economy and districts, as well. Indeed, from the

[13] "*En Europe, pour des raisons que l'histoire explique, tout abandon de terres, tout abandon d'un village est vécu comme un échec, comme un signe de l'incapacité ou de l'impuissance des agriculteurs ou des ruraux d'aujourd'hui à recevoir, conserver et faire fructifier un héritage. La friche est interprétée comme un scandale et le paysage rural, grevé d'une forte charge symbolique, est présenté comme un monument culturel à conserver dans le patrimoine commun*" (Due to historical reasons, in Europe every land, or village, abandonment is considered a defeat, an indication of the farmers' incapability to take over, preserve, and develop an heritage. The fallow is considered a scandal and the rural countryside, deeply attached to a symbolic meaning, is described as a cultural image to be preserved within the larger category of public heritage) (Sivignon, 1992, p. 152).

[14] Concerning the two European countries, for France it is worth studying the complete work presented in greater detail about the national rural history: Duby, Georges and Armand Wallon, eds. (1975-1976). *Histoire de la France rurale.* Paris: Ed. du Seuil. For Italy the analyses developed by the Portici school certainly represent constructive suggestions, thereof the researches of Manlio Rossi-Doria address the rural issue of the countryside in Southern Italy adopting an interdisciplinary approach.

very beginning, these territories have been acknowledged to play a central role from a sustainable resource management and climate change perspective.[15]

In 1988 the European Commission heavily stressed the need to protect the environment: "not only so that it can fulfil its function as an ecological buffer and source of natural reproduction, but also to provide it with new and lasting scope for development as an area providing recreation and leisure for the city-dweller" (European Commission, 1988, p. 32).

This awareness was re-confirmed by the Council of Europe (COE) with the European Charter for Rural Areas, which states: "The natural and man-made European countryside, in its diversity, offers beauty, peace and recreation to Europeans and to visitors coming from other continents. It is host to a rich flora and fauna and it is an important part of our cultural heritage. It is the source of most of Europe's food. Timber, minerals and renewable raw materials for industry and the energy sector come from rural areas" (Assembly Council of Europe, 1996). Dealing with the functions of rural areas, the Council enumerated ecological (art. 5) and social-cultural values (art. 6) along with the economic ones (art. 4).

Since 1985 a rural development path began to define itself in an independent way from the agricultural one and it was essentially based on local actions. In 2000 rural development became the second CAP pillar. Later on in 2008, the Directorate General for Agriculture and Rural Development established the European Network for Rural Development (ENRD).

Nowadays, reflecting on the future of the CAP, rural areas are conceived as

[15] Nowadays, for the programming period 2021-2027 this role is declared through the implementation of the nine key CAP objectives. Furthermore, the Commission launching a public consultation initiative for a long-term vision for rural areas states: "[rural areas] have a special role to play in the transition to a green and sustainable Europe, by mitigating climate change, providing alternatives to fossil fuels and developing the circular economy": https://ec.europa.eu/info/news/european-commission-seeks-feedback-its-long-term-vision-rural-areas-2020-sep-07_en.

key players making a significant contribution to the European Green Deal, especially with regard to the farm to fork strategy and biodiversity strategy.[16]

2.3.1 Rurality: an interpreting tool

Defining rurality, equally as defining rural areas, is not a simple task, since nowadays rural space can be understood manifold. Besides, these areas are subjected to several uses, fact which hinders a single definition.

The long-time definition of rural spaces has concentrated on statistical indexes, mainly demographic criteria and/or geographical proximity, counterposing the features to the ones observed at an urban level. In so doing, scholars and institutional bodies have mostly identified these areas by a juxtaposed definition, i.e. dwelling on the opposition *city* vs. *countryside*. Such an understanding implies a "negative" definition at his heart: rural areas are spaces which do not consist almost entirely of the usual features of urban spaces.

In author's opinion, adopting such a viewpoint harms a comprehensive understanding of the investigated territories, resulting from a negative interpretation of the concept which do not allow the values of the described subject through. Moreover, defining something as the negative of something else, could also generate the idea of opposite values, practice which could convey images and opinions expressing a value judgment.
Such an approach shapes not merely the definition procedure, which may sound an irrelevant point, but it also affects the ensuing processes directly derived from the prior definition.
As an example, considering the countryside as opposite to the cities has let the scholars to investigate for a long time the relationships between the two

[16] https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en.

entities. Some scholars have therefore classified two different approaches adopted by dealing with this link (Bessière, 2012).

On the one hand there are analyses underlining a *continuum* between the two geographical categories and which consequently focus on the so called "rural urbanisation". In this way, the applied interpretation paths are the typical ones of the urban and industrialised representations and Bessière (2012) observed that the French *Institut national de la statistique et des études économiques* (INSEE) adopts this standpoint. Most national Statistic Institutes in Europe rely on such a vision in defining the nomenclature, and they explore the structure of rural areas investigating the demographic trends, the exodus flows, and the economic structure, performance, and business. On the other hand, other examinations strive after a more attentive analysis to the peculiar features, which are extremely representative of rural areas; in this case, a greater variety of aspects is taken into account thanks to an interdisciplinary approach.

In the present research project, along with the statistical approach other aspects were adopted aimed at investigating these territories: the so called "geographical criterion".[17]

As underlined by Rieutort (2012), relying on this method provides a wider and global vision, which underlines particular social architecture or the representation strongly linked to environmental and cultural values: therefore, it represented the most suitable tool to base the present investigation.

Indeed, beside a mere "geo-statistical" definition of rural spaces, a wider idea can be expressed by introducing the concept of *rurality*.

The relevance to adopt this concept also suits the practical purpose of con-

[17] Nowadays many researchers apply this definition in order to describe rural spaces. It is based on geographical criteria, which stress a weak demographic density, low interconnections, services and business activities, communication networks, and employment rate.

sidering these areas with a cultural and social foci. As already outlined, the statistical indexes alone are not enough to return a complete picture for our investigation. In turn, a homogeneous framework considering cultural aspects will ease the analysis, so as to delineate also policy recommendations.

Rurality can be defined *strictu sensu* as rural areas' properties and local cultural features.

It has been understood attached to a pejorative connotation as a synonym of rustic and peasant. The concept evolved afterwards towards a more idyllic idea linked to an idealized vision, which stressed a bucolic representation during the Seventies. During the Nineties, new interpretations with a special focus on environmental issues emerged. Nowadays, the concept can be deployed to investigate development-related topics along with the need to define (and find) local features in an ever more globalized world.

Among the several understandings around this concept, I adopted the one proposed by Rieutort (2012), which states that rurality "*n'est pas un "donné" mais une construction social du monde*" (it is not an inborn principle, rather more a world social construction) (Rieutort, 2012, p. 52).

This idea is also at the basis of the theorisation of the new rurality: it stresses the presence of values and representation behind a mere spatial interpretation.

Dealing with symbolic representation, the risk of exacerbating some ideals is always to be carefully considered. Following some representation's exalting, conjointly with the criticism against the contemporary economic Western system, during the last decades of the XX century, movements which stressed the potential of a rural *renaissance* began to emerge.

An elevation of *rurality* conceptualisation could quickly lead to some deviation and radicalisation (Shucksmith, 2018) or, what Marchenay and Bérard (1995) defined as "*néo-ruralisme nostalgique et réactionnaire*" (a nostalgic, rightist

neo-ruralism) such the serious increase of *Öko-nazi* in Germany, "controlling" ever larger areas of remote German countryside.[18]

To overcome this risk, an interdisciplinary approach offers several tools which could prevent from a single interpretation and can foster a wider overview. Moreover, considering several features and analysing case for case can help in a real positioning, preventing what has been defined as "process of Disneyfication" (Barham, 2003, p. 132).[19]

Undertaking research in this field, an other risk is the one of applying the typical values of a urban frame of reference to the ones of rural areas. As conceived by Rieutort (2012), "l'urbanité est devenue un opérateur du fonctionnement et de l'organisation de l'espace rural" (urbanity became an operational and organisational sample of rural space) and this distorts the real essence of the rural dimension. In my personal opinion, this approach is even adopted in designing policies for rural areas at institutional levels. For instance, what the actual European policy concerns, some measures are drawn up in taking more into account the specificities of urban contexts, rather than the peculiarities of rural ones. For example, the importance attached to the digital transition and the fast broadband internet access may be questioned on their role in meeting the real need to foster rural areas' vibrancy.

Likewise, striving after a strong modernisation of the agricultural sector and technology breakthrough might correspond more with an optimization and maximization perspective rather then the intrinsic vocation of the countryside.

[18] Schmidt, 2014.

[19] The author also underlined the fact that the fascination of *terroir* reflects the French *malaise* towards the modernisation and the globalisation processes. As previously stated, the purpose of this research is not to embrace such an argument, nevertheless, it should always be kept in mind that for some lines of thought dealing and analysing specific objects could lead to ideological position.

Thanks to the analyses and remarks that could result from an interdisciplinary approach, it is conviction that the risk of a radical perspective or an approach based on other frames of reference could be avoided.

In the current work, the concept of *rurality* has been addressed as strongly connected with cultural features. According to some French streams, *rurality* is considered as a category of study (Cassé and Granié, 2000).

In addition, it is possible to investigate the issue of development at a territorial level. In fact, the concept of rurality includes in its orbit the notion of *territory*, placed at the very forefront.

The territory stands at the crossroad of several forces, it summarizes aspects coming from the social domain, the environmental realm, the economic architecture, and it has obviously a physical structure, as well. This multifaceted specificity can be detected in observing physical features (the bio-sphere and bio-diversity, for example), or social ones (particular governance organization, social dynamics, and also environmental values) and also in looking at more evident and tangible sides, such as specific production or tradition, at the heart of our observation.

A useful definition fitting the aims of the current research is the one provided by Kayser (1988). The author advised rurality to be a kind of relationship the society establishes with its territory: "rurality, a form of a society's relationship with space, is above all, characterized by a local "inscription" that represents relationships with both the locality and environment" (Kayser, 1988, p. 100). Exactly this perception of the territory, being meant a social construction, is discussed at length in chapter 4, as such an approach provides one crucial pillar for our theoretical framework.

2.3.2 Interdisciplinarity as methodology

Following the conceptual frame presented, to implement the investigation an interdisciplinarity approach is needed.

This approach represents one major example to analyse rural assets and it has been adopted by sociologists, geographers, and ethnographers. They observed these areas from a more extensive perspective, considering their core features. In their analyses, great attention has been devoted to social and cultural dimensions as well, as expressed in the seminal works of Bérard and Marchenay (1994).[20] In fact, the approach of analysing several facets – from the environmental to the social ones, from the business activities to governance issues – provided not just a comprehensive picture, but it was especially suitable for the purpose of the current analysis. As clearly argued by Bérard: "*l'interdisciplinarité [...] est particulièrement apte à dégager toute la richesse et la complexité de ces champs thématiques nouveaux [...] Le regard croisé des géographes, sociologues, anthropologues, écologues permet de mieux comprendre les mécanismes de la patrimonialisation, les relations entretenues entre patrimoine vivant, développement local et biodiversité dans un milieu porteur de spécificité mais aussi de rêve*" (Bérard and Marchenay, 1998, p. 14) (interdisciplinarity specifically fits to clear the richness and complexity of these new fields of investigation [...] A cross-investigation performed by geographers, sociologists, anthropologists, and ecologists encourages a growing understanding of the issues such as the *patrimonialisation*, the link among living heritage, development, and biodiversity within the frame of a space characterised by peculiar features, but also by a symbolic meaning).

Several other scholars have been underlining the importance of interdisciplinarity for a long time (Béranger and Valceschini, 1999) and this kind

[20] Consider also Bérard and Marchenay, 1998; Rautenberg et al., 2000.

of approach is particularly fruitful in rural studies' field. In this regard, a concrete example is provided by Jeanneaux and Perrier-Cornet (2014), whose approach joins the stream of the new paradigm in rural economics started in the Eighties (Bonnain-Dulon, Cloarec, and Dubost, 2011). The frame of reference has been particularly developed and adopted in France, having clear and direct roots in the structuralist school. Steeped in the same vein, neo-institutional streams underline the importance of social structures and institutions, albeit not directly detectable, but equally exerting huge impacts on economic phenomena.

Indeed, by means of contextualisation each local analysis is enriched by cultural features, such as know-how, historical trends, local knowledge, and social capital, besides the productive systems and the mainstream indicators. In such a framework, notions as the *regional productive systems* or the so-called *Systèmes Agroalimentaires Localisés* (SYAL) (described in chapter 4) began to emerge.

Drawing upon these conceptual and methodological premises yields a very useful frame to examine especially the research subject: agro-food products. For example, institutional theory has been mobilized several times in the specific field of work, particularly in researches over quality signs (Béranger and Valceschini, 1999; Delfosse, 2011; Sanz Cañada, 2007; Jeanneaux and Perrier-Cornet, 2014). Other theories useful to develop a well-rooted analysis are presented in Chapter 3.

2.4 Agriculture: the primary economic sector

Thanks to interdisciplinary approaches, *rurality* as a study category can be analysed with respect to a huge variety of aspects; the aim of the current research was to intertwine economic features to "soft" aspects, in order to unearth the great impact the latter can exert on the former ones.
As a consequence, the analysis focused on the typical production rooted in rural districts: agro-food production. It significantly represents the historical activity sector, despite rural areas have faced in the last decades a profound reshaping in their use.
In fact, the dominance of other sectors, which account for a higher percentage on the total generated value, stands out well from figure 2.7.

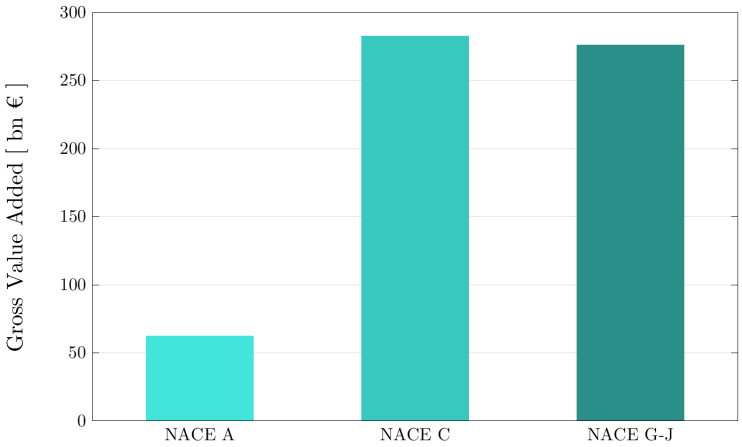


Figure 2.7: NACE sectors in rural areas, 2017

Source: EUROSTAT *urt_10r_3gva*

The graph clearly shows that agriculture (identified with sector NACE-A) counts only for a little percentage (almost 5%), while the manufacturing

services (NACE-C) have a bigger impact of around 22%. Lastly, a great variety of other activities (category G-J: wholesale and retail trade; transport; accommodation and food service activities; information and communication sector) also accounts for almost 22%. With regard to France, a trend of a renewed demographic wave towards rural areas has no direct correspondence with an increase in agricultural activities. In contrast, a decline occurred due to new paradigm, which encourages new activities, with obvious tensions among residents and new incomers (Bessière, 2012).

An example of unfair balance of power can be readily detected in the real estate field, when incomers to rural areas primarily pursue their own business without taking into account the local community, its features, and historical background.[21]

Despite these trends, thanks to the strong connection with the territory and the significance agriculture always enjoyed in rural areas, this sector is still considered of paramount importance.

Fougerouse (1995) discerned two different contexts in analysing the relationship between agricultural activities and rural areas.

Observing the arising of the mass consumption society and the shift in the production paradigm, he observed the existence of different socio-economies characterising agricultural districts, which shape and organise territories in varied ways.

On the one hand, there are "farmers of local development" committed to agricultural and non-agricultural activities, on the other hand, there are

[21] Analytical argumentations are provided around the situation of some historical town in Italy. Sometimes the same criticism can be also successfully applied to rural districts, which have been entirely transfigured by touristic activities or other activities having no link with the territory or the local communities. See Zampano, Giada (2017) "Airbnb riempie Matera di turisti ma la svuota di abitanti". In: *Internazionale*: https://www.internazionale.it/reportage/giada-zampano/2017/09/04/airbnb-matera.

farmers who defend local know-how and promote *terroir*-related features of their production. The author considered the latter to be the most worthy successors of the peasant agriculture, i.e. agriculture as conceived before the mass consumption era. Moreover, he listed the know-how and traditional production among the strength of rural areas.

In the background there are evidences that sustainable agro-food productions represent the key sector for rural areas, for the cultural and environmental extent they carry by themselves and for the development patterns they can activate.

This implies to consider agricultural activities in a new perspective: a multi-sectoral approach, or, what has been defined at the UN Conference on Environment and Development, byname Earth Summit (1992): the *multifunctional* aspect (UN Department of Public Information, 1993).[22]

In a restricted vision, *multifunctionality* could be meant as a mere utilitarian practice in rural families' favour. In a wide ranging tenor, it affects a larger sphere with positive impacts upon environment and society, as well. This notion is essential in analysing the effects of rural agro-food, since it is supposed that only a compatible and congruous development, in line with the original territorial vocation and structure, could contribute to meaningful territorial benefits and progress.[23]

[22] This concept was re-confirmed by the first Cork Declaration (at the European Conference on Rural Development, 1996).

[23] In this framework, as expressed by Pier Paolo Pasolini there is a considerable distinction between the underlying concept in *development* and *progress* conceptualizations. Introducing the idea of *development*, the Italian thinker focused on the contemporary consumerist era and production patterns he observed in Italy, whilst the idea of *progress* implies ideal, social, and political forces caring for a positive growth. Embracing Pasolini's interpretation, it is conviction that the idea of *progress* instead of *development* (as broadly conceived also nowadays in Western countries) is the most suitable concept for rural communities' future, as elsewhere. Accordingly, hereinafter even when speaking of *development*, I refer to this concept keeping in mind the two different meanings and alluding to *development* as the *progress-ideal* outlined. The linguistic choice is rooted in the settled use of the term, not only in the scientific arena, but in the political, public, and

As listed by the network *Réseau agriculture durable* (RAD) - today *Réseau CIVAM*, there are several agricultural typologies, which all claim to carry out a sustainable practice, but adopting different foci.[24]

Generally speaking, the role exerted by small rural businesses is intimately linked to sustainable issues, as stated by the FAO, which described the virtuous circle of origin-linked local products (FAO, 2009, p. 20). The last step in the circle represents the reproduction-process, which links together the market sphere with the local specific resources, and this precise step boosts in turn sustainability, as detectable in figure 2.8.

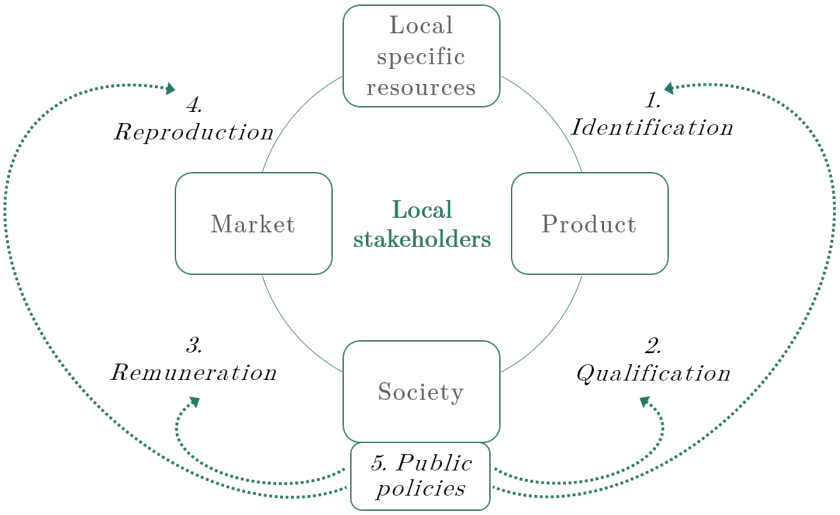


Figure 2.8: Origin-linked quality virtuous circle

Source: FAO (2009)

journalistic ones (to cite familiar examples in the usage we can mention the sustainable *development*, or the rural *development*, but also the *developed* countries and *developing* ones).

[24] The groups are the following ones and the adopted approaches are highlighted in brackets: organic agriculture (ethic and environmental), farm production (territorial and multifunctional), peasant agriculture (social and trade unions-oriented), sustainable agriculture (institutional and societal), integrated farming (technical), integrated production (agronomic principles), precision agriculture (technical and informatics) Réseau agriculture durable (2002).

The concepts behind this formulation are outlined in section 4.2, with emphasis on the idea of *terroir* and the process of territorial rent.

The couple *agriculture-sustainability* is such as to imply strong connection to a time and place attachment.

Without a strong nexus in time and place, sustainability concerns will not be so peculiar and vital. These connections have been especially explored by the French school (La Masselière, 2004; Dedeire, 2009), stressing the idea of resources' reproduction (Sanz Cañada, 2007) and introducing the *terroir* concept (described in section 4).

Positive impacts in terms of reproduction logically stems from *ad hoc* valorisation measures, and from effective market promotion lines, as stressed by the FAO virtuous circle and by large part of literature (Ilbert et al., 2013; European Commission, 2020b).

Empirical analyses (Durbiano and Moustier, 2007) give evidence that in the blend of *agriculture* and *sustainability*, the key factor is the coordination and the synergistic actions undertaken by stakeholders.

These remarks hint at the outward influence of policies in shaping the future of rural areas. Concerning Europe, since agricultural activities primarily characterized rural areas, the CAP notably affects these areas in a very strong way. The CAP had arisen from a critical context, thus the measures implemented to solve the post-war difficulties adopted a productivist and optimization approach. Regrettably, this approach was short-sighted to consider a wider range of features, which would have probably yielded a more responsive attitude. Since the Nineties a growing attention to the local, sustainable, and rural development has loomed out in public debates. Also at an institutional level, sustainable issues are at the heart of European policies.

Embracing and considering not a mere productivist view, issues related to environmental protection and cultural valorisation move to the forefront. These features could represent real levers to ensure a remarkable and proper sustainable development.

In order to pursue goals of sustainable growth, a new paradigm, combining cultural and economic spheres, is therefore needed. A new perspective, alternative to the orthodox one, is even more crucial for the so-called marginal areas: the cultural, environmental, and social traits should become the pillars of an alternative model to the prevailing one, thereby driving to a more equitable development, which the mainstream theory has not managed to promote.

Chapter 3

Rural development and agro-food products

3.1 Relevant development processes

The high potential embedded in rural and lagging areas is obviously perfectly detectable through the frame of an endogenous development process.
In order to analyse the factors, which can promote an endogenous process, it is conviction that it can be very useful to explore the cultural sides and heritages owned by the rural areas. As pointed out by Lysgård (2016), culture is largely neglected in rural development studies. In 3.4.1, Ray's *cultural economy approach to rural development* is addressed. According to this approach it is possible to identify the following local cultural markers: food products, regional languages, crafts, folklore, landscape systems, flora and fauna, local visual arts, literature and historical, and prehistorical site.

Furthermore, also French scholars stressed the idea of the key role played by heritage in rural areas (Berger et al., 2010). In fact, in their studies on rural areas, the authors pointed out the pronounced link between heritage

and traditional agricultural activities. Of course, in order to encourage the transition from the *héritage* to the *patrimoine*, steps towards innovation and modernisation of the tradition are usually adopted. In general, a so-called *activation process* is needed (see section 3.3).

Within the large variety of heritage "goods", the very agro-food products, those enshrining one of the closest territorial link, are able to foster a solid development process (Muchnik, 2006). In turn, the features which mainly characterise their territorial attribute are the cultural traits.

Some authors underlined the contradictions that might arise from the process of preserving and protecting heritage-based systems. From the one hand, a diversity reduction is induced by a "streamlining" paradigm, aiming at standardizing processes and products. From the other hand, the risk arises of the creation of a overly static notion of culture (i.e. of agro-food products) (Bowen and De Master, 2011). Indeed, in some cases we assist to a "capitalize on the local culture" (Bowen and De Master, 2011, p. 80) or a process of "Disneyfication" (Barham, 2003, p. 132).
These contradictions seem to emerge as a result of the "shift in production relation" and, precisely, from "the passage from local to extra local" (Bowen and De Master, 2011, p. 80). It is the shift in the productive-logic from a local and small one towards a more wide and globalized, which embodies some contradictions in itself.

In order to isolate the positive development processes, one suitable approach is the territorial one combined with and moulded into some notions and conceptual frameworks, worth to be further deepened.
Isolating some remarkable features, it is of key importance to observe the interaction and the combination of the local resources (along with their inherent features) and the following "activation" process.

3.2 Relevance of agro-food products

Adopting agro-food products to investigate rural areas represents a challenging task. At the same time, it constitutes an appropriate means to detect possible impacts in a wider development perspective, in an endeavour to jointly evaluate economic, cultural, social, and environmental effects.
Indeed, agro-food products are suitable objects to perform a heterodox approach, due to the fact they utterly match to the theoretical apparatus presented in chapter 2.

The link between rural development and typical products is not new and has been explicitly addressed in literature (Arfini, Mancini, and Donati, 2012). A useful summary is provided, for instance, by Pacciani et al. (2001), who highlighted different strategies, emerging by combing the features of the involved actors together with the territorial properties (signs, or set of attributes). By mixing together these features, two strategies arise: a narrow, or an extended one. The first combination emerges when a territorial supply chain meets a sign (i.e. a geographical name): in this case we observe a so-called *regulation of reputation*. Differently, when an extended actors' network meets a set of attributes (conceived in a larger perspective grouping together production techniques, varieties, races, and know-how), a *territorial quality process* is enforced.
The very first step could be understood as preliminary to reach a wider actors' involvement, promoting a common synergistic activity to boost a whole territorial development.

More in general, investigations into agro-food products' impacts on a territorial level abound in GIs' domain. However, these analyses mainly focused on the GIs' ability to stimulate economic performances (Barjolle and Chappuis, 1999; Paus and Reviron, 2011; Barjolle, Réviron, and Sylvander,

2007; Raynaud and Sauvée, 1999; Perrier-Cornet and Sylvander, 1999; Arfini, 1999).

At the same time, also their legal force, explored by an important school of thought, contributes in reinforcing their role, intended as effective operational tool (Gangjee, 2016).

Their role is not merely affirmed by the force of law they possess, but also by their tenor. In fact, some arguments suggested the far-reaching position they hold in fostering also extra-market aspects, such as biodiversity and further ecosystem services, along with know-how and human skills (Bérard and Marchenay, 2006a). As worldwide acknowledged, biodiversity and human capital are central values for all human communities (Cardinale et al., 2012) and they are put at the forefront of the major international political agendas (UNEP-UNECE, 2016).

For their nature as operational tools affecting economic, cultural, social, and environmental spheres, they could be considered as outstanding "vector of local development" (Muchnik, 2006, p. 96). As expected, they exert far-reaching impacts, running far away from the ones connected just with the products themselves. They could potentially activate, and in some cases they do, side-externalities on the heritage preservation, know-how, and biodiversity, thanks to the synergies they are able to nourish. Thus, a direct cause-effect link could be recognized and typical agro-food products can be considered crucial assets for rural and marginal areas.

Several analyses focused on the potential of typical agro-food products in developing countries (Bérard and Marchenay, 2006a; Kop, Sautier, and Gerz, 2006; Maïzi and Sautier, 2006). Since the challenges and threats these countries have to face could be similar to the marginality experienced by Western rural areas, the same theoretical frame and the paths adopted by these analy-

ses can be embraced. Similarly, their results are relevant to Western rural areas, as well.

Furthermore, in the realm of the analyses on GIs, it is thought it can be more useful to look at the literature focused on developing countries, more than the one carried on in the Western countries. This latter mainly turned its attention on themes which belong to *conventions*, such as price premium or consumers' perception, which might not stress enough territorial development implications.

3.3 Territory, resources, *patrimonialisation*

In order to rigorously esteem agro-food products as vital assets for rural areas, in the first place, a look is needed both at the nature and the relation between *territory* and *resources*. Then, it is necessary to introduce the reasoning on the concept of *patrimonialisation*, French term designating the socio-cultural, political, and legal processes of heritage-creation.

In the first step, coherently to the general architecture of the current work, one central topic to be analysed in detail is *territory*.

To this end, the territory-entity was explored from different nuances in order to find the most appropriate conceptual theorization, in line with the proposed theoretical framework and the objectives to pursue. The studies conducted by Pecqueur (1987) and his approach have been considered to be the most suitable ones.

The present research referred to *territory* keeping in mind three aspects the author underlines:

- territory is understood as an "espace de référence économique, sociale et politique pour ses habitants" (economic, social, and political reference-

space for its inhabitants). This specific identity-reference is designed and built on "spatial solidarities" (Pecqueur, 1987, p. 10)

- the existence of spatial solidarities is strictly interlinked within the nature of the territory itself. Nevertheless, the author indicates that two premises are mandatory, if these solidarities have to exert a significant role from an economic perspective. Firstly, a minimum level of economic activities is needed, and, secondly, solidarities arise thanks to a historical process among actors, which should endure through a relevant time period. Solidarities are then conveyed through exchange flows, which in turn determine the territorial area itself

- the exchange flows define peculiar organisational paths. These patterns are differentiated by the author between *formal* and *informal* relations. The former are related to visible codes the actors use for communicating together; the latter, also defined as "*relations de réseaux*" (network relations), refer to the synergies among actors and are not so easily detectable.

Through this interpretation, the investigation can be fixed both in a spatial and in a time-related context.
As a matter of fact, such a definition simultaneously focuses on material so as intangible features, intertwining economic aspects with social and cultural ones. This specific theoretical understanding of territory provides the basis for considering intangible features as an integral part of the analysis; moreover, these features are meant as a direct expression of the cultural sphere.
Drawing on Pecqueur's understanding, the historical attribute of *territory* plays a key role: it is no longer an a-historical object, as it is conceived in a neo-classical frame, conversely, it is determined by the particular context

analysed. Only in this way it is possible to detect all its specificities and peculiar elements.

The choice of relying on this territory-interpretation was driven by the following consideration: the reference-space proposes a solid theoretical basis to explore the cultural features and the effects they exert over a space and a community. What is more, it is also consistent from a historical perspective with our contemporary context. In fact, looking at the historical evolution in space-interpretation, Pecqueur (1987) traced the historical contexts in the background of each understanding. He clarified the purposes related to each explanation with the pertaining structural functions. Starting from an homogeneous space-conception during the industrial revolution (characterized by the *exchange* as distinctive structural function), in the following decades a multinational dimension emerged. As a consequence, social traits earned a major significance. Thus, the challenge consists of implementing a structure, where both elements, the territory and the social relations, equally contribute to a common framework to better understand the forces exerting an influence on economic space.

If the former formulations can be considered far surpassed, nowadays it is ever more crucial to conceive a new consistent system, including intangible dimensions into the economic perspective. From one hand, this ambition fulfils the author personal belief of considering cultural features of outstanding importance over a large variety of domains, and, from the other hand, it is supposed to be the theoretical construction most in line with the occurring historical frame.

This approach is also consistent with the one adopted by the French ethnographic school in exploring the agro-food products, as expressed by some pivotal works (Bérard and Marchenay, 1994; Marchenay and Bérard, 1995).

Thanks to its completeness, the approach has been considered to be the most appropriate one to set an analysis focusing on a broad radius of effects: the outcomes on the territory itself and on the related living communities.

With respect to the second element, *resources* are a key concept in the economic analysis and have been widely explored by several approaches. Going beyond the traditional mainstream conception,[1] the institutional strand of thought claims that resources arise from a creation-process rather then being just set by nature. It insists that "resource [...] is a property of things - a property that is a result of human capability", through a "creative process of fashioning the material and non-material stuff of our environment" (DeGregori, 1987, p. 1243).[2] Hence, beliefs, ideas, and opinions are not simply thoughts or immaterial elements. On the contrary, they are the kernel of every creation process and this suggests that they ought to be taken into consideration, especially in the economic realm.

Within this context, it is important to introduce the hypothesis of *latent resources*, described by Hirschman (1958). Analysing the trajectories of underdevelopment, the author observed how it is not so efficient to focus either on the lack of resources or on the best way to manage them, rather more there is a need to marshal the activation process. In this way, existing assets could be developed any time. Thereby, the perspective becomes more proactive offering a conceptual backdrop, where the primary challenge is to detect and to activate potential pre-existing features. In a similar vein,

[1] Not surprisingly, factors of production, such as capital, land, and labour, are the resource inputs commonly considered in the economic discourse.

[2] The author carried out a fine observation when outlining the semantic choice of using the noun *resources*. It implies just the human perspective, which does not take into account any other rights of other living creatures. For centuries, activation-process and resources exploitation have been committing assuming this single stance. Especially nowadays, owing to the climate disaster and the huge environmental issues we are facing, this insight should become the cornerstone in all scientific disciplines.

many streams have adopted (and adapted) the idea of *active* and *potential* resources (Campagne and Pecqueur, 2014).

Finally, a step to bridge together the first domain, the *territory*, with the second element, the *resources*, is invoked: the so-called *patrimonialisation*. Especially the French scholars have expanded the understanding focusing on territorial resources and applying the framework into a territorial development perspective. In this scenario, it is possible to understand the differences among territories and to understand the reasons behind some disparities. The different paths are influenced by the strategies adopted, or, better defined: on the different *patrimonialisation* strategies.
Indeed, *patrimonialisation* is meant as the resources activation-process and it is strictly linked with the *genius loci*: the peculiarities, the know-how, the tradition, and the cultural background of a territory.
Through this notion, all the concepts introduced so far find their ideal place, which is useful to uncover intangible dynamics linked to the cultural sphere running especially in rural areas.

Focusing on the *patrimonialisation*-path and adopting the view presented by Campagne and Pecqueur (2014), it is possible to clearly distinguish *potential* from *active* resources.[3] Furthermore, in a *patrimonialisation*-process, the central role is not played by the resources themselves, rather more by the interrelations defined by economic, social, and cultural drivers among actors (Delfosse, 2011). Campagne and Pecqueur (2014) introduced the idea

[3] The authors suggested a further categorization based on the resources' intrinsic attributes. A resource can be either a *generic* or a *specific* one. Resources are thought of as *generic* if they are completely movable and their value is not based on any production processes: they exist *per se*. In contrast, *specific* resources are closely connected to the interaction processes taking place on a particular territory at a defined time-frame. For this reason, territories, who wish to distinguish themselves and try to develop on a stable and sustainable way, should not base their path on generic resources, rather more they should activate specific ones.

of *transformation*; the authors even advocated the idea of a metamorphosis owing to the fact that the transformation process may induce profound and systemic changes still. In some cases, a restoring of the initial situation back to the initial potential resources from the activated ones, or from the specific to the generic ones, could be even impossible. The core of the theory suggests the idea of a unending dynamic process, where resources are not fixed at all, whereas constantly created. The directions occurring in the transformation processes are summarised in figure 3.1 and the shifts could affect a product, a service, or a production process.

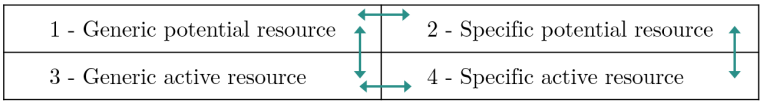


Figure 3.1: *Patrimonialisation* process

Source: Campagne and Pecqueur, 2014

It is also relevant to focus on a further idea, the so-called *panier de biens*: the combination of several resources in the valorisation-process (Pecqueur, 2001).
In carrying out the analysis of the fieldwork in chapter 6, the combined offer seems to show evidence of representing the success factor for a territorial positive promotion and preservation.

Territories able to valorise their specific features could be thought as *terroir*-related. From a territorial development perspective, several territorial assets, like culture, landscape, or history could not be understood as pure market forces. Nevertheless, the impact they exert is real and important. As underlined by Bérard and Marchenay (1994), in fact, not only biodiversity or the physical elements play a strategical role when analysing the typical agro-food products, but also the "*[...] savoirs, pratiques, techniques et plus*

généralement les facteurs sociaux" (knowledge, know-how and, more in general, social factors) serve a fundamental role.

3.4 Impact of culture on the economy

Culture and *economics* are two strictly intertwined domains. Nevertheless, culture as object of analysis has been hitherto largely neglected.
To my best knowledge, the growing of the so-called *economy of culture*, or *cultural economics*, is fairly young as demonstrated by one of the first handbook published on this subject (Ginsburgh and Throsby, 2006). The perspective presented by the researchers is the economic dimension of cultural sectors in the strict sense, viz. the business generated by museums, arts, and creative industries in general, such as music and film sectors.
In other social sciences there is much concern about the nexus between culture and economy, for instance among sociologists (Zelizer, 2010) and anthropologists.
Usually researchers directed their analyses starting from the economic relations and their related impacts on ideas, symbols, and styles, whereas cultural aspects shaping economic structures are less well understood (DiMaggio, 1994). In the present project the latter direction was taken into consideration and explored, since culture is understood as a driving force influencing economic structures, as well.

In order to accomplish this task, the first challenging step is that to define what is understood by *culture*.
As for the definition of the contextual framework (i.e. the definition of rural areas), the same difficulty applies to the meaning attached to *culture*.
As spelt out by DiMaggio (1994), classic cultural taxonomy distinguishes

among *cognitive* (opinion and stance about real world), *expressive* (symbols emotionally permeated), and *valuative* aspects (value orientations) of culture. Another classification ranks the forms of culture "taken for granted" (i.e. representations, schemas etc.) to any forms considered as "consciously accessible", such as preferences and attitudes. Taking up these categories *seriatim*, in the research cognitive, expressive, and valuative cultural features were transversely referred to, without differentiating among them. Regarding the second classification, when dealing with cultural aspects, the study preferably referred to the foundational schemes. As a matter of fact, this choice is more consistent with the general structure and theoretical underpinning of the current research: investigating the effects of the existing indigenous cultural values. Further studies could include preferences, attitudes, and opinions, embracing in this way the consumers' side, exploring the externally generated cultural influences.

As argued by Ray (1998), in fact, "culture economy is primarily concerned with the 'production' side: that is, the territory, its cultural system and the network of actors". For the purposes of this study, foundational forms are more suitable to carry out the analysis and can disclose useful information around the issue, with the aim of looking inside the peculiarities of a well-defined (in time and space) territory, significantly transposed in food products.
Especially for the particular geographical framework analysed, culture can not be reduced to the sum of beautiful items, conversely, it should be considered in its wide sense as a value system and a defined *Weltanschauung* (Phongphit, 1995). Through this stance, an acknowledgement of the intangible features entailed in cultural objects is sustained. For instance the know-how besides the territorial productive traditions or cultivation and breeding systems is considered.

Other distinctions are possible to be identified in the realm of the wider notion *culture*.

Worth to be mentioned: the taxonomy which differentiates *constitutive* forms, such as categories, scripts, notions of technique, and *regulatory* ones, like norms. This distinction is especially effective when looking at the *convention theory* (outlined in section 4.1.2) to better understand it through proper conceptual schemes.

In agro-food domain, the relevance of cultural traits has received little attention, although the subject could be considered as inherent, or even ground founding, in many conceptual formulations, like the concepts of *terroir* and of *Système Agroalimentaire Localisé*.

A representative contribution, which bears back cultural traits to the economic arena, is the one proposed by one of the most acknowledged pioneer in cultural economy: David Throsby. The author contributes with a chapter in the recent volume *La valeur patrimoniale des économies de terroir* (Anatole-Gabriel and Orsenna, 2016), evidence which fully encompasses soft dimensions into economic evaluations. Moreover, other important contributions, such as the one of Pecqueur (2011), underline the relevance in approaching agro-food and *terroir* issues through a cultural economy perspective. Hence, the importance of including the economic facet by analysing some notions, such as the *terroir* category.

3.4.1 Culture: a key asset to rural development

Cultural traits are remarkably important for the analysed geographical units, bearers of well-defined and peculiar cultural traditions.

In this research, deep-seated know-how and cultural traditions were mobilized to demonstrate the significance of agro-food products as key factors of rural

development in a cultural economics' perspective.
Cultural heritage has been stated to be an asset from a rural development stance (Aguilar Criado and Amaya Corchuelo, 2007), seconded by empirical analyses, such the ones carried out upon touristic flows (Szlanyinka, 2009). Moreover, to approach sustainability issues it is required to take culture into consideration as one of the prior actors (Throsby, 2008).

In fact, culture is considered a territorial resource, not merely measuring its impact exclusively from an economic perspective, but also from a symbolic one (Bleton-Ruget, 2004). Ray (1998) suggested a "culture economy approach to rural development", stressing the attention on resources, that enforce an endogenous development path, on account of their local attributes. Furthermore, it has been inferred that the "*développement culturel est la base de tout développement*" (cultural development constitutes the basis for any kind of development) (Phongphit, 1995, p. 35), thanks to a holistic paradigm, encouraging an understanding of resources and assets as outcomes of the mutual interaction among nature, culture, and human beings.

Cultural capital exerts substantial impacts not only at a symbolic and at an ideal level, but, as the noun itself suggests, it is possible to isolate pure economic values of these assets (Anatole-Gabriel and Orsenna, 2016).
The results from complex interactions among human tradition, know-how, and the territory generate cultural tokens, which are not necessary the usual understood and classified cultural expressions. Instead, they could appear in a manifold shape. Ray (1998) listed eight cultural expressions, thereof traditional foods appears at the very beginning. The other categories are i. regional languages, ii. crafts, iii. folklore, iv. local visual arts and drama, v. literary references, vi. historical and prehistoric sites, and vii. landscape systems and associated flora and fauna. The fascination in Ray's conceptuali-

sation lies in attaching to *culture* the meaning of *local knowledge*: idea, which enlarges the field of observation and admits to considering *culture economy* a new effective strategy to convert indigenous assets into resources for local territories.

The author distinguished four operational development strategies, which could be detected in territorial initiatives and which are presented in figure 3.2.

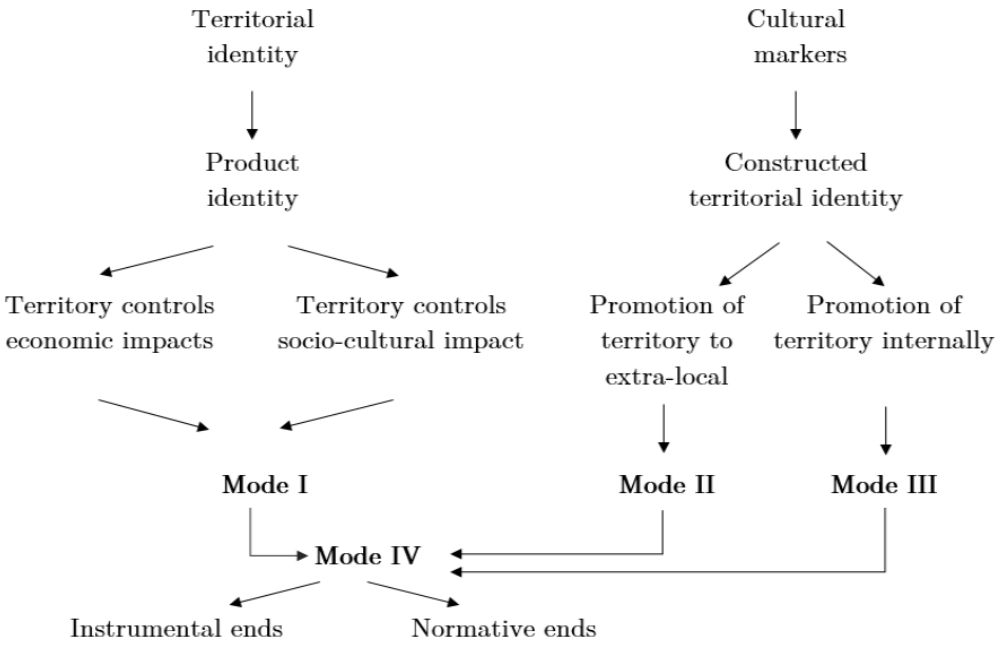


Figure 3.2: Operational modes in culture economy

Source: Ray, 1998

These initiatives could range over different fields: from the commoditization of local culture by the valorization of resources retaining a place identity (mode I), to the construction and projection outside a territorial identity (mode II), or, when the projection is directed inside the local community, we observe mode III. Mode IV describes the normative capability of culture economy and

can be discovered in each of the other described stages, which can act either instrumentally (for example through marketing strategies) or normatively (with a direct engagement of local parties). Apart from the several ways the strategies could be implemented or conceived, the focal point is the role played by the local know-how.

This issue has been largely explored, once again, by lots of French scholars, who followed the strand of thought opened by Bérard and Marchenay (1994). This view inspired the European legislators, who confirmed this thinking at an institutional level in the first European regulation on GIs (Council Regulation 2081/92, on the Protection of Geographical Indications and Designations of Origin for Agricultural Products and Foodstuffs, 1992 O.J. (L 208) 1).[4]

In such a scenario, agro-food products become an emblem in an endeavour to bind together the economic with the cultural sphere. Indeed, much more than other goods, agro-food products are able to uncover the social and cultural constructions, operated by human communities around a specific place.[5]

From these first insights, the cultural dimension of agro-food products (significantly expressed by the concept of *terroir*, addressed in chapter 4) clearly emerges as its prominent role for rural territories: it represents a rich lode in terms of territorial development.

[4] In literature the two different approaches promoted within the European countries is well-known: the Southern countries are used to stress cultural, traditional, and know-how related aspects, whereas Northern countries highlight to a great extent themes such as productive technologies, food safety, or nutritional aspects. For this reason, Virginie Amilien, inspired by the popular Churchill's speech, presented the idea of a "silk curtain" (Amilien, 2011, p. 179) for describing the two way of thinking.

[5] "Fundamentally, dietary practices are a reflection of societies and their place in their natural environment, with the preparation of food ensuring the link between nature and culture (Levi-Strauss, 1968). In many parts of the world, a significant share of food is still made up of locally produced resources and reflects a social order, right up to the setting out of meals" (CIHEAM and FAO, 2016, p. 326).

Chapter 4

Typical products: roots in time and space

4.1 The concept of *terroir*

In order to complete the rationale, one major concept worth extra investigation is the *terroir*.

Indeed, a *patrimonialisation*-process reasonably presumes a previous acknowledgement step, encouraged by the *terroir*.

Basically, there are two different approaches to analyse this concept: a normative and a positive one. The first approach is the one adopted in a legal framework: *terroir* is conceived in terms of reputation, quality, and standard normative definition. Instead, following the second perspective, the links and peculiarities of a territory originating from the intersection of human and physical features are the emphasized traits.

In line with the latter approach, the *terroir* idea can be deemed a gist of the geo-temporal features, which uniquely link agro-food products to their territories. From this standpoint, through this concept a renewed interest in

local peculiarities and territorial potentialities can be enhanced.
The fact spatial and temporal dimensions are concurrently embedded in a local product implies that cultural criteria are deep-rooted in the product itself. The challenge is due to the fact that these features are not visible nor tangible, therefore, it is not easy to perceive them readily. Nevertheless, their value must be adequately acknowledged.
In an endeavour to isolate these features, *terroir* becomes a basic tool to be adopted. Furthermore, it states the importance to reconsidering the territorial dimension as an active element. As mentioned in chapter 3, all over the world an ever greater number of authors and researchers assert the importance of *place*, especially from a development perspective (Van Caenegem and Cleary, 2017). The value of *territory* is even more central when considering agro-food products from a cultural stance.
The novelty of the research is precisely represented by this proposition: the application of the theoretical frame in a cultural economy perspective.

4.1.1 Birth and evolution of a concept

As suggested by the noun itself, France is the motherland where this concept first emerged.[1] Because of the long cultural tradition in defining theoretical concepts such as *space* and its link to *human communities*,[2] it can be argued that the cultural background was already equipped to welcome and to further develop an *ad hoc* concept, which would have become a world-renowned one. The father of *terroir*, conceived as a doctrine, is held to be Joseph Capus: in 1935 he proposed a law concerning the "*appellations controlées*" (registered

[1] The noun stems from the Latin *territorium* and it identifies a peculiar geographical space, ideal for agriculture, especially for wine-growing (Casabianca et al., 2011).

[2] From the Seventies, the French geographical school had already introduced the idea of the relationship among the geographical sphere, the human communities, their habits and customs, thereby deepening aspects such as the food habits (Claval, 1995).

designation of origin) by identifying a link between origin and quality in the wine sector.[3]

Starting from this first "practical" and agronomic theorisation, the concept has then been greatly enlarged and has been adopted in several fields of investigation: from the legal one to the studies on rural development (Allaire, 2011).

The enlarged understanding is a result of the interdisciplinary works of researchers, coming from very different fields and all contributing to new interpretations, which in turn enrich the meaning itself of the original idea, making it a multidimensional concept (figure 4.1).

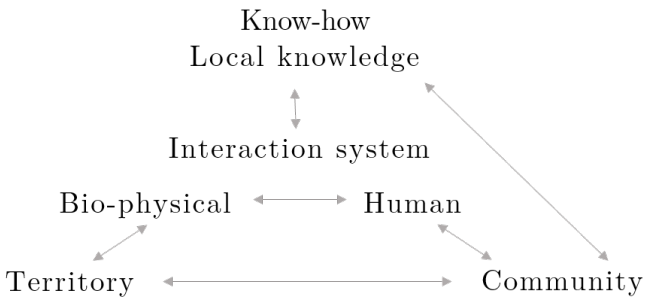


Figure 4.1: *Terroir*: a multidimensional concept

Source: INAO as cited in Hinnewinkel (2011)

On the one hand, *terroir* can reflect a two-fold understanding: in a positive meaning it echoes the association with the countryside and agriculture, in a negative one it evokes the archaism of the peasant life. In the current dissertation, the concept of *terroir* is understood in its cultural facets, therefore, it is argued that it can assume, by definition, just a unbiased meaning: the positive one.

[3] The criteria used to define the designation of origin were strictly agronomical: the soil, the grape varieties, a minimum alcoholic degree, and a maximum output.

On the other hand, further definitions have been outlined according to the different perspectives adopted. For instance, some authors focused on different typologies in relation to the evolution dynamics beyond each context: i. "*terroirs de tradition*" (traditional *terroirs*), ii. "*terroirs en reconstruction*" (*terroirs* under re-construction): the *terroirs* which have lost their peculiarities and their know-how, but are willing to discover them afresh, iii. "*terroirs nouveaux*" (new *terroirs*): albeit no strong tradition can be found on these territories, specific know-how and products are considered potential for a territorial promotion and, and iv. *terroirs en dévenir* (evolving *terroirs*): marginalised territories, which try to follow a *terroir* logic to self promotion (as cited in Allaire, 2011).

In addition to these classifications, other scholars proposed special foci as the one suggested by Amilien (2011) and Dedeire and Tozanli (2007). These were particularly useful for the present research, since they bring *culture* into sharp focus, more than other contributions had done.

According to the first researcher, a high value is attached to *terroir* products due precisely to the cultural dimension they carry in themselves. Indeed, it is specifically the link between *nature* and *culture* which constitutes the noteworthy core of *terroir* and which turns a local product into a *terroir* product. These features are the ones able to fuel extra territorial potentialities, which also results in economic impacts.[4]

Terroir becomes then a permanent feature, even if it could happen that it is just present behind the scenes. In defining *terroir*, Dedeire and Tozanli (2007) underlined the human element introducing the social and phycological

[4] The historic background is one of these features: it is a significant factor which is also detectable in the GI s' Single Documents in the paragraph describing the "Link with the geographical area".

links the human beings hold with the places they come from.[5] Thanks to this intuition, as illustrated in figure 4.2, they isolated three types of *terroirs*: i. a natural, ii. a social and, and iii. a patrimonial one. These different *terroirs* join together the three spheres they consist of. Respectively, they connect i. the place with the products, ii. the products with the human beings, and iii. the place with the human beings. The first link is possible thanks to the geographical proximity, the second one thanks to the collective territorial memory, finally, the cultural dimension is the glue which holds social and natural *terroirs* together. Moreover, the so-called *terroir* products find themselves at the intersection of the three spheres.

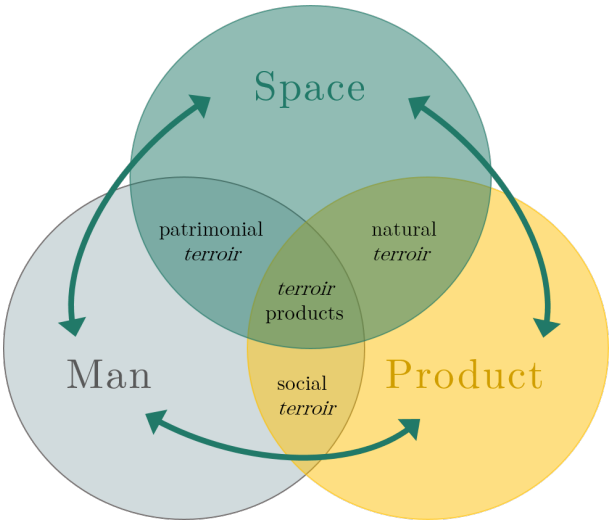


Figure 4.2: *Terroir* typologies

Source: Dedeire and Tozanli, 2007

In summary, nowadays the authors' majority agree on an extensive understanding of the concept,[6] which is not restricted to the physical sphere. In

[5] In this way, the authors introduce what they call *the paradox of the local origin*, proposing an other perspective to investigate the *terroir*, which is extremely important in a time of increasing migration flows.

[6] There are several other definitions depending of the focus, such as for example the

addition, the common meaning of the concept highlights social and cultural dimensions, as well.
The distinction operated by Dedeire and Tozanli (2007) was especially suitable for the present purposes, on the basis of the cognitive distance occurring among the spheres. This underlying premise stresses the idea of an active and voluntary process, whereby an apprised valorisation needs to be based on.

4.1.2 Symbolic value

Once defined *terroir* in its multi-fold facets, the issue of its symbolic meaning should be tackled in greater detail.

Starting from the *terroir* physical sphere, the *place* can be understood as "*symbole et comme figure rhétorique du territoire*" (symbol and as a territorial literary figure) (Debarbieux, 1995). According to the author, images and symbols are able to assign a deep figurative meaning to places, which carry precise values for the local communities. In this way, cultural heritage is effectively enshrined and the communities easily identify themselves through these symbols. Obviously, the symbolic value of a specific place does not exist *per se*, but it is the result of a social process (Rowntree and Conkey, 1980). Thus, it can be inferred that symbols are the fundamental premises of any resource activation-process, as expressed in section 3.3. Moreover, since "*le symbole, il a le pouvoir de matérialiser l'immaterial*" (the symbol has the ability to reveal the immaterial) (Debarbieux, 1995, p. 108), it can be claimed that symbols mainly reflect immaterial and cultural elements.

Moving to the second more relevant *terroir* sphere, the human element has to be stated along with the territorial features.
What the know-how and the knowledge concerns, sometimes it is possible

"socio-terroir" or the "agro-terroir" (Hinnewinkel, 2011).

to detect a change from a first basic *use-value* to an *exchange* one. This process precisely occurs in products and know-how procedures (Bom Konde, Muchnik, and Requier-Desjardins, 2001). Without the symbolic meaning, no exchange value would exist: an anthropological approach can reveal the process of value creation, which evolves, in turn, into an exchange value, to be investigated from an economic perspective.

The first approach is an invaluable reference tool for identifying the steps undertaken by a community to valorise a production process, a know-how, or peculiar knowledges. In addition, beyond most exchange value creation processes, there is always a symbolic significance, as illustrated in figure 4.3. The curved arrows indicate the dynamism of the process, since it does not apply to static objects, rather to evolving ones. This feature meets the same reasoning carried out around the *patrimonialisation*-processes: they deal with dynamic objects, which can be invented, or re-invented, over time and space.

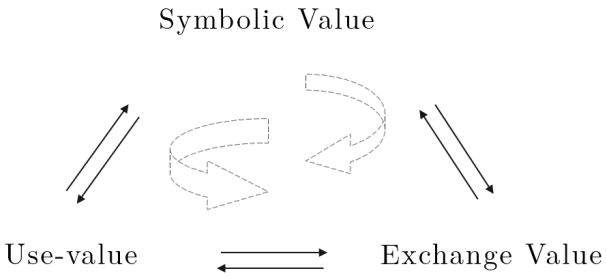


Figure 4.3: Value creation process

Source: Bom Konde, Muchnik, and Requier-Desjardins, 2001

This symbolisation process applies to all goods, but it is especially relevant when dealing with agro-food products.

In fact, the role played by food products in identity-construction processes had long been acknowledged within anthropological studies.[7] As underlined

[7] For a review around the contribution to the anthropology of food see Garine (1988).

by Muchnik et al. (2007), agro-food products are the only goods that human being literally in-corporates and this identification process is even more important in rural areas, due to the peculiar cultural identity these territories own (Muchnik, 2006). In this context, some authors stressed the idea of a so-called territorial "social construction", where knowledges, know-how, and tradition constitute the basic elements for *terroir* products (Moity-Maïzi and Devautour, 2000). Empirical studies have been implemented on this theoretical framework (Sourdril, 2002), as well.
In short, the use-value, so as the exchange-value, are hardly affected by the symbolic meaning lying in the products themselves.

Albeit in the present research this issue has not been investigated at length, identities' construction processes and symbolic representations are claimed to introduce further useful theoretical tools. This fascinating aspect and its role within rural contexts is not addressed: it is just considered to be at the basis of the exchange-value.
Certainly, a systematic integration between the economic field and anthropological and social studies can enlarge our understanding of the running production-consumption dynamics.

Looking closely at the symbolisation process, it is worth considering the so-called *convention theory*. In fact, it is possible to interpret the arguments proposed by this theory as distinct symbols: there are different logic and systems behind each scenario and they differ from one another, according to their context and purposes.
The convention-typologies that can be isolated are (Sylvander, 1996):

- a *familiar convention* linked to personal trust and direct familiarity with the product
- an *opinion convention* with a brand-related reputation orientation

- an *industrial convention* constructed upon norms and productive specifications
- an *inspiring convention* relying on original and innovation ideas
- a *civic convention* directed by civic values (likewise environmental or social ones)
- a *market convention* based on consumers' side, mainly information and prices.

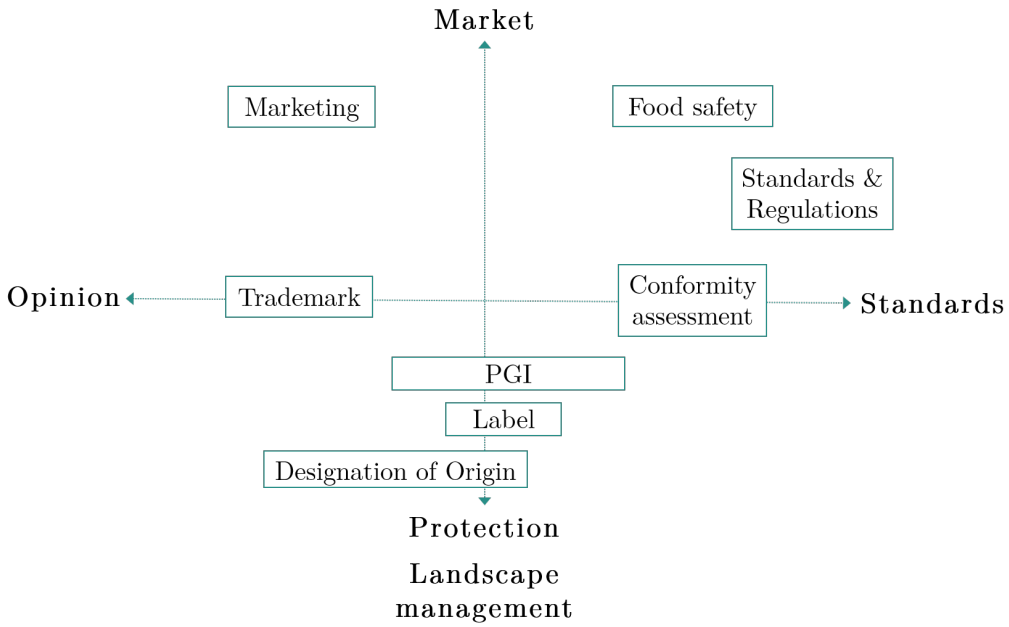


Figure 4.4: Social constructions at the backstage of Convention Theory

Source: Sylvander, 1996

This background confirms agro-food products as resulting from a social construction: they are proved to be a physical materialization of the social interactions occurring at territorial level.

It can be concluded that values and symbols attached to goods are significant elements supporting an in-depth understanding of several phenomena, which are sometimes investigated just from a mere economic perspective.

4.2 *Terroir* as economic tool

It is exactly the aforementioned symbolic value which echoes back the economic slant of the *terroir* following the path described by figure 4.3.

Not surprisingly, in the realm of economics, concepts as *territorial rent*, *quality rent*, and *rent of territorial quality* have been widely investigated (Mollard, 2001).

Mollard (2001) highlighted that the idea of rent of territorial quality sums up two traditional understanding of the *rent* concept: the Ricardian and the Marshall ones. The *territorial rent* draws special attention to the natural factors of production, their scarcity and localisation; instead, following the *quality rent* idea, a consumer's perspective is adopted. The *territorial quality rent* is located at the intersection of the *territorial rent* (issued by the valorisation of specific resources on a specific territory) with the *quality rent* (related to quality products or services).

Once more, the idea of a *territorial quality rent* is in keeping with a rural development perspective: it represents a value added, contrary to a mass industrial production, where the territorial feature is not a distinguishing character.

Re-integrating the concept of resources' scarcity seems to be a necessary step, especially nowadays with the sudden emergence of sustainability issues. Rural territories become a preferred field to investigate human and natural assets under threat from overexploitation of resources and climate change.

Terroir products become in turn useful tools to successfully prevent from degrading and depleting, as already mentioned by the FAO, according to the last step of the virtuous circle (figure 2.8).
Pecqueur (2011) described the *terroir* as "*le cadre d'émergence de la ressource territoriale*" (the framework whereby the territorial resource emerges) adopting in this way also an economic perspective. Other authors expressed the economic dimension of this concept describing an asset-related identity (Landel and Senil, 2009).

In general, *terroir* is subjected to several interpretations, depending on the focus the researchers are interested in: also an economic one.
It is then possible to define a *terroir economy* and figure 4.5 is proposed to convey the extraordinary complexity held in its heart. *Terroir economy* ("*Économie de terroir*") is a notion coined by Throsby (2016). As the author underlined, a so-called *cultural capital* has a two-fold value: an economic and a cultural one. In analysing the Burgundy regional terroir economy, he isolated both material and immaterial cultural assets. In general, cultural "goods" carry in themselves an extra-value, which any other ordinary material good does not. Consequently, it can be argued that by adopting the *terroir economy* as interpreting tool, all the values and features can be considered at the same time: the architectural forms, the space-organising structures, landscapes' management are equally important as know-how, traditional production knowledges, and, in general, all the immaterial assets.

In short, *terroir economy* conveniently summarises both the features of the mother-concept *terroir* with the economic effects played by the assets conceived in a larger vision.
Clearly, as argued before (see section 3.3) the potential activated in a *terroir economy*-framework would not occur without the commitment of the local

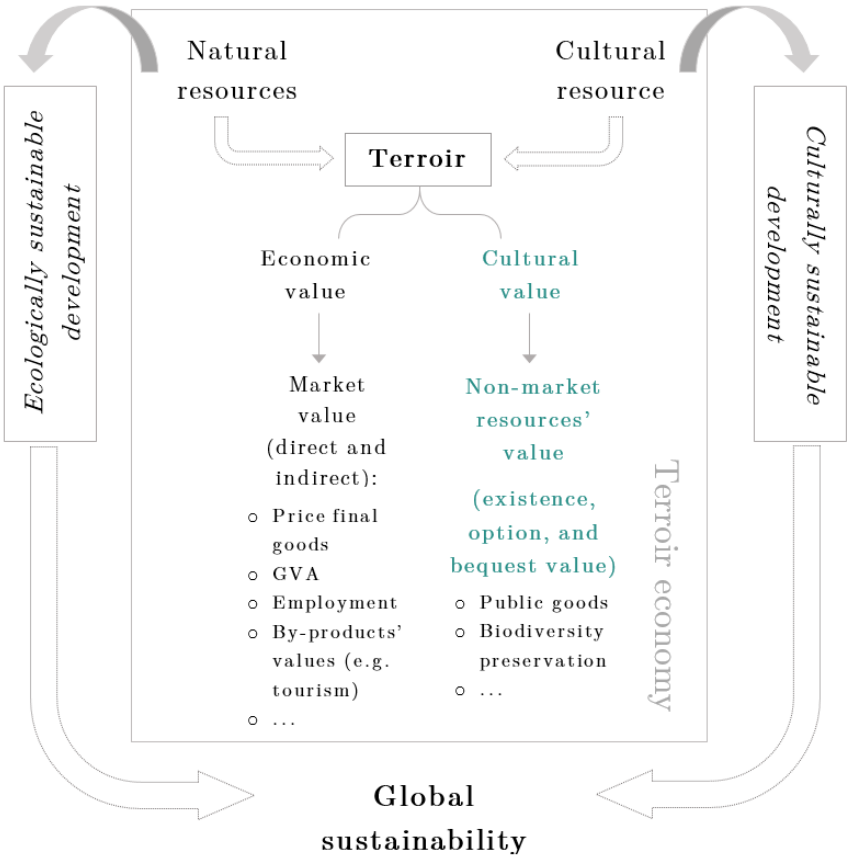


Figure 4.5: Terroir economy and its broad implications

Source: Own elaboration

"*groupe patrimonial*". Requier-Desjardins (2009) opined that each asset depends on the appropriation actors make thereof, with the purpose to obtain an advantage from the externalities produced (mainly reputation related). Pecqueur (2011) identified for example two moments denoting the moving step from *assets* to *values*. He defined two phases: the "*temps du terroir*" (*terroir* stage) and "*temps du territoire*" (territory stage). The first heavily implies cultural features, the latter productive approaches.

Even if I agree with the identification of different distinctive attributes (cul-

tural features affecting to a great extent the first level, whereas productive patterns are more representative of the second phase), I argue that the territory stage entails strong cultural marks, as well.

This is what has been illustrated in figure 4.5: all the dimensions equally contribute to mould a *terroir economy*, and cultural features are hidden also in organisational and managerial structures, or in landscape management, or in territorial promotional activities.

In an endeavour to detect cultural features behind a *terroir economy*, it is extremely useful to consider in depth an other concept: the idea of *Systèmes Agroalimentaires Localisés* (SYAL). It can be considered as a bridge-concept, which allows to better understand the key mechanisms moving from the given assets to the activation exerted by actors.

4.3 *Systèmes Agroalimentaires Localisés*

In a resource activation process, the step connecting a *terroir* vision (merely linked to assets) to a *territory stage* is possible thanks to the conceptual idea of *Systèmes Agroalimentaires Localisés* (SYAL), i.e. Localised Agro-Food Systems.

This idea has been invoked in 1996 during a crisis period of the rural societies: a time characterized by a worsening of the environmental issues, and an emerging attention over food security issues. From a historical point of view, the idea emerged within the French agro-economic school. Agro-food systems have likely been inspired, from the one hand, by the studies over *industrial districts* (Becattini, 1979) and *clusters* (Porter, 1998) and, from the other hand, by *local productive systems* (Courlet, 2002).

The primary focus in cluster and district analyses has been placed on the

industrial field, whereas agro-food sector has been neglected at the very beginning (Sforzi and Mancini, 2012).
Thereafter, agro-food French territorial analyses have been characterized either by an ethnological approach (Bérard and Marchenay, 2004) or by a quality focus (Sylvander, 1995).

A first definition of SYAL describes it as a "geographical grouping of agri-food enterprises, which endure and innovate starting from valorisation strategies of local resources and products" (Muchnik et al., 2007, p. 1).
More in general, its core theorization can be found in the definition of an agro-food system provided by Malassis (1994): "*la façon dont les hommes s'organisent, dans l'espace et dans le temps, pour obtenir et consommer leur nourriture*" (the manner mankind organizes itself in time and space to obtain and consume its food).
The concept was then extended to encompass other domains, as expressed by figure 4.6, when social, cultural, and organizational traits enter in the analysis, as well. In this formulation, several elements are in fact condensed together: the geographical space (the territory), the existence of small productive realities and their relationship with each other, the normative context (the governance), and, finally, the local know-how, tradition, and techniques. Through the SYAL it is thus possible to analyse actors, organisations, and products, linking all these features to a particular territory. Accordingly, a more extended definition describes it as "production and service organisations (agricultural and agrifood production units, marketing, services and gastronomic enterprises, etc.) linked by their characteristics and operational ways to a specific territory. The environment, products, people and their institutions, know-how, feeding behaviour and relationship networks get together within a territory to produce a type of agricultural and food organisation in

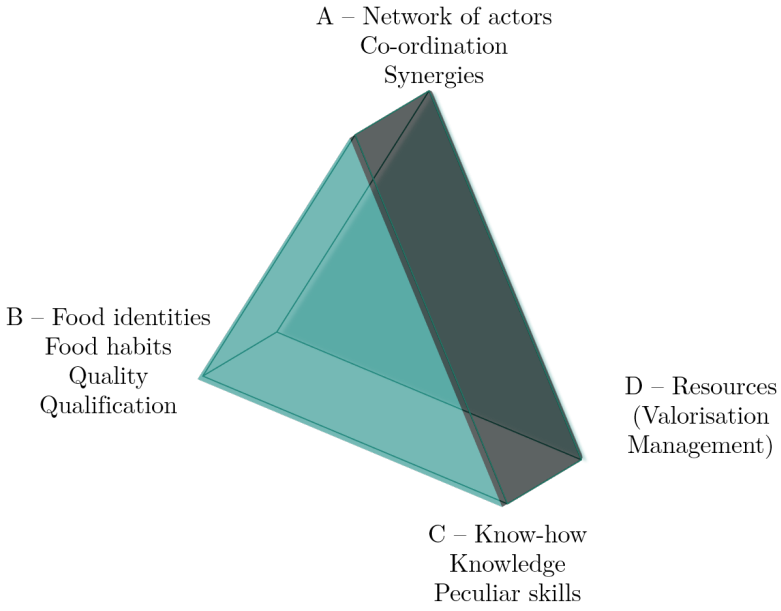


Figure 4.6: SYAL pyramid

Source: Muchnik, 2009

a given spatial scale" (CIRAD-SAR, 1996, p. 5). The *space* where a SYAL can be found is the territory conceived as "*une portion de l'espace géographique produite, vécue, qualifiée, appropriée par un ensemble social*" (a part of a forged geographical space, lived, qualified, and held by a social group), or shorter stated: "*espace construit socialement, marqué culturellement et régulé institutionnellement*" (a social constructed space, cultural delineated and institutionally administrated) (Muchnik et al., 2007, p. 5).

Therefore, it is clear that cross-disciplinary aspects are at the fundamental of the concept and they help in better understanding the dynamics occurring at a spatial scale.

Applying the SYAL concept, it is possible to detect a territorial anchorage, which is not fixed, but evolves in a time dimension, exactly as a consequence of the symbolic factors attached by the society living in that area.

As underlined by Perrier-Cornet (2009), also the SYAL-approach sheds light especially on immaterial features. In fact, know-how, cognitive resources, and reputation play a much more important role than the material resources. Not surprisingly CIRAD-SAR (1996) defined the SYAL as a "*laboratoire cognitive*" (cognitive laboratory). Knowledges and know-how within a territorial area are subjected to a selection process, they circulate and re-create themselves.

In such a context, a governance/institutional analysis is needed and thus the SYAL is meant as an economic and social model, able to foster a more sustainable and fair development process.

Referring back to the first CIRAD-SAR definition, an explanation about the meaning of *institutions* is provided. Depending on the context, institutions can be meant as identity related,[8] operational,[9] or administrative ones.[10] These guidelines provide the possibility to mould the SYAL theoretical tool to a great variety of systems. In some contexts, identity related institutions are the most important ones, whereas in other societies, knowledge-based transmission occurs mainly within enterprises or legislative frameworks. As already stressed, in such a frame, the territorial dimension represents at the same time both a physical and a functional domain, along with the cognitive one, and it is effectively expressed through a SYAL-approach.

The approach arose from three currents of research: the role played by small and medium enterprises, especially in developing countries (Moity-Maïzi et al., 2001), the increasing attention to the territory meant as a productive unit, and the research over the concept of quality, carried out in the agro-food realm.

[8] The report itemizes familiar, ethnic and religious structures.
[9] Firms, research institutes or professional organizations.
[10] For instance, public administration offices.

Hence, all the analyses conducted adopting the SYAL as theoretical approach, were considered notably worth to draw development paths and, in turn, to support the present research. In fact, as stated by Fournier and Muchnik (2011), SYAL is a "*façon de penser l'agriculture et l'agroalimentaire*" (an understanding of agriculture and agro-food production) and it encourages an interdisciplinary approach,[11] in which territory, agro-food production, and consumption are all equally explored.

The simultaneous analysis of all these features is even more important when conducting sustainable development studies (Muchnik and Sainte Marie, 2009). Consequently, adopting the SYAL concept was the most appropriate choice, due to the presence of all the key ingredients this research aimed to deal with. First, the territorial impacts and, second, the cultural aspects embedded in material products.

[11] The French scholars underline the "*interdisciplinarité axiologique*" (axiological interdisciplinarity) when dealing with this concept (Muchnik et al., 2007, p. 3).

Chapter 5

Econometric approach: a gravity model

The postulation that typical agro-food products exert far-reaching effects on a territorial level needs to be corroborated by evidence of data and objective analyses.

Consequently, an econometric model has been proposed to work out detection keys of the agro-food products' economic potential. Agro-food products were treated within the geographical *possibilism* strand of thought, thus linked to the territorial cultural promotion.

The purpose was to contribute to the rich panorama of scientific studies by investigating the ability of agro-food products in shaping the economic cultural space.

This paradigm does not exclude different products other than the agro-food ones: here it was argued that agro-food category can polarize other products and services, and its complex very essence makes itself so important. In fact, agro-food products tightly guard in themselves a very large range of cultural characters, as illustrated in chapter 3 and in chapter 4. In this frame,

agro-food products live in well-defined social and economic plot and they precisely draw blood from the context they are placed in.
As outlined in section 4.2, *terroir*-products are understood as economic tools, as well.
In the present research, the methodology adopted was the one of a *spatial model*. In fact, in so doing the analysis wanted to stress also from a methodological choice the importance played by the *territory*, since the SYAL is not just a theoretical concept, but it represents a living subject, which has to be taken into adequate consideration. For this reason, focusing the attention not on the prices themselves nor on the value-added (which can for sure reveal other important insights), the analysis preferred a spatial approach, wherein the SYAL shares the set as a primary actor.

In line with the final purpose and the rationale of the whole theoretical concept, the chosen econometric model was a *gravity* one: it consists of a spatial model, able to explain physical movements and interactions among territories.
Due to the way the proposed method is conceived, it can be applied to several scenarios, both to evaluate pre-existing situations (in an *ex-post* approach) and as a predictive tool in a decision making process, i.e. in an *ex-ante* process. In the first case, the model can confirm or point out perfectible situations of peculiar development paths, which take place on well-defined geographical spaces. Furthermore, a comparison among similar territories can be made. In the second case, the model can aid the process of detecting economic and cultural potentialities of local areas by predicting their attraction power. In particular, these analyses should be followed by concrete tools and policies effective at capturing and protecting such possibilities.
However, the quantitative model is just presented to give an insight of a

possible explanation beneath observable interactions and attraction forces. Nevertheless, since "numerical measures produce a world knowable without the detailed particulars of context and history" (Merry, 2011), to fully appreciate territorial features and trajectories, the analysis must be coherently complemented by a qualitative appraisal. Moreover, due to the nature of the investigated subject (viz. intangible factors in tangible goods) also from a rigourous conceptual angle, qualitative methods complement the investigation purpose. This clearly emerged in the model application to the cases presented, specifically in section 6.3.4.

5.1 Theoretical underpinning

As described by professors Haynes and Fotheringham, gravity models are a sub-category of spatial interaction models, which "encompass any movement over space that results from a human process" (Haynes and Fotheringham, 1984, p. 9).

Hence, these models have been adopted in a large variety of fields. Many studies in economics chose gravity models to analyse commodity flows (De Benedictis and Salvatici, 2011) or retail locations, or transportation movements.

However, the application to human sciences, such as linguistics, knowledge transmission (Gould, 1975), or anthropological studies (Kasakoff and Adams, 1977) is even more fascinating. Indeed, spatial interaction models are effective to detect human social behaviour, since "one of the distinguishing features of human behavior is the ability to travel or move across the face of the earth and to exchange information and goods over distance" (Haynes and Fotheringham, 1984, p. 10).

On the whole, gravity models can be used to describe interactions occurring in several domains, among people and geographical spaces. For the purpose of the current research, this interaction model was used to describe touristic flows distribution among several areas. Interaction and exchanges among territories were here understood in cultural and soft terms, as well, not merely as goods or monetary flows, which are generally driven by other reasons. Coherently with the conceptual framework of the present study, a gravity model has been implemented, aimed at identifying the interactions between territories and detecting the capability of specific areas to attract other regions.

The interactions deemed to be consistent in a "cultural" perspective are the touristic flows. Indeed, the touristic phenomenon is suitable to detect movements and flows and it is argued that these flows entails in themselves also strong cultural grounds.

Thus, the ground hypothesis is that touristic flows represent a relevant aspect of cultural interaction, understood as the willingness to enter in contact with traditional mores or typical products. In this regard, the current place-oriented promotional strategies, at least for the European countries, are often tied to wine and gastronomic-routes. Coherently, the supply of particular packages focus very often on food and beverage products. In turn, touristic movements affect the employment rate in the related sector (and by-sectors, as well), especially for those European regions that firmly base their income on tourism. Having a great impact on several aspects, touristic flows driven by typical products can represent a strong means to let rural and marginal areas retrieve their appeal and vitality.

On this basis, the model here presented is aimed at detecting supposed touristic attractiveness of territories that exhibit strong cultural identity, rooted in the gastronomic tradition.

Looking closely, gravity models apply the well-known Newtonian law to human "flows".

Two distinguishing features are directly derived by the ones entailed in the classical physical law: i. the distance effect: the closer people, places, and activities, the higher the probability of interaction among them, and ii. the scale effect: the greater the size of a given system, the higher the attraction force it can exert on other systems. For this reason, the basic formulation of this kind of model is directly proportional to the size of the "planets" taken into consideration and inversely proportional to the distance between them. The first and easiest formulation of a gravity model applied to human flows is expressed by the general equation

$$T_{ij} \;=\; k\,\frac{P_i\,P_j}{d_{ij}}\,, \tag{5.1}$$

where T_{ij} represents the interactions between planet i and planet j, P indicates the mass variable (in this case the related population of the two areas considered), and d_{ij} the geographical distance between them.

The scale parameter k needs to be added in order to contextualise the observed phenomenon. It represents the inherent feature of the phenomenon under investigation, and its meaning is outlined in detail subsequently.

In the proposed interpretation of the model, the gravity interaction is used to describe the attraction capability of a (touristic) destination planet (territory) vs. the (touristic) origin planet (territory) which orbits around it. In such perspective, the size of the destination planet was expressed by its surface S, since more extended regions are supposed to potentially offer more attractions on their territory. Similarly, the origin planet's mass was conveniently represented by its population P, since the conjecture is that the higher the population, the higher the number of people willing to travel. Easily, the

interaction between origin and destination was a touristic flow, quantified by the yearly touristic arrivals in *destination* travelling from *origin*. Stated in mathematical terms, the general gravity relation 5.1 here reads:

$$TF_{ij} \;=\; k\,\frac{P_{O_j} S_{D_i}}{{d_{ij}}^{\beta}}\,. \tag{5.2}$$

Equation 5.1 is a basic formulation of gravity model, which can be in general extended to more complex forms. These forms are to be preferred in the case of phenomena ruled by particular size and/or distance effects. In details: i. the distance element and ii. the size variables can be modified according to the observed phenomenon by coherent exponents, and iii. the scale parameter k has to be adjusted in order to guarantee the consistency of the whole analysis. The general equation for a gravity model thus reads:

$$T_{ij} \;=\; k\,\frac{{P_i}^{\delta} {P_j}^{\alpha}}{{d_{ij}}^{\beta}}\,. \tag{5.3}$$

Analysing these specifications *seriatim* what the first point concerns, i. the so-called "distance decay" (or "friction of distance") need to be adjusted whether the effect of distance is proportional or not. In order to capture the real impact of this variable on the phenomenon, the distance is calibrated by a β exponent, which is able to describe how the interactions vary depending on space closeness/remoteness.

Generally, the β exponent takes a positive value, meaning that distance usually represents a limitation to interactions, even in human behaviours, since cultural and language differences may limit relationships and relations. The interaction is sometimes settled to decay with the square distance, per analogy with the Newtonian physical law.

In other cases, β assumes a negative value, meaning that distance represents

an advantage to exchanges and flows. It happens, for example, in the analysis of flight traffic when the opportunity to travel by aeroplane increases with the increase of the mileage, due to more convenient cost per mile.

In this research, the distance factor represents what may be called a *deterrence factor*, since a higher degree of interaction is expected among proximity places than among distant ones. Obviously, distance is a key factor for the phenomenon under investigation and for this reason the β exponent was worth deeper study and a more accurate calibration.

The decay exponent was calibrated according to real touristic domestic data (overall flows and shares split by origin regions) registered in year 2018 by two Italian regions: Friuli-Venezia Giulia and Marche. The choice of these two regions is well-suited since they represent, at least at the time of writing this dissertation, travel destinations which are not so popular at a national, as well as international level. They are not recognized as "must-be" places, i.e. destination exerting an outstanding attraction power, independently from the distance or the prices to reach them. If other Italian regions, like Latium or Tuscany, had been chosen, the distance effect would have overridden, since Rome or Florence, as other well-known historical cities or art towns, are generally considered very attractive destinations, even by people living in other continents. Furthermore, a reliable calibration requires data not altered by mass-consumption travel destinations, like popular international events attracting hundred of thousands tourists in a limited time: the world-known Venice film festival, the Biennale, or the Verona Arena opera festival are examples thereof.

Calibrating the exponent on two "marginal" destinations was then a reasonable choice in order to isolate and model the pure distance factor. Furthermore, both selected regions belong to the same administrative boundary. This

		Arrivals in 2018	
		Friuli-Venezia Giulia	Marche
Origins	Lombardy	265 909	1 878 174
	Friuli-Venezia Giulia	187 756	75 892
	Veneto	244 644	523 283
	Emilia-Romagna	97 394	958 137
	Lazio	78 999	707 281
	Piedmont	70 099	443 344
	Campania	39 528	278 554
	Tuscany	51 695	277 108
	Trentino-Süd Tirol	37 315	151 532
	Apulia	32 250	280 195
	Sicily	26 483	124 758
	Liguria	27 678	55 248
	Marche	22 497	1 245 367
	Abruzzo	12 659	176 113
	Sardinia	12 887	31 922
	Umbria	12 591	579 212
	Calabria	9 612	59 872
	Basilicata	4 451	41 790
	Molise	2 333	36 651
	Valle d'Aosta	1 822	12 870

Table 5.1: Data set β calibration

means that variables other than the distance (like toll systems or travels costs) should not bear much on travellers' choice.

The data set was processed as follows: arrivals[1] listed in table 5.1 were normalized over the total resident population of the origin regions[2] and the

[1] Source: regional database. What Marche region concerns: http://statistica.regione.marche.it/statistiche-per-argomento/turismo. Regarding Friuli-Venezia Giulia: http://www.regione.fvg.it/rafvg/cms/RAFVG/GEN/statistica.

[2] Source: ISTAT.

distance between origin and destination regions was computed as the geographical distance between the corresponding provincial capitals.[3] For the only case of Friuli-Venezia Giulia, the distances were calculated taking Udine as centre of gravity, instead of considering the regional capital Triest, since Udine is located in a more central position.

In addition, for internal arrivals (i.e. tourists coming from the same region as the destination one) distance was inferred starting by the average radius of regional surface area.

The average radius is calculated by the geometric formula: $r = \sqrt{\frac{S}{\pi}}$. This choice is graphically illustrated for Friuli-Venezia Giulia in figure 5.1.

Figure 5.1: Distance for regional local arrivals

Source: Own elaboration from map downloaded from eagleFVG

The final distance considered for internal regional flows was half of the average radius r. The two regional trends describing the distance deterrence phenomenon are represented by the scatter plot in figure 5.2. Observed data

[3] The geographical distance taken into consideration was the road distance based on the road network database provided by the Geographical Information System and processed by GoogleMaps.

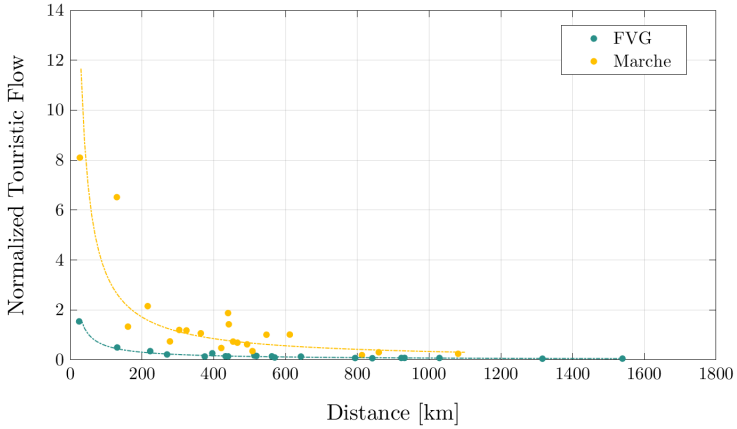


Figure 5.2: β values calculation

Source: Own elaboration

are fully consistent with the expectation: the farther the destination, the less the arrivals. Next, through a non linear LS regression for both data series (shown in figure 5.2), the β values that best fit the observed data were derived. The two values are very similar and close to 1. Finally, the arithmetic mean of the two values extracted for the two regions was calculated and proposed as distance exponent for the model:

$$\beta = 0.94.$$

Of course statistical convergence of β exponent would require further investigation and a more extended source data set.

Nevertheless, for the purpose of the present work, the assessment of β as above described is acceptable, since the focus here is on the methodology. The level of β accuracy does not question the validity of the approach potential. In general: the larger the exponent β, the higher the impact exerted by

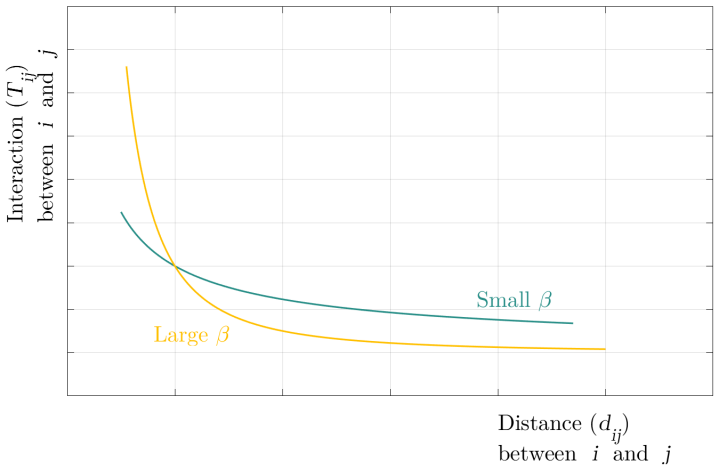


Figure 5.3: β exponent

Source: Haynes and Fotheringham, 1984

distance as summarized in figure 5.3.

ii. Concerning the second factor, i.e. the size variables, masses' effects can be adjusted similarly to the distance decay by *ad hoc* exponents (δ and α in equation 5.3). These exponents allow to capture aspects other than the mere surface or population extent; precisely additional factors, which can potentially affect some specific kind of interactions T. For example, the income level when examining expenditure flows or the educational level when observing conferences' attendance.

High values of these exponents mean a larger propulsive/attraction force of large *planets* compared to smaller ones. Stated in different terms, twice the size would correspond to more than twice capability of the planet to interact. For sake of simplicity, in the present research δ and α were set equal to 1, since it was assumed, without loosing generality, that different communities in Europe have approximately similar attitude to travel and a common vision of touristic promotional measures. Further analyses may lead to different

values for δ and α exponents by examining, for instance, the average touristic expenditure levels in different European countries. The difficulty lies in gathering precise data and in isolating coherent and similar *planets* samples: the cases to be selected for δ and α regressions must lie at the same distance from a given gravity centre, their population income must be comparable, as well as the consumption habits and the demographic structure. Otherwise differences in propulsive force/attractiveness may be affected merely by income level instead of size effect under investigation. Likewise, the territorial surface extension by itself should also be weighted according, for instance, by the number of world heritage sites or the activities organized by cooperatives or cultural associations related to a particular product.

iii. Regarding the last item, a parameter k has to be included to catch the difference in the magnitude of the observed phenomenon, the so-called *phenomenon rate-characteristic*. In the present application, this parameter was referred to as the territorial *specific attractiveness*, in that it offers a measure of the capability of territories to exert an influence over the geographical space they belong to. In the research, parameter k was derived by solving an array of equations based on a so-called *attraction constrained gravity model*. In fact, the general equation 5.3 can be implemented in a number of ways, leading to specific interpretations of interaction systems. The choice among these variants is a key step towards a proper formulation of the "touristic flow" gravity model, and the consequent definition of the k parameter.

5.1.1 Gravity models family

Starting from the general equation 5.3, many methods have been developed to make the basic model adhere more accurately to a variety of real cases. Thanks to these extended formulations, today it is possible to choose among

a wide *family of gravity models*, whose distinguishing features derive from extra constrains imposed on subset of interactions among planets (Wilson, 1971).

In detail, within the same gravitational system, interactions can be studied under different constraints and, as a consequence, four different types of models can be formulated. i. A first case occurs if additional information reveal the observed total number of interactions within the system (*total flow constrained gravity model*), without any further specifications around inflows or outflows provenance. ii. A second option is feasible when data are available about the total outflows from each origin planet, O_j. In this case, the model is a *production constrained gravity model*. iii. Specularly, if additional information concern the total inflows into each destination planet D_i, the model is referred to as *attraction constrained gravity model*. iv. Last, if available data cover both the inflows and the outflows distributions, it is possible to formulate the so-called *doubly constrained gravity model*.

The third model-typology was chosen for the present research, due to the very nature of the phenomenon it deals with. In fact, the phenomenon under investigation is the *attractiveness* power of rural destinations, following the conjecture that *terroir*-products can be effective as driver for the touristic appeal. The phenomenon to be observed and described is that of touristic flows from several origin areas, O_j, directed towards one single destination centre, D_i: the enquired territorial area.

Figuring the (touristic) flows in a matrix representation, in the present research the analysis proceeded by columns, as illustrated in table 5.2.

Provided that each overall inflow T_i pointing to destination D_i is known, the specific attractiveness k_i of the territory i can be estimated. The resulting model yields a portrayal of the "touristic power" exerted by territories within

		Destinations			
		D_1	D_2	...	D_N
Origins	O_1	O_1D_1	O_1D_2	...	O_1D_N
	O_2	O_2D_1	O_2D_2	...	O_2D_N
	...	...	...	...	...
	O_N	O_ND_1	O_ND_2	...	O_ND_N
		T_1	T_2	...	T_N

Table 5.2: Attraction-constrained gravity model

the gravity system. Stated in different terms, models describing flows directed towards a given destination are also known as *destination-specific* models, whereas models addressing flows originating from a defined origin place towards existing destinations are defined *origin-specific* models.
The latter model-typology is represented in table 5.3. In this case, the required additional information are the overall interactions originating from a given place O_j and the analysis is focused on rows instead.

		Destinations				
		D_1	D_2	...	D_N	
Origins	O_1	O_1D_1	O_1D_2	...	O_1D_N	T_1
	O_2	O_2D_1	O_2D_2	...	O_2D_N	T_2
	...	...	...	...	...	...
	O_N	O_ND_1	O_ND_2	...	O_ND_N	T_N

Table 5.3: Production-constrained gravity model

Looking more in depth at the procedure adopted in the present research, the first step consisted in applying the general equation 5.3 (according to the

aforenamed specifications of the size exponents) to the touristic interactions

$$T_{ij} \;=\; k\,\frac{O_j D_i}{{d_{ij}}^{\beta}}\,. \tag{5.4}$$

To define the O_j and the D_i masses, the surface area S was adopted to describe the *receiving* area D_i, whereas the population P was eligible to express the mass of the *sending* areas O_j.

The choice of the mass variables is arbitrary, since it is linked with the phenomenon to be analysed: *population* and *surface* are just specific attributes taken as representative of the touristic flows, since they are quite reliable to denote the propulsive force and attraction force, respectively.

Now, equation 5.4 is to be applied to a system, i.e. a broad number of interactions occurring among planets.

Indeed, in real world interactions are not restricted to one single flow between two defined planets: destination planet D_a and origin planet O_b. Thousand flows exist either directed toward several destinations D_i, or moving from several origins O_j in a complex system of multiple interactions.

As explained, the perspective here adopted is that of focusing on each planet (territory) conceived as a touristic destination, and the overall touristic inflows towards it is considered: summing equation 5.4 over j gives:

$$T_i \;=\; \sum_j T_{ij} \;=\; k_i \left[\sum_j \frac{P_{O_j} S_{D_i}}{{d_{ij}}^{\beta}}\right]. \tag{5.5}$$

In a systemic view, solving the equation 5.5 yields the k_i parameter for each destination, whose total touristic inflow is known. Of course, the gravity system can be also constrained by only imposing the total touristic flow

$$T \;=\; \sum_i T_i\,.$$

In this case, equation 5.4 is summed over ij thereby obtaining

$$T \;=\; k \left[\sum_{ij} \frac{P_{O_j} S_{D_i}}{{d_{ij}}^{\beta}} \right]. \tag{5.6}$$

Under this weaker constrain, only general analyses can be proposed, limited to the average touristic capability within the system. In section 5.2, the data and hypothesis used to solve equation 5.5 and equation 5.6 are outlined.

5.2 An attraction constrained gravity model

Once defined the *attraction constrained gravity model* as the most suitable econometric model to carry out the present analysis, a complex work to collect data was conducted.

What the geographical units concerns, the chosen level was the European NUTS 3 level: the tiniest administrative statistical units as outlined in section 2.2. By this choice, it is possible to conduct investigations at a relative precise local rank covering at the same time a wide geographical surface, if referred to the European continent.

The NUTS 3 version adopted was the one currently on force at the time of writing (viz. version 2016), as illustrated in figure 5.4. The total number of units recorded geographically covers the EU-27, United Kingdom, and other countries, such as the one pertaining the European Free Trade Association (EFTA), candidate countries and potential candidates, like Albania, Turkey, Serbia, Montenegro, and North Macedonia. It results in 1 519 units as a whole. Geographical coverage represents sometimes a problem by the EUROSTAT database, as well as the major issue by several of its tool: the source of data set is not explicitly indicated in its infographics or interactive tools. Further investigations should profit from a more transparent and lean

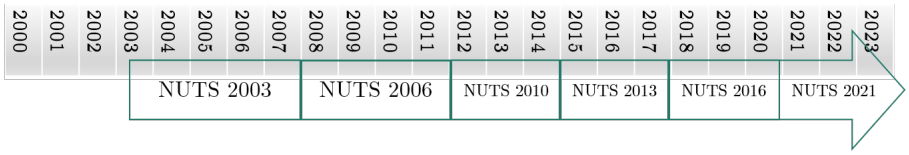


Figure 5.4: NUTS history

Source: EUROSTAT

retrieving data system. Nevertheless, there were some advantages in adopting the EUROSTAT database: relying on the same nomenclature provided, first, the opportunity to construct a comprehensive data set for each NUTS, and, second, a comparison among territorial units was possible, thanks to quite homogeneous data definition, at least in general terms.

Next, to compare results in a statistical stance, data for typology, population, surface, and flows were all cross-checked with the purpose of obtaining a coherent comprehensive multiple and usable data set.

Data around NUTS-typology, related population, surface, and touristic flows were collected from the EUROSTAT database, regions distances were obtained from the Tercet tool. Raw data were first collected from the data set as reported in table 5.4 and then processed by means of a MATLAB® code. Specifically, the following data sets were used: for typology, data were collected from *NUTS typology 2016*,[4] for population, they were derived from *Population on 1 January by age group, sex and NUTS 3 region*,[5] what the surface concerns, data were gathered from *Area by NUTS 3 region*, year 2016 coherently with the typology registration.[6]

[4] Accessed March 28, 2020.
[5] Accessed March 26, 2020.
[6] Accessed April 4, 2020.

Data required	Level	Period	Sources
Typology	–	2016	Eurostat database
Population	NUTS3	2018	Eurostat database
Surface	NUTS3	2016	Eurostat database
Touristic interactions	NUTS2	2018	Eurostat database
Distance	NUTS3	2016	Tercet database

Table 5.4: Model data set

Touristic flows required further elaboration. Indeed, the data at disposal (*Nights spent at tourist accommodation establishments per square kilometre*[7]) are just entered at NUTS 2 level, fact which required an additional step to scale the inflows at appropriate level. NUTS 2 inflows were scaled at NUTS 3 level, according to the ratio between the respective surface areas.
All these steps accomplished, the ultimate working database rests on a systematic and comprehensive data set consisting of 1 396 NUTS 3 regions as a whole: on this data set the model was constructed.

After the construction of the database, the analysis was performed with a systematically data processing, extracting from equations 5.5 the specific attractiveness k_i of each NUTS 3. Results are collected in Appendix A. In addition, equation 5.6 was applied in a total flow constrained approach to three gravity (sub-)systems: the European rural regions, the urban ones, and the whole NUTS 3 system. The corresponding k parameters satisfying

[7] Accessed April 19, 2020.

equation 5.6 result as follows

$$\begin{aligned} k_{overall} &= 1.0036 \cdot 10^{-3}; \\ k_{rural} &= 0.6714 \cdot 10^{-3}; \\ k_{urban} &= 1.2003 \cdot 10^{-3}. \end{aligned}$$

Figure 5.5 summarizes the specific attractiveness distribution of NUTS 3 planets, in comparison with the average levels of urban, rural, overall subsystems.

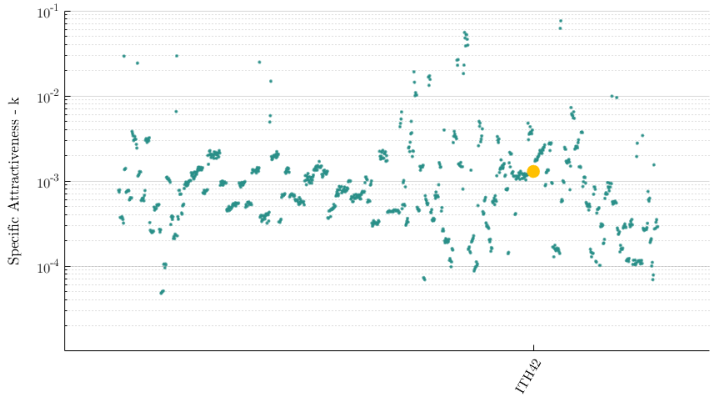


Figure 5.5: Specific Attractiveness

Source: Own elaboration

As outlined in section 5.1, the k value denotes the phenomenon magnitude: the higher the k, the more attractive the territories are. Interesting insights arise from a comparison of the magnitude derived by the implemented theoretical model with real data, as indicated in section 5.3. As a result, the proposed model serves two purposes: it can be applied from a policy implementation stance with the aim to compare the territorial performance with other areas pertaining the same typology (*ex post* analysis) or to implement measures and activities *ex ante* directed at increasing the self k value.

5.3 Model validation

The distribution modelled on the presented attraction-constrained gravity model expressed by equation 5.5 could then be compared with the real distribution to see whether the phenomenon do conform to it, in which case the assumptions of gravity relations explain them. The fit of the model to real data is necessary in order to hopefully extend it the the whole population sample (i.e. to the whole dataset and geographical coverage).

The model was validated against the Friuli-Venezia Giulia data (the same adopted to calibrate the β exponent). As depicted in figure 5.6, there is a quite satisfactory correspondence between the trend obtained by the model and the real data, fact which gives an insight of the reasonable approximation produced by the model.

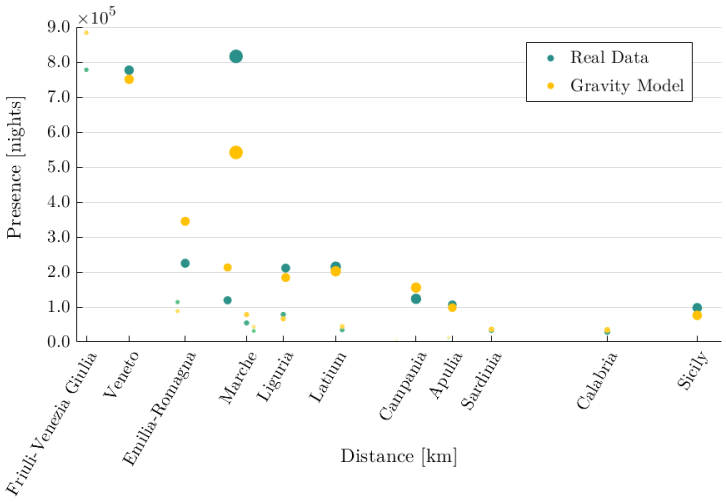


Figure 5.6: Model validation

Source: Own elaboration

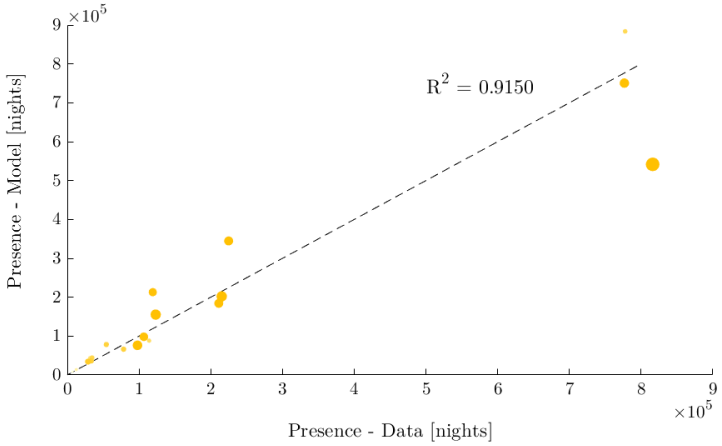


Figure 5.7: Model vs. observed data – regression

Source: Own elaboration

In figure 5.6 dots are representative of the sending planets' extent: their population is rendered through the size and shade of the spots. The bigger and darker the spots, the higher the population of the sending planets.
The k parameter used to run the model validation was estimated conveniently. Due to the fact that the available data are complete for the domestic inflows, a specific domestic k parameter was calculated, based on equation 5.5 and data in table 5.5. The regression of model outcomes vs. real data is reported in figure 5.7. The resulting coefficient of determination is:

$$R^2 = 0.9150.$$

Albeit there are slight differences when comparing the model with real data, the trend outlined by the proposed model can be used as a benchmark to detect opportunities related to territorial resources of specific case studies compared against the overall European trend.

The limit of the model lies in its underlying assumptions: the estimates' choice is arbitrary (as already mentioned in section 5.1.1) and for this reason other phenomena (for instance local, cultural, or even political) were not taken into account by modelling the gravity version.
Interpretations and discussion around the results must therefore be highly accurate and can be only applied to deeply investigated case studies: they have

		Nights in 2018 Friuli-Venezia Giulia
Origins	Lombardy	816 058
	Friuli-Venezia Giulia	777 717
	Veneto	776 630
	Emilia-Romagna	224 944
	Lazio	215 263
	Piedmont	211 197
	Campania	123 291
	Tuscany	119 155
	Trentino-Süd Tirol	114 069
	Apulia	106 726
	Sicily	97 839
	Liguria	78 477
	Marche	54 419
	Abruzzo	34 505
	Sardinia	33 233
	Umbria	31 518
	Calabria	28 861
	Basilicata	12 593
	Molise	7 186
	Valle d'Aosta	5 344

Table 5.5: Dataset for model validation

to be explored from a 360° perspective, in order to interpret results obtained from the model in a reasonable way, without trivialize them through a broad generalisation. In fact, the aim of the model is not the one to comprehensively explain real cases, either more it is proposed as a methodology useful to delineate a trend and depict an attraction force. If further investigations and observations thereof are conducted, this will enable to portray and explain a larger range of forces and variables operating at territorial levels.
Notwithstanding the limits, the conceived model can be useful from a global stance for policies implementation at a macro level, which requires next definite local and micro tailored declensions.

Chapter 6

Fieldwork conducted

6.1 Selection criteria

The selection of the case studies was underpinned by the theoretical framework and driven by the general thesis and by the main research questions. With this aim in mind, a thorough examination of European rural areas was carried out, searching for communities of strong cultural identity, where typical and historical agro-food production are recognized by the communities themselves to value as territorial lever.

In accordance with these general premises, particular rural districts located in so-called marginal areas were elected.
Besides, mountains territories were appointed to strongly preserve cultural identities. Historical reasons sustained this conjecture, in addition to the geographical setting of being clear of the global processes of economic standardisation and optimization. In other words, it was supposed that mountain communities, owing to their natural structure, have preserved their cultural peculiar features more than other territories have. In fact, due to their heavy orography, mountain territories are subjected to be, more than other regions,

shaped by the human events, which deeply influence the biological diversity, as well. On account of their remoteness and the tough climatic conditions they are often lashed by, the emergence of what Bérard and Marchenay (1998) indicated as "ecological and cultural niches" was encouraged during the centuries. Indeed, in mountain regions a trend to favour local breed or landraces is easy to ascertain. These contexts were then considered eligible units to be observed and analysed within the drawn framework and the set research questions.

These geographical units are fully characterised by unique traits which are not subjected to the standard productive logic of maximisation pursued through big and intensive farming systems. Conversely, they have to face topics like the environmental sustainability or the climate change effects on their productive systems; issues, which are actively encouraging small and extensive systems and which are stimulating challenging responses. For this reason, these areas are strictly intertwined with sustainability issues and they represent a crucial resource to re-think development patterns questioning the prevailing model. Especially agro-food production settled in these areas is strongly characterised by quality and distinguishing features, comparing to plaint products basically ruled by other "*conventions*" (see section 4.1.2).

In addition, in order to find representative situations, the choice tended towards border regions. It was assumed that distinguishing features moulded by steady and fertile exchanges and contacts within neighbours' cultures result in most cases in rich cultural expressions and identification processes. A cultural kaleidoscope is clearly detectable as arisen from long-running interactions and medleys, clearly manifest in some domains, such as the language (or languages and dialects resulting from a mix of several roots), or architectural construction ways, or the territorial management (rights of transit or grazing

rights), as well as intangible features, such as lifestyle and tradition.
Choosing representative case studies within mountain border regions represented a valuable synthesis of the issues to be herein discussed.
If on the one hand strong cultural identities can be negatively assumed when a nationalistic rhetoric is mobilized, on the other hand, in author's opinion multicoloured and varied cultural expressions represent a great potentiality from a broader scale: both for the territories they are linked to and, globally, for the whole community.[1] Analysing similar contexts can provide important hints around topical issues like sustainability-related aspects, or climate change challenge along with human viability and cultural preservation, suggesting one way to overcome some of the negative effects resulting from the agricultural abandonment in mountain regions (MacDonald et al., 2000). This cultural meaningfulness is of course fully recognizable in the case studies analysed in the research, and it is argued that especially remote regions and peculiar ones (owing to their historical and geographical background) hold such features in a more evident way.

Within these premises, fieldwork was undertaken: one conducted in Italy, in the Friuli-Venezia Giulia region on a double border with Austria and Slovenia and the other on the French Pyrenees in the department of Hautes-Pyrénées, adjoining Spain, as illustrated in figure 6.1. What the first example concerns, the analysis focused on the dairy production of the Cooperative: *Cooperativa Agricoltori Val Canale Ugovizza*, in the municipality of Malborghetto-Valbruna. The second fieldwork regards the meat production of an indigenous pork breed: the Guascon pig, or the black pig *noir de Bigorre*, in the Bigorre region.

[1] This idea is also supported by international organisations, like the UN, whose aim is to preserve and promote not only material heritage, but also peculiar human cultural expressions.

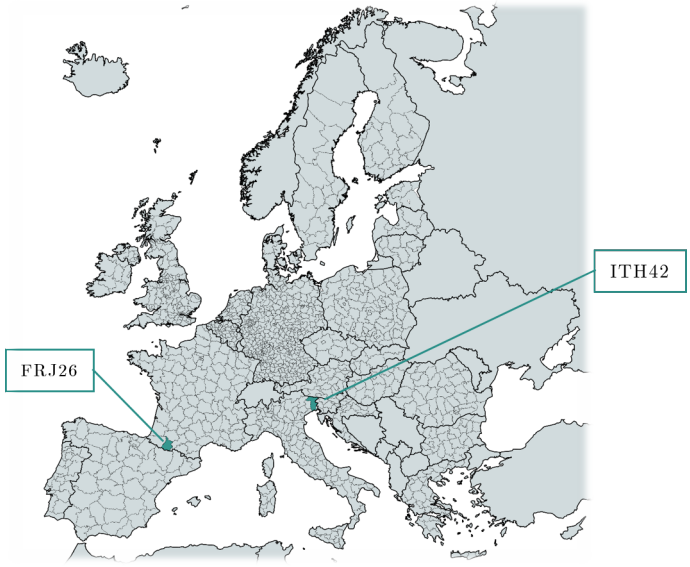


Figure 6.1: Fieldwork NUTS-3 areas

Source: Author's elaboration from mapchart.net

The case studies were selected by virtue of their peculiarities after the definition of the theoretical framework and the conceptual pillars to assess the significance of agro-food products from a rural development perspective. For the Italian case study I could benefit from the deep territorial knowledge of the *Agenzia regionale per lo Sviluppo Rurale del Friuli Venezia Giulia* (ERSA) (Regional Agency for the Rural Development of the Friuli-Venezia Giulia region), which has provided me bibliography suggestions and material to work on.

For the French case, I collected the majority of material during a personal stay in the Hautes-Pyrénées, at the CPIE in Bagnères-de-Bigorre, in summer 2019 within the visiting period spent at the INRA-Montpellier.

6.1.1 Research approach

In order to evaluate the contribution agro-food products exert on a wider scale other than just on the production chain, namely, taking the whole SYAL into consideration, the two case studies were considered to be particularly well-representative. Their territorial dynamics provide useful clues about the ways resources can be activated and preserved, with direct impacts on development patterns.

It can also be posit that a new approach pattern of sustainable production system ruled by cultural features can be adopted by all territories. The benefits for no laggings areas might even be stronger than in marginal ones. Such a hypothesis, when confirmed by more and more empirical observations and in-depth analyses, can also serve to define best practices and policy guidelines to support new production and consumption paradigms.

The observation and the analysis of the two case studies provided useful insights on the resource activation process and the strong involvement of several territorial actors. In fact, in both cases, the actors involved have successfully managed to preserve and awaken traditional agro-food sectors. Implications are obviously detectable at a SYAL level.

Policy recommendations addressing the problem of the disadvantages suffered by rural mountain territories can be derived. I suggest some goals: in the first place, to reconsider the great potential of rural areas, in terms of biodiversity protection, of knowledge and skills preservation, as well as of very peculiar cultural *koinè*. The strong territorial link of a product is potentially hampered by a loose in the demographic structure, economic viability, and a weak sustainable resource management.

Consequently, I believe that policies encouraging local viabilities should be endorsed, along with measures promoting citizens' and consumers' practices

attentive to the cultural values and careful about the relevance kept by traditional agro-food products.

6.2 Dairy products in Ugovizza

6.2.1 Geographical and historical frame

The municipality of Malborghetto-Valbruna (*Malborgeth-Wolfsbach*) is located at the Italian north-east border, in the Friuli-Venezia Giulia region.
It is a little municipality, a so-called *comune diffuso*: a distributed municipality composed by five hamlets on a total surface of 124,21 square km and counting 908 inhabitants.[2]

Figure 6.2: Malborghetto-Valbruna municipality

*Source: Own elaboration from Eagle*FVG

The territory is comprised in the Tarvisio Forest: Italy's largest State forest (parks excluded) and one of the most complete fauna system in the Alps. In fact, the deep valleys of Rio Bianco and of Malborghetto have been

[2] Data source: ISTAT. The population data refers to the calender year 2020 and, at the time of writing, it is still a provisional data.

declared Site of Community Importance by the European Commission with the code IT3 320 005 from the very beginning in 1995, when the initiative Nature 2000 was adopted. The fact to be comprised within this network reflects the strategic importance from a natural biodiversity perspective, which is not the only peculiarity of this territory. Indeed, the Val Canale Valley represents a rich example also from an anthropic point of view.

Firstly, thanks to its geographical and historical background, the area lies at the crossroads of languages and cultures where Latin, Slavic, and Germanic groups have been meeting and have been living together for centuries. Since the VII century a.D., the territory faced the settlement of barbarian population (Slovenes) on the previous Roman enclave and from the XI century to 1759, Germanic tribes had settled in the Valley, as well. During the latter period, the whole territory was controlled by the Bishop of Bamberg, then by the Austro-Hungarian Empire until the end of the first World War.

This overlap of three major European languages families results in a probably unique pot in whole Europe, which nowadays is still acknowledged and promoted through the introduction in the nursery and primary schools of the Content and Language Integrated Learning System in all the three languages. This strategy is supported by the public administration and the local government. In addition, the contribution and the strong commitment of the local cultural association: the *Kanaltaler Kulturverein* represents a key success factor in keeping all languages alive. The *Kanaltaler Kulturverein*, was founded in 1979 to preserve the local German language and culture of the Valley and it is committed to large varieties of activities.

The historical *koinè* is also reflected in a specific territorial management, which strictly relates the juridical experience with the geographical assets. In this case, it results in distinctive rights of exploitation (more precisely, wood

exploitation rights). Furthermore, the presence of the three ethnic groups has steadily encouraged different summer pastures' management models. In the Val Canale Valley the model is forged upon the "Italian" pattern: herdsmen practise summer alpine pastures', where the mountain huts mainly belong to the local public bodies and served all the community-herdsmen.
The habit of moving livestock from one grazing ground to another in a seasonal cycle, typically to lowlands in winter and highlands in summer, endorsed the emergence of a particular form of living and production-unit, which is called *malga* (the alpine hut). This particular organisation characterises the Alpine region in the Friuli-Venezia Giulia region and it is peculiar in the analysed territory. From a cultural point of view, the importance of this organisation and production form is also stated in the regional Rural Development Programme in force and is acknowledged as a strength at point 12 (Regione Friuli-Venezia Giulia, 2019). Similarly, in the area peculiar rights of collective use on the pastures grasses (closed common properties) are still in force and are also valid for the neighbours Austrian and Slovenian consortia: properties are managed by common property organisations. In the present case study it concerns the *consorzio vicinale*, or *Nachbarschaft Gemeinde Weide Uggowitz*.

6.2.2 Economic scenario and product description

Obviously, the economic activities undertaken in the Valley have always been subordinated to the peculiar geographical conditions: the territory is more suitable for grazing, rather than for farming. In fact, according to ISTAT, the Utilised Agricultural Area (UAA) drop more than 80% in two decades (1990-2010) and nowadays the 99% of the UAA is represented by pastures and grasses, which means: it is largely exploited for livestock and dairy production

activities.[3] The number of farms activities registered in the municipality dropped in the last decades (table 6.1), likewise the tendency in the area.

	Year			
	1982	1990	2000	2010
Nr. farms	125	128	62	42

Table 6.1: Number of farms in Malborghetto-Valbruna

Source: GAL Open Leader (2013)

A contraction in farming activities results in a consequent land abandonment, in line with the general trend affecting whole rural districts in Europe (as outlined in chapter 2), with evident effects also on the landscape management.

The loss in economic activities (in this case mainly farms) represents a major threat for rural viability, which directly reflects back into a demographic decrease. In the last decades the residents in the area are in a sharp decline, contrary to the general regional trend, as clearly visible in figure 6.3: the population index rebased to 100 on 1991 shows a dramatic fall.
In turn, demographic curves can affect the delivery of public facilities'.
According to the data presented by the Region to define the so-called *aree interne*,[4] in the area (Val Canale Valley and its neighbouring Fella Valley), in 2015 there were seven primary schools with an average of 45,9 pupils per schools (the 75% of all municipalities had its own school), the lower secondary schools were four with roughly 60 pupils each school, and the upper secondary

[3] In Italy the Agricultural General Surveys were conducted every ten years by the ISTAT and are the only ones providing local micro data at municipality level. The next survey will refer to year 2020 and will start in October 2020. Accordingly, the VI Agricultural General Survey conducted in 2010 was the most recent database to get detailed data at municipality level at the time writing. https://www4.istat.it/it/censimenti-permanenti/agricoltura.

[4] Internal areas defined to pursue regional and cohesion policy objectives.

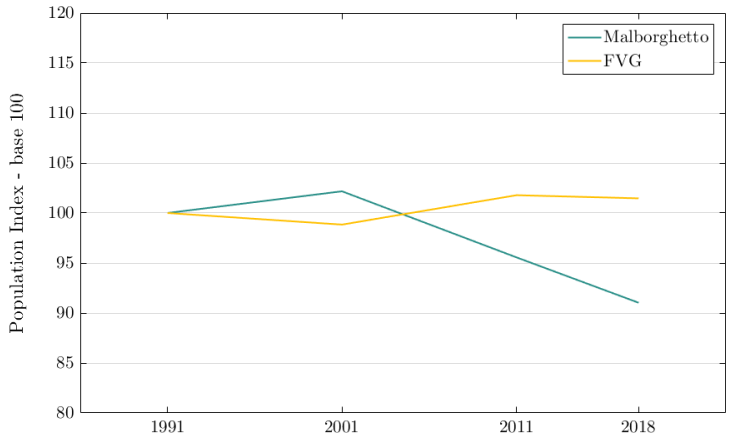


Figure 6.3: Regional and local demographic trend

Source: Own elaboration from ISTAT

schools were two, obviously with a higher student average (111,5 pupils). Comparing this situation with the other regional areas defined by the Region as *aree interne*, the school distribution is quite satisfactory if we consider that the other regional areas consist of a larger number of municipalities (Regione Friuli-Venezia Giulia, 2015).

Health facilities are obviously the other basic public facilities, which can affect the choice to stay or to leave an area. Unfortunately, neither in the regional dossier (Regione autonoma Friuli-Venezia Giulia, 2019) nor on the national database ISTAT, it was possible to find the number of peripheral health facilities at a municipality level. This element could provide further insights in evaluating the territorial viability.

Lively economic activities, demographic balance, primary healthcare centres facilities along with primary and secondary schools, are all strictly intertwined aspects which affect the future of peripheral territories, contributing in maintaining also peculiar cultures alive if wisely managed.

Generally speaking, the Val Canale Valley has been associating its usual economic sector (livestock activities and the related dairy production) with touristic business for several years (GAL Open Leader, 2013). The touristic dimension completes and integrates the income of the workers employed in the agricultural sector and a synergistic collaboration among several actors is clearly detectable in this case.

In virtue of this feature, the way the model presented in chapter 5 is implemented represents a valid tool to understand and interpret this specific territorial case. Thanks to a multifunctional approach of the farmers, the area denotes a vivid life, and it has been able to relaunch its image to attract tourists and to promote its products.

More specifically, looking closely at the dairy value chain, in the Val Canale Valley there are around 20 husbandries counting about 140 dairy cattle, whose milk is processed by the local farmer cooperative: the *Cooperativa Agricoltori Valcanale*.

The dairy belongs the Cooperative itself, and it also processes milk coming from a neighbour Valley (i.e. Resia Valley, which transfers half tons/day to Ugovizza). The Cooperative sells mainly its products directly at the store located near the dairy in the village of Ugovizza and it supplies some restaurants in the surrounding area, (GAL Open Leader, 2013).

The *Cooperativa Agricoltori Valcanale* is member of the *Friulmont* Consortium, alongside four other dairies.[5] The *Cooperativa Agricoltori Valcanale* was founded in 1967 and nowadays it mainly consists of milk producers (23 members) and few other farmer members producing organic vegetables and fruits, honey, and food products. These latter products are mostly processed for self consumption or delivered to local touristic accommodation (mainly

[5] The aim of the Consortium is to contribute to an equal territorial development promoting local dairies and products coming from the Friuli mountain territories.

farmhouses, mountain and alpine huts), even if there are some little production which are becoming more and more important.

A concrete example thereof is the so-called *Most*, a pear cider obtained by processing a local ecotype: the *Klotzen*.[6] Similar processing phases and final product can be found in the neighbour regions in Slovenia and Carinthia (Corradini and Innocente, 2017), denoting once more the strict cultural exchanges among these areas.

Nevertheless, the main production for the cooperative is represented by the milk processing: each year around 737 000 litres milk are transformed.

The milk and the dairy products are processed following the mountain specificities: more than half of the dairy cows move to the highlands in summer and all of them are fed with local forage. Concerning the processing stage, the products are the typical ones of mountain regions, more specifically the one, which can be found in alpine huts', whose methods date back to the Patriarchate of Aquileia (XI-XV century).

The tradition requires the mixing of the semi-skimmed milk from the evening milking with the whole milk from the morning milking. Moreover, the mixed milk has to be processed row. In this way, enzymes and probiotics are preserved contributing to highly distinctive aromas, textures, colours, and flavours. The effect of native pasture on the aroma, sensory profile, and health properties of cheeses produced in this way is therefore one distinguishing feature. The milk is then warmed to around 32 - 36 degrees centigrade and bovine rennet is added to coagulate it. The curds produced in this way are left to set and they are separated from the whey by hand, until obtaining curds as large as a bean. The substance is then heated up by wood fire to 42 - 48 degrees centigrade in copper kettles, left aside for 10 - 20 minutes and,

[6] The fermented drink is included in the regional list of the *Prodotti Agroalimentari Tradizionali* (PAT), Traditional Agro-Food Products, established per law in 1999.

at the end, the curd is pressed into moulds for six - eight hours, left apart until the next morning, when they are brined up to 48 hours. The cheese is then stored on wooden boards and ripened up to 30 days.

The product obtained following these steps is known with the generic name of *formaggio di malga*, and the production steps are the same adopted in producing the *latteria* cheese.

The traditional historical heritage is still alive within these production as denoted by the same processing steps as the past ones and the use of ancient equipments.

Along with the typical *malga* cheese, the Cooperative also produces a PDO cheese: the *Montasio*. It is the only Cooperative in the Friuli-Venezia Giulia region producing the Montasio labelled with the *mountain product* certification.[7]

Even if the Montasio cheese benefits from a PDO label, the definition of the geographical production area outlined in the Single Document extends over a large surface, running between the Friuli-Venezia Giulia and Veneto regions (PDO [2010] O.J. C212/9 [4.3]). This fact results in a weak identification process of the local actors and not surprisingly in a recent survey presented in 2019, the request for distinguishing the Friulian Montasio from the Veneto's one seems to be very popular among producers and actors of the dairy value chain (AgrifoodFVG, 2019). However, this product, jointly with the other cheeses and Cooperative products, contributes to the promotion of the area. The success' key is just the joint supply of several agro-food products (for

[7] According to i. art. 31 of the EU Regulation 1151/2012 of the European Parliament and of the Council on quality schemes for agricultural products and foodstuffs, 2012 O.J. (L 343) 1., and ii. as defined by the Italian Decree Order 57167/2017 Disposizioni nazionali per l'attuazione del regolamento (UE) n. 1151/2012 e del regolamento delegato (UE) n. 665/2014 sulle condizioni di utilizzo dell'indicazione facoltativa di qualità «prodotto di montagna», in G.U. 214/2017.

instance, the *Most* is consumed with the Montasio cheese and other local dishes) and the joint supply of these products within a strong and attentive promoted territorial context.
The key factor seems to lie in the touristic promotion and the multiple actions undertaken to encourage an enlightened resources' activation process.

6.2.3 Actors and actions

Several events and collaboration among actors have been running for years. From the one side, the involvement of public bodies is effective. Above all the one of the Region itself, which strives for innovative promotional strategies, through its touristic department (the regional Integrated Destination Management Organization: PromoTurismoFVG).
From the other side, the synergism between local and private commitment plays an insightful contribution. The activities of several actors are all directed to the same aim of sustaining the territory.
In such a scenario, the actions are various. For instance, since 2015 the *Cooperativa Agricoltori Valcanale* has been collaborating with a local cultural association: the *Landscapes Association*.
From their collaboration several proposals have arisen and they were directed at raising interest and augmenting knowledge around cultural, historical, and natural features of the area. In combination with exhibitions, trekking, and sport experiences, in 2018 the two local actors worked together on an inventive idea: they begin to produce a cheese ripened in the Alpine Wall located in the area. The different skills and souls of the actors mixed to valorise a food product associating it to an unique architectural building, which holds a strong historical value: the fort. The idea behind the project is to disclose the local historical peculiarity: the area, set at the crossroads

of several cultures and countries, has kept for a long time a strategical role from a diplomatic and military perspective. This peculiarity is then conveyed and communicated through a food product, which once more becomes the bridge linking together the several territorial dimensions. The food-product becomes somehow a lively keeper of the collective memory.

The same valorisation and preservation aims are pursued by other actors, such as the Local Action Group (LAG) OpenLeader, established in 1998. Besides Italian public administration representatives and institutions, also two Austrian boroughs (Gemeinde Hermagor-Presseger See and Gemeinde Arnoldstein) and two Slovenian ones (Občina Bovec and Občina Granjska Gora) sit amongst its members. This is a unique example of foreign participation within the scenario of all others regional LAGs.

This involvement facilitates also the steady participation in INTERREG projects (i.e. Interreg Italy – Austria Programme) and the particular attention towards local issues and best practices observed abroad.

Finally, the above mentioned *Kanaltaler Kulturverein* exerts also a very active role in promoting the local language and culture and it benefits from being member in the network of the Council of the historical German-speaking areas in Italy (*Einheitskomitee der historischen deutschen Sprachinseln in Italien*).

The synergistic work, grounded on a bottom-up approach, involves first of all the fellows of Associations, the citizens, and the local politicians. It results in a great variety of events and actions all directed towards a deeper understanding and respect of the local history, tradition, and cultural tissue. The effects are observable and in the present research the focus is set on touristic flows, examinated in section 6.2.4, according to the methodology described in chapter 5.

6.2.4 Gravity attraction model application

From a tourism perspective, the area benefits from an ever intenser promotional communication, both for the winter, as for the summer season.
In winter the area is well-known for the typical winter sports activities (Sella Nevea, Monte Lussari and Tarvisio are fully equipped with winter sport facilities and they provide several holiday accommodation), in summer inventive events are organised, like the No Borders Music Festival.
Since 2001, this original formula attracts for instance a lot of people to unusual territorial experiences, in this case linked to music. In the presentation of the event, the festival is described as conceived in perfect consonance with the territorial and historical peculiarities: borders are a positive asset to be discovered as a real resource and they encourage cultural exchange.[8]
Besides original events, in general the so-called "slow tourism" is considerably incentivised, also to meet the demand of the neighbour cultures, much more oriented towards different ideas of travelling compared to the domestic ones. For instance, the cycleway Alpe Adria connects Austria (Salzburg) to Italy (Grado), moreover an INTERREG project (the Alpe-Adria-Trail) ideally binds Carinthia (from Heiligenblut) with Slovenia (to Kranjska Gora, Bovec, Tolmin), and Italy (to Muggia).
In general, there is an increasing offer of promotional activities encouraging original and more sustainable tourism practices.

To implement the model presented in chapter 5, precise data at municipality level referred to calender year 2018 were used. Data were gathered from

[8] "*Il No Borders Music Festival è un festival di musica senza confini, un contenitore di esperienze musicali; non ha delimitazioni per quanto concerne il genere musicale spaziando dalla musica classica al Jazz, né di appartenenza sociale o geografica degli artisti invitati*" (No Borders Music Festival is a music festival without borders, a repository of music experiences. It is not limited in what music genres concerns – running from classical to jazz music – nor in the social or geographical artists' origins).

the regional tourism office: PromoTurismoFVG and they are listed in table 6.2. The model suggested was applied to the case study and a comparison between real and predicted data is illustrated in figure 6.4.

The dots are representative of the sending planets sizes according to their colour and dimension: the bigger and brighter spots stand for the higher populated regions.

	Arrivals in 2018
Origins	Malborghetto Valbruna
Lombardy	1 398
Friuli-Venezia Giulia	13 071
Veneto	2 904
Emilia-Romagna	1 052
Lazio	1 019
Piedmont	301
Campania	155
Tuscany	658
Trentino-Süd Tirol	62
Apulia	762
Sicily	95
Liguria	218
Marche	262
Abruzzo	101
Sardinia	60
Umbria	65
Calabria	18
Basilicata	14
Molise	67
Valle d'Aosta	14

Table 6.2: Dataset Italian case study

In general, there is quite a satisfactory correspondence between real and modelled data.

The most interesting discrepancy is represented by the internal regional presences: the regional inhabitants spending their holidays in the municipality are fewer than the one predicted by the model. This might be explained with the relative small regional surface, which enables to have one-day trips or even with the easy accessibility and connections encouraging week-end trekking excursions without staying overnight. Other explanation might be found in the local attitude and preferences.

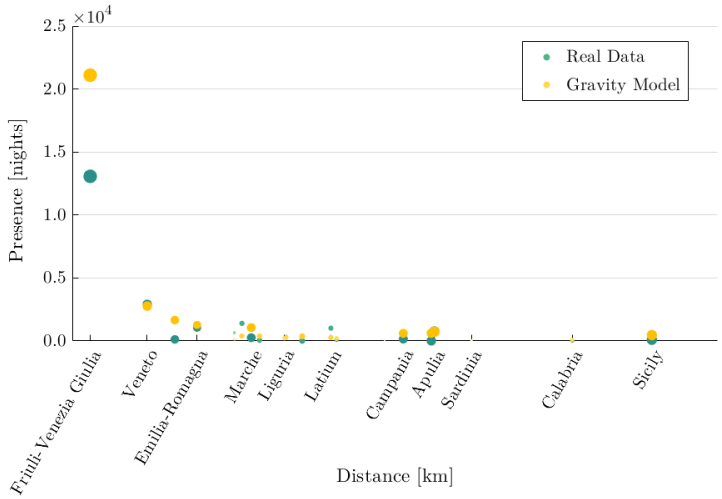


Figure 6.4: Malborghetto: model vs. real data

Source: Own elaboration

The result is quite interesting and could provide a starting point to reflect upon possible strategies directed at promoting the area internally.

What the phenomenon rate-characteristic k concerns, for the municipality of

Malborghetto-Valbruna it results

$$k_{Malborghetto} = 0.4594 \cdot 10^{-3}.$$

Comparing this value with the rural one computed at European level: $k_{rural} = 0.6714 \cdot 10^{-3}$, the local attraction force results weaker for the case study analysed.

However, it should be noted that the local k only refers to the small municipality, whereas the k_{rural} was performed at NUTS-3 level: a larger surface contains more attractions and is able to attract, simply by definition, more people. Thus, the municipality value seems not to indicate a poor performance. Nevertheless, it can be very useful and interesting to compare this result with other comparable micro-levels to fully appreciate the magnitude. As already pointed out, extreme detailed and precise data for other municipalities are needed in order to perform this investigation.

6.3 Bigorre Gascon pig

6.3.1 Geographical and historical frame

Bigorre is a historical and cultural region situated in the South-West of France within Gascony region (*Gascogne*), which extends from the Basque Country along the France-Spain border and consists of the northern foothills of the Pyrenees mountain chain. Nowadays, the Bigorre region is mainly comprised within the French administrative department of the Hautes-Pyrénées, in the Occitanie region.

Figure 6.5: Historic Bigorre region

Source: BnF Gallica

Etymologically, the region derives its name from the local Iberian ethnic group, the so-called *Bigerrones*, or *Bigerri*, on the contrary, the surrounding area: the Gaul, was ethnically more Celtic then Iberian. The Basques con-

trolled the entire province of *Gascogne*, until William VIII, duke of Aquitaine, conquered the area in 1052. The province was subjected to several dynastic disputations and since the mid-XV century, a common thread runs throughout its history and the one of its western border region: the *Béarn*.

As for the Italian case study, the distinguishing feature of this area is gathered from its geographical and historical background: it consists of a border region which has been steadily in contact with its Spanish counterpart site, with whom the contacts, trade, and agreements were ordinary (Soulet and Le Nail, 1981).

In general, all their history long, the Pyrenean areas experienced a strong idea of independence and freedom, evolving in a sort of independent territories, managing alone their interests and signing treaties and agreements with the other local communities of the surrounding valleys (Taillefer, 1974, Chapter 6). This peculiarity has influenced to a great extent the administrative organisation and the soil exploitation, as well. Indeed, there is a land management praxis, shared by the neighbour Spanish communities, for whom pastures and soil are often collectively owned.[9]

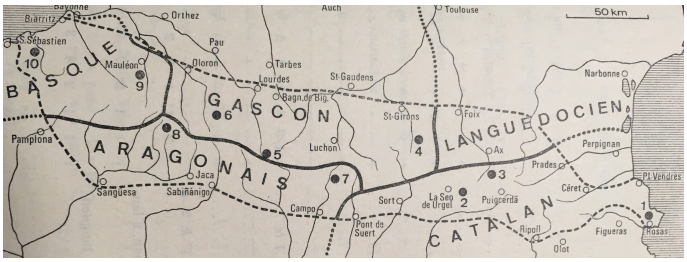


Figure 6.6: Pyrenean languages

Source: Taillefer (1974)

[9] For instance, 1920 in the Valley of Campan (Bigorre) the 75% of land still belonged to the town (Taillefer, 1974, p. 230).

This rule is strictly intertwined with the Basque presence, which also results in peculiar languages and dialects.

The Gascon dialect is a variant of Occitan and it is denoted by strong Basque influences (figure 6.6). Even if French was adopted as the literary language in the XVI century, the Gascon dialect is still alive: since 2002 the *Enstitut Biarnes e Gascoun* (Bearnese and Gascon Institute) has been considerably boosting the language and culture through scientific activities and publications in the two local languages. The future of the Gascon language, as well as the economic activities in the area, is potentially hampered by a demographic decrease, as it is the case for almost all the mountain and rural territories in Europe.

Nevertheless, for the department of Hautes-Pyrénées, the foregoing aspect seems not to represent a very critical issue: if we observe the course of the historical demographic curve since 1876 in figure 6.7, no severe decrease is noticeable in the area. The population index rebased to 100 on 1876 shows a

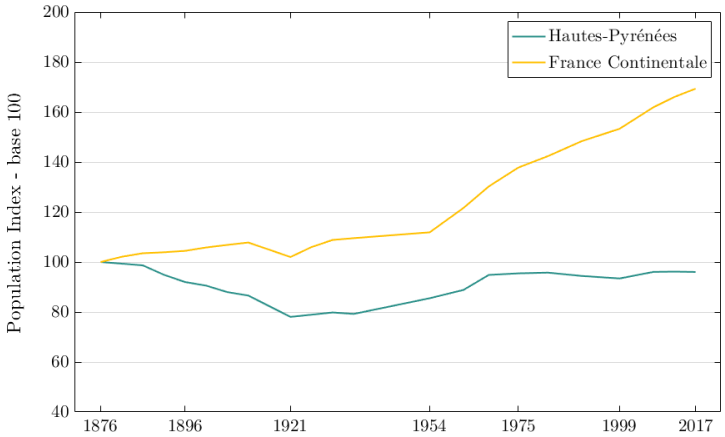


Figure 6.7: Historical demographic trend in France and Hautes-Pyrénées

Source: Own elaboration from INSEE historical series - IGN-INSEE

slight drop, even if the trend compared to the national one,[10] shows a complete opposite direction. Moreover, a concern which could become problematic is the demographic structure and the ageing presenting an higher index (129,8) compared to the national one (79,9), as marked in figure 6.8 with the darkest blue colour of the scale.

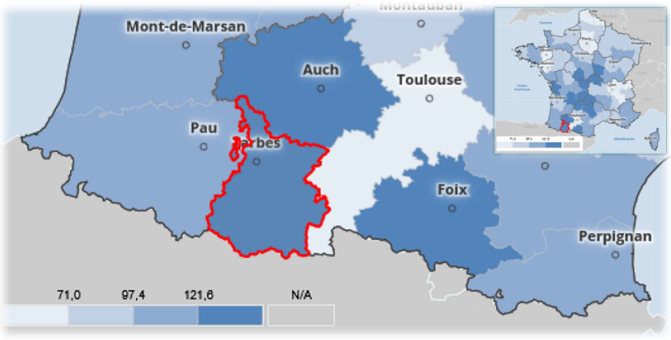


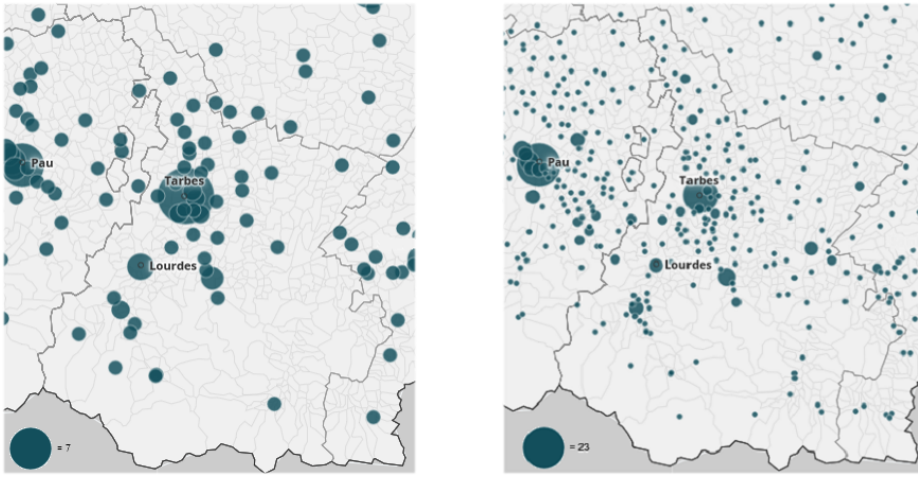
Figure 6.8: Ageing in the Hautes-Pyrénées, 2017

Source: IGN-INSEE

However, some public facilities, such as the schools, are equally and largely distributed on the whole departmental surface. Above all nursery (illustrated in figure 6.9a) and primary schools (in 6.9b). Obviously, this feature represents a positive answer in order to prevent depopulation and, in turn, economic decline of the region.

In general, even if there has been some slight decrease in the demographic structure, from the data gathered, the local French situation seems not to be set under alarming pressure.

[10] In the data elaboration the overseas territorial collectivities and departments were excluded, data refer only to the continental departments.



(a) Nursery schools **(b)** Primary schools

Figure 6.9: Nursery and primary schools at municipality level, 2019

Source: IGN-INSEE from BPE data

6.3.2 Economic scenario and product description

Similarly to the consideration for the Italian case study, also for the French one, the economic activities in the Bigorre region have been deeply affected by the geo-physical conditions.

The Pyrenean territories are especially doomed to agro-pastoral activities, which employ the majority of the inhabitants. In the Hautes-Pyrénées the ovine,[11] caprine, bovine, and ass species have represented the most relevant ones since a long time, as already pointed out by Soulet and Le Nail (1981):[12] they influenced several practices, as the transhumance and the pastures' rights.[13]

Looking at the most recent available data for the department (CLAP 2015),

[11] There are some varieties enjoying also an European label, such as the PDO Barènges-Gavarnie sheeps (see PDO [2006] O.J. C279/9).

[12] Data on the breeding activities were gathered whether from the institutional database regarding the Occitanie region for the period 2016 - onwards, or from the database concerning the former region Midi-Pyrénées, which included the Hautes-Pyrénées department.

[13] The solutions adopted to mark and delimit the territory, still visible nowadays in the boundary stones, are interesting examples thereof (Bérot, 1998).

the agricultural sector is the leading economic branch, especially in meat transformation. This sector performs a dominant role into the whole regional economy, since it is the second most important one in Occitanie after the beverage industry (wine and water) thanks of the turnover it generates (Buffard and Baccela, 2018).

Besides the foregoing livestock, also porcine ones were always present in the region, even if they represent a smaller percentage of the grazing activities, easily recognizable in the figure 6.10 marked with the reddish brawn colour.

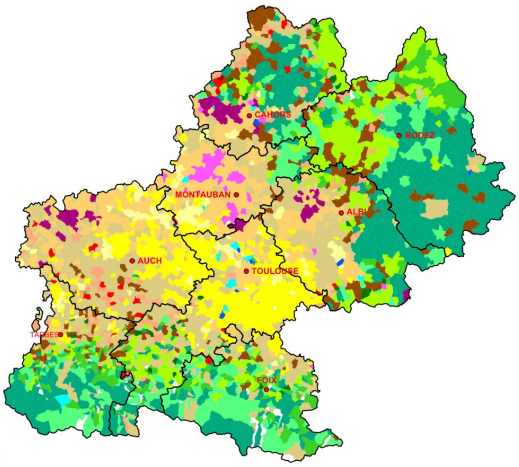


Figure 6.10: Agricultural activities in the Hautes-Pyrénées, 2010

Source: AGRESTE *2010*

Pork were directly sold to the Spanish neighbours or they were salted, since they represented a considerable element for the domestic food supply. For instance, the *Bayonne* ham was already well-renowned since the beginning of the XVI century (Taillefer, 1974). In general, for a rural family, pigs provided the major (and usually the only one) yearly source for meat and fat, stored for cooking.

On the contrary of bovine and ovine livestock, pigs did not represent a problem in terms of nourishment. In fact, the Pyrenean animals suffered from an undernourished diet during the winter time by reason of the climatic conditions and, as such, rearing pigs represented a preferred option.

The *Gascon Noir de Bigorre* pig is one of the oldest breed among the ones existing in France. During the XX century, most of the French indigenous breeds disappeared, or were threatened to disappear: it is supposed that in the Fifties only eight local races survived of the total 22 registered at the end of the XIX century (Texier et al., 1984).

What the *porc noir* (black pig) concerns, in 1970 this variety counted hundreds of animals, in 1980 they were no more than 30 pigs amongst 20 breeders (Conseil national des arts culinaires, 1996). The breed also lost genetic integrity due to frequent interbreeding.

After this breed had been enjoying a great success during the Roman Empire and the Middle Ages within the Benedictines Abbeys, during the XX century it did not correspond any longer to the dominant values of intensive breeding owing to its biological features. This kind of pig is in fact inadequate for the industrial production standards: as many other rare breeds, it grows slowly. It weighs only 100 kilograms when it is one year old and it increases only 450 grams/day, whereas other modern breeds increase by 800 grams/day. In addition, it has a much higher fat percentage, fact that has been highly contrasted by the modern nutritional communication. Not surprisingly, the choice tended to prefer white swine: less fat, more suitable for meat production, and suited to smaller grazing surfaces. Conversely, the *porc noir* is grown up for at least 12 months and it partly feeds on grass, consisting predominantly of clover and grasses, fruits, and other local resources, like acorns and chestnuts.

During the Eighties, thanks to the joint collaboration of agricultural technicians of National Institutions (such as the *Istitut Technique du Porc* (ITP) and the INRA) with local breeders, it has been possible to save the biological heritage and the breed experienced a great success again (Texier et al., 1984). Since then, there are several steps gone towards an ever stronger promotion and protection of the breed.

A PDO-label was conferred both on the ham and on the fresh meat produced from the *porc noir* by the European Commission in 2017.[14] This means, that "the animals are born, reared, fattened and slaughtered in the geographical area" (PDO [2017] O.J. C150/8 [3.4]). As illustrated in figure 6.11, the geographical area is mainly situated in the department of the Hautes-Pyrénées, the major factors (environmental, social, and cultural) thereof have all contributed to keep the breed alive.

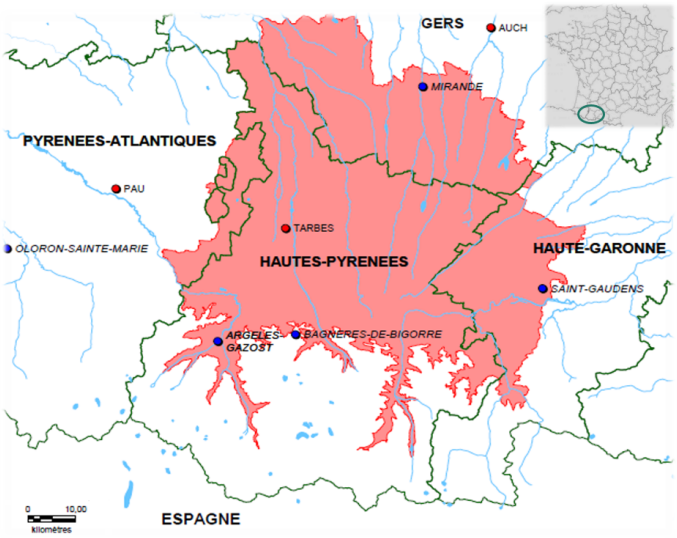


Figure 6.11: *Noir de Bigorre* production area

Source: Own elaboration from IGN2016 and INAO

[14] The products already enjoyed the national label *Appellation d'origine certifiée* (AOC).

The territorial link is very strong: the breed is adapted to the environment to handle the particular climate of the Bigorre region, characterized by cycles of very hot months and very wet ones due to the effect of the northern wind Föhn. Since this breed is raised free-range on pasture, it feeds on natural resources of the surrounding environment: gramineae (fescue, orchard grass, rye grass), perennial or annual herbaceous plants (white, purple and crimson clover, hop clover, and alfalfa); as well as seasonal fruits, like acorns, chestnuts, and apples. Supporting this livestock means therefore also preserving the territorial ecosystem and encouraging a respectful natural resources' management.

For this reason, these pigs represent a genuine heritage and the result of an ecosystem, which has linked animal, natural environment, and man for centuries.

The human know-how and expertise are particularly evident when the meat is processed to obtain charcuterie products, in this case in producing the well-renowned ham, considered one of the best one in whole Europe.

In general, the mountain charcuterie accurately reflects the peculiarities of the territories it comes from. The inhabitants living and working in such territories are more interested in ethical concerns, respecting the environment and the products, before aiming at the mere economical profit; moreover, apart from the natural resources, the deep historical roots and the collective know-how are the distinguishing features anchored to the local culture (Bérard and Marchenay, 2011).

The processing steps of the *Bigorre*-ham consist of four stages: the salting, resting, drying, and maturing phases, all strictly defined in the PDO Single Document.

The salt used is the one harvested from the Adour river basin (namely from *Salies de Béarn*), the rest period depends on the weight of the ham, and the

drying phase benefits from the peculiar climate and dates back to the past, when the meat used to be dried to be preserved.

Besides the well-renowned ham, there are also other meat products obtained from the *porc noir*, like sausages and rolled bacon, which are especially appreciated for their meat quality. The meat is marbled with intramuscular fat and surrounded by an outer layer of white fat. Once cooked, the fat melts resulting in a very tender and soft meat with an intense flavour.

6.3.3 Actors and actions

The main institutional players are the local agricultural chamber, the INAO, and the local touristic office. The *Hautes-Pyrénées Tourisme Environnement* (HPTE) launched also a campaign to promote local food.
Besides, researchers and technicians are still contributing in supporting the chain: University of Extremadura worked with the Consortium for the ham characterization, thanks to its expertise in the analysis of dry-cured hams derived from Iberian pigs. At the very beginning of the preservation project, the involvement of the INRA and ITP was fundamental; nowadays an European Research and Innovation Action (Diversity of local pig breeds and production systems for high quality traditional products and sustainable pork chains - TREASURE) encompasses also the *porc noir gascon* in its analysis.

Focusing on the internal organisation, there are several associations and groups emerged during the years.
In 1994 a Breeder Association: *Association des Eleveurs de Porcs Noirs de Bigorre*, was founded with the aim to save the Gascon pig breed and to obtain an official recognition for it. The Association works towards the preservation of rearing methods, without altering the breed, throughout standing genetic monitoring activities.

In 1996 the *Consortium du Noir de Bigorre* was instituted: an inter-professional association consisting of breeders, butchers, and the delegates of the Brotherhood (*Confrérie*). The Consortium implements collective actions, defines the strategy of the whole chain and it is in charge of communication and promotional campaigns. It is also associated to the Spanish Association *European Federation of Indigenous Extensively Farmed Indigenous Pig Breeds* (FESERPAE), created in 2004, amongst Spanish, Portuguese, and other French Consortia, aiming at supporting indigenous, extensively reared pig breeds. Alongside with the genetic preservation of indigenous pigs, focus of the association is also the one of safeguarding human skills and know-how associated with the grazing and processing methods.

An other actor in the chain is the "Brotherhood": *Confrérie du Noir de Bigorre*. It was established in 2000 and it has mainly an institutional and promotional role, as it is easily detectable from its symbolic and evocative seat location: the Escaladieu Cistercian Abbey. Indeed, in the Middle Ages the Abbey grazed a large herd of *porc noir* and nowadays the members of the Brotherhood keep alive the proud roots planted in the territory and in the historical background.

In addition to representative and promotional bodies, a company has been created in 2000: the *Société du Porc Noir de Bigorre*. It represents all the actors involved in the production chain: from the breeders to the butchers, from the *salaisonniers* (viz. ham-curing artisans) to the sellers. Nowadays 56 breeders, two butchers, two *salaisonniers* and two processing firms are company members. The company represents the "commercial hand" of the *porc noir*-chain: it organises the slaughtering of all the *noir de Bigorre* at the slaughterhouse in Tarbes and, thanks to local artisans, the meat is processed and next sold with the label *Padouen* (figure 6.12).

This term is strictly representative of the territorial history: in the Bigorre region, the *padoents* were common lands located close to the villages, consisting of pastures and oak-, beechnut- and chestnut-forests which served to feed the animals of the local communities, included the *porcs noirs*. In assuming this name the peculiarity of the product, its history, its territorial roots, and its shared management is heavily stressed.

Figure 6.12: Padouen corporate logo

Source: www.porcnoir.fr

Generally, as for the Italian case study, the bottom-up actions undertaken by different actors seems to be the key success factor: the relaunching of this breed would perhaps have failed without the support and the strong involvement of the major local players. In this particular case, due to the technical knowledges needed to pursue the breed preservation, the support of technical institutes has been obviously crucial, furthermore, a common vision and collective aims strengthened the actors' involvement and commitment. Moreover, nowadays one way to successfully combine traditional agricultural and grazing activities with sustainable issues is the one to promote multifunctional activities and to promote quality agro-food products (Parc national des Pyrénées, 2000). Once again, the key of success seems to lie in a jointly supply of products and services.

Regarding the latter, one important resource for the local area is represented by tourism attractions. In fact, the region is well-known thanks to what had been defined "*la manne thermale et touristique*" (the thermal and touristic manna) by Soulet and Le Nail (1981). In the region, there are some world-renowned attractions, such as the Pic du Midi or the thermal springs in Bagnères-de-Bigorre, which also profit from a massive promotion.
In this case as well, the model discussed in chapter 5 was applied to the specific case study and presented in section 6.3.4.

6.3.4 Gravity attraction model application

Owing to data availability, the French case study is thorny to be dealt with the suggested model presented in chapter 5.
Data referred to calender year 2018 were gathered directly from the regional tourism office (HPTE) seated in Tarbes. Unfortunately, they cover the whole French *département* of Hautes-Pyrénées.
The total French flows are illustrated in figure 6.13, where the departments are marked with a blue scale. The darkest departments sent a higher number of people to the Hautes-Pyrénées, such as Gironde, Loire-Atlantique, Vendée, and Charente-Maritime. The departments coloured with a brighter shade sent a tinier amount of tourists.

Regrettably, it is impossible to apply these general data to the model proposed, because in the area there are international famous mountain destinations, like the Col du Tourmalet: a world-renowned stage of the Tour de France. Besides these outstanding attractions, an other destination moving hundreds of thousands people lies in the area: Lourdes. The religious destination alone attracts around three millions pilgrims every year.
Without data at micro municipality level, outliers of such magnitude overrule

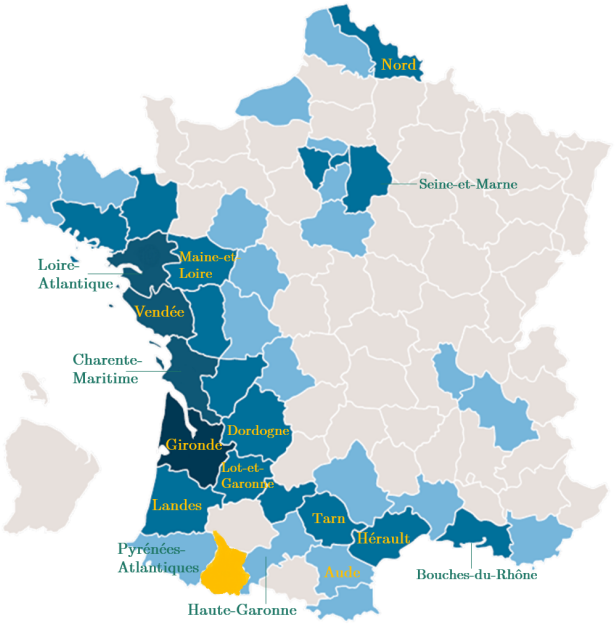


Figure 6.13: Origin of French tourists in the Hautes-Pyrénées, 2018

Source: Own elaboration from Observatoire du tourisme, 2019

the whole model premises and there are not reasonable possibilities to obtain meaningful results.

As unquestionably detectable in figure 6.14, the difference between real flows and modelled ones is extremely divergent.

The model application was conducted only for sake of completeness, since it contrasts some basic assumptions of the model development.

The real total flows of the whole department were scaled so as to try to obtain the volume directed to the Bigorre area. According to the statistics provided by the HPTE (Observatoire du tourisme, 2019, p. 12), the absolute touristic volume was scaled as specified by the territorial subset split and the territorial scale assumed was the one of the Tourmalet-Pic du Midi area, better corresponding to the Bigorre sub-area, matching with the 25 boroughs

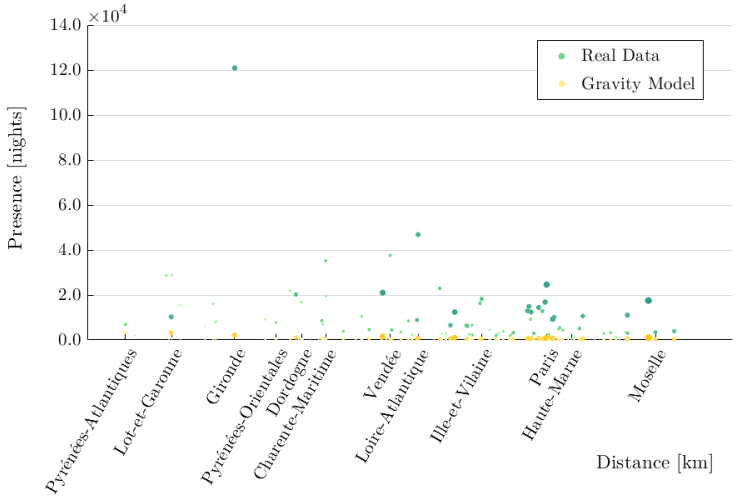


Figure 6.14: Bigorre: model vs. real data

Source: Own elaboration

comprised in the *Communauté de Communes de la Haute-Bigorre*.[15]
The assumed geographical hypothesis, without reliable and detailed data, can not be tested. The only reliable way is to process detailed data on the specific flows towards the specific boroughs where the agro-food production is set. This would provide a reliable base to apply the model in a conceptual sound mode and it is what clearly emerges comparing the application of the model to a definite and unambiguous case study, such as the one in the Italian region. The application and the model test on the specific case study shed light on the limits of adopting exclusively a quantitative approach. Along with quantitative methods, only a qualitative research can provide a congruent interpretation to better understand and place the complex reality of a given situation in a systemic view. Implication and interpretation of quantitative data are possible through an in-depth *ad hoc* qualitative analysis.

[15] Boroughs included: Bagnères-de-Bigorre, Campan, Pouzac, Asté, Gerde, Antist, Argeles Bagneres, Astugue, Banios, Beaudéan, Bettes, Cieutat, Hauban, Hiis, Labassère, Lies, Marsas, Mérilheu, Montgaillard, Neuilh, Ordizan, Orignac, Trébons, Uzer, Hitte.

Concluding remarks

The analysis carried out within my Ph.D. project was driven starting from the underlying assumption that hidden *cultural* facets exert a prominent role (also in economic terms) all of their own. The challenge is to unearth their power, mainly concealed due to their intangible nature.
At the same time, it has been argued that rural areas, by virtue of their historical framework, maintain an invaluable cultural heritage. Meanwhile, this cultural heritage is endangered by development patterns clear of the peculiar territorial inherent structure and vocation. Conversely, it is avowed that rural areas can occupy a noteworthy position in sustainable terms providing alternative *growth patterns* to the prevailing ones by reasons of their strong cultural identity.

Starting from the assumption rural areas tend to be considerably underestimated in contemporary Europe, a first general synopsis supported by statistical data was illustrated.
An auxiliary description of these areas from a conceptual stance provided then useful compass to guide the analysis and the selection of the most appropriate theoretical tools. These were identified in order to get a comprehensive and coherent description of the inherent attributes of rural territories.
Considering the innate vocation of these peculiar geographical regions, agricultural activities were isolated as to the most pertinent economic sector.

Specifically, agro-food products were selected to eloquently represent the bridge between the natural and the human backdrop. In short: they convert the intangible *cultural* dimension to tangibles.

The theoretical framework defined the peculiar notions and concepts needed to conceive agro-food products from a *cultural economy* stance. It was argued that culture shapes economic production and goods, more than the reverse, which is usually investigated in the field of cultural economy.

A more in-depth examination around rural development strands of thought and evolution paths would have enriched the theoretical underpinning. Deepening the research with analyses conducted in other fields, such as sociological and anthropological theories and studies, represents a conform complement to the general framework presented. For instance, the broad topic of identity construction process was only marginal addressed.

Moreover, a detailed historic account for the fieldwork at national level would have shed light on distinctive features between the local cases investigated and the country national evolution they belong to, as suggested in section 2.3. The more complete the interdisciplinary research would have been, the more strong the theoretical underpinning to implement a proper subsequent (quantitative) methodology. In fact, the outline of the rationale was the preliminary step to design the proposed quantitative approach.

In the present study, the attention was focused towards the postulate of a methodology for a reliable assessment of the role occupied by agro-food products from a cultural economy perspective.

Obviously, to tackle such a topic in a quantitative way is a challenging task. In the first place, this has involved a shift away from addressing intangible issues based on theoretical examination principles, towards acknowledging quantitative assessment feasibility. In such a frame, there are evident tough

challenges: to make a multi-causality and systemic phenomenon reasonably consistent with a quantitative approach. The forces behind development processes and valorisation actions might be multifold, as the impacts at territorial level. The interlinkage among economic, cultural, or environmental spheres often make it hard to isolate linear cause-effect outcomes: the dimensions are all tied together in complex way.
For this reason, a considerable challenge I had to face was the one to operate a selection and to isolate a remarkable situation to be suggested as representative. Therefore, the hypothesis was that cultural features embedded in agro-food stuffs exert a considerable attraction force, quantified by touristic flows. As it happens for agro-food products indicated as the bridge between the cultural dimension and its tangible exemplification, similarly, touristic flows are argued to better disclose positive impacts at territorial level.

As a result, a spatial model was implemented: an *attraction constrained gravity model* simulated upon touristic flows.
The proposed methodology suggested and estimated some specifications, like the friction of distance adjusted to the β exponent and the representative attraction force coefficient k computed at three levels: i. k_{total} and ii. k_{rural}, and iii. k_{urban}, and satisfying equation 5.6.
Sometimes limitation in modelling lies in data availability and reliability: by a larger sample size, the β exponent could profit of a greater definition. The difficulties I had to face were strictly linked with data availability: trying to expand the database for β calibration I found that many European countries do not dispose of detailed national statistics about the origin of the tourists within internal regional borders. It is sometimes possible to find local statistics, as it happens for some German *Bezirke* or *Landkreise*, which do not perfectly suit the purpose, since they refer to extremely small and

local administrative units, sometimes also cities, which do not provide general information at a regional level. Further investigations could profit from a comprehensive larger database collecting regional internal indicators.

For sake of simplicity, modelling assumptions were accepted such as δ and α exponents in equation 5.3 equal to unity, as motivated in section 5.1.

Further work needs to be performed to establish a wider variety of impact factors, such as the foregoing exponents. This requires, in the first place, the preliminary aforementioned theoretical extra investigation: a larger variety of factors can be included only after having detected other running cultural and social phenomena. Next, an extensive and complete data set needs to be used owing to coherently estimate the relevant identified factors.

Likewise, other specifications could be suggested with regard to the planet's mass. In all cases, comprehensive and detailed set of data are the essential requirement to closely model the processes.

Albeit the limitation, eventually the final purpose was to suggest a working model, not to exhaust its implementation self. The outcome has revealed that a spatial interaction model as conceived in chapter 5 is able to elucidate human flows, better and further specification could define it even more precisely.

Additionally, the need for an *ad hoc* territorial analysis strongly emerged from the model application to the fieldwork. The econometric analysis alone does not provide thorough tools to coherently interpret the single territorial dynamics. This is partly due to the intrinsic model simplification and, generally, to the gist of quantitative approaches as outlined in chapter 5.

As a result, the next step would have been to design and perform qualitative analyses to better discover the benefits generated by agro-food products, and an exhaustive definition of real impacts would have emerged. Qualitative

study designs would have greatly aid the research in a number of ways. First of all, in detecting the real flows generated exclusively by the research objects. Second, implications and results obtained through the econometric model can be questioned and directly discussed with the stakeholders and the actors involved, gathering more realistic insights.

In fact, one major problem is represented by the interpretation of the indicators obtained. The thorny issue concerning a reasonable interpretation of quantitative results fully emerged within the model application to the French case study in section 6.3.4. Looking at absolute values of the attraction force computed with the spatial model can be deceptive. Exactly this specific model application proves the overriding need of a complementary analysis performed on suitable theoretical tools and conducted with qualitative approaches.

For this reason, the present research could represent a preliminary and propaedeutical structure to implement a further tailored analysis focused on local peculiarities.

Albeit these limits, the research aimed at providing some evidences of the considerable potential embedded in agro-food products to activate positive growth pathways in European rural areas.

In general, it is opined that this approach is a prelude to rethinking development patterns from a more sustainable stance.

Providing an empirical tool to test and evaluate the territorial attraction force based on cultural features represents also the prove for a new paradigm, more respectful and attentive to intangible attributes.

At the same time, the role played by rural areas was emphasised: they are keepers of ancient know-how, skills, and knowledges.

It can be concluded that the theoretical and econometric analyses discussed could suggest and support (productive) systems in an alternative logic with

respect to mass-consumption ones.

In this way, it is inferred that an about-turn over the modern strategies and policies could trace more balanced, fair, inclusive, and community-based solutions. This is especially true in view of the still on-going health global crisis, which disclosed also much of the limits of the extant productive and living systems.

Obviously, one implicit conclusion is enshrined in some aspects emerging from the first observation. Differently from the physical model inspiring its application to human domains, in the present proposal the key (f)actor able to activate (or potentiate) the attraction force remains, in the end, the human community. It has been highlighted how the active engagement of local breeders has affected the effective stewardship of a local race or, again, how the co-operation among private and public actors has impacted on an increased territorial valorisation. In order to properly explain and understand the dynamics running among actors in a local community it is thus necessary to carry out a qualitative research aimed at detecting local success factors, which in the present research emerged without a foundational explanation. Open questions emerged and, even if these topics are seldom acknowledged in economics realm, foundational communties pathways need to be properly investigated, explored, and stimulated.

Bibliography

AgrifoodFVG (2019). *Analisi strategica condivisa del settore lattiero caseario regionale*. Tech. rep. Agrifood & Bioeconomy Cluster Agency.

Aguilar Criado, Encarnación and Santiago Amaya Corchuelo (2007). "El patrimonio cultural como activo del desarrollo rural". In: *El futuro del mundo rural*. Ed. by Javier Sanz Cañada. Madrid: Síntesis, pp. 103–124.

Allaire, Gilles (2011). "La rhétorique du terroir". In: *La mode du terroir et les produits alimentaires*. Ed. by Claire Delfosse. Paris: Boutique de l'Histoire/Indes savantes, pp. 75–100.

Amilien, Virginie (2011). "Du territoire cultivé au territoire culturel: "Terroirisation" et produits locaux en Norvège". In: *La mode du terroir et les produits alimentaires*. Ed. by Claire Delfosse. Paris: Boutique de l'Histoire - Indes savantes, pp. 177–193.

Anatole-Gabriel, Isabelle and Erik Orsenna, eds. (2016). *La valeur patrimoniale des économies de terroir*. Dijon: Éditions universitaires de Dijon.

Arfini, Filippo (1999). "The value of typical products: the case of Prosciutto di Parma and Parmigiano Reggiano cheese". In: *Proceedings of the 67th EAAE Séminaire: The Socio-Economics of Origin Labelled Products: Spatial, Institutional and Co-ordination Aspects*. Ed. by Bertil Sylvander, Dominique Barjolle, and Filippo Arfini. EAAE. Le Mans, pp. 78–97.

Arfini, Filippo, Maria Cecilia Mancini, and Michele Donati, eds. (2012). *Local Agri-food Systems in a Global World: Market, Social and Environmental Challenges*. Newcastle-upon-Tyne: Cambridge Scholars.

Ashley, Caroline and Simon Maxwell (2001). "Rethinking Rural Development". In: *Development Policy Review* 19.4, pp. 395–425.

Assembly Council of Europe (1996). *European Charter for Rural Areas*. Tech. rep. Doc. 7507. Assembly Council of Europe.

Barham, Elizabeth (2003). "Translating terroir: the global challenge of French AOC labeling". In: *Journal of Rural Studies* 19.1, pp. 127–138.

Barjolle, Dominique, Stéphane Boisseaux, and Martine Dufour (1998). *Le lien au terroir. Bilan des travaux de recherche*. Tech. rep. Lausanne: Institut d'économie rurale, ETHZ.

Barjolle, Dominique and Jean-Marc Chappuis (1999). "Produits typiques des zones défavorisées et coordination des actuers dans les filières: une approche par la théorie des coûts de transaction". In: *Proceedings of the seminar SFER Signes officiels de qualité et développement agricole: aspects techniques et économiques*. Ed. by Louis Lagrange. ENITA, pp. 171–176.

Barjolle, Dominique, Sophie Réviron, and Bertil Sylvander (2007). "Création et distribution de valeur économique dans les filières de fromage AOP". In: *Économies et Sociétés*. Systèmes agroalimentaires 29.9, pp. 1507–1524.

Becattini, Giacomo (1979). "Dal settore industriale al distretto industriale. Alcune considerazioni sull'unità d'indagine dell'economia industriale". In: *Rivista di Economia e Politica Industriale*, pp. 7–21.

Berger, Alain et al., eds. (2010). *Patrimoines, héritages et développement rural en Europe*. Logiques sociales. Paris: L'Harmattan.

Bessière, Jacinthe (2012). *Innovation et patrimoine alimentaire en espace rural*. Update Sciences & Technologies. Versailles: Quae.

Blakeney, Michael (2009). "Protection of Traditional Knowledge by Geographical Indications". In: *International Journal of Intellectual Property Management* 3.4, pp. 357–374.

Bleton-Ruget, Annie (2004). "Histoire et patrimoine: la culture comme ressource territoriale". In: *La notion de ressource territoriale 10 ans du* CERMOSEM. Montagnes Méditerranéennes 20.

Bom Konde, Paul, José Muchnik, and Denis Requier-Desjardins (2001). "Les savoir-faire agroalimentaires, de la valeur d'usage à la valeur marchande. Le maïs et le manoic au Cameroun". In: *Systèmes agroalimentaires localisés: terroirs, savoir-faire, innovations*. Ed. by Pascale Moity-Maïzi et al. Paris: INRA, pp. 97–110.

Bonnain-Dulon, Roland, Jacques Cloarec, and Françoise Dubost, eds. (2011). *Ruralités contemporaines: patrimoine, innovation et développement durable*. Patrimoines et Sociétés. Paris: L'Harmattan.

Bowen, Sarah and Kathryn De Master (2011). "New rural livelihoods or museums of production? Quality food initiatives in practice." In: *Journal of Rural Studies* 27.1, pp. 73–82.

Béranger, Claude and Egizio Valceschini, eds. (1999). *Proceedings of the INRA DADP - Séminaires des 10 et 11 décembre 1998 à Paris: Qualité des produits liée à leur origine*. Paris: INRA.

Bérard, Laurence and Philippe Marchenay (1994). "Ressources des terroirs et diversité bio-culturelle. Perspectives de recherche". In: *Journal d'agriculture traditionnelle et de botanique appliquée* 36.2, pp. 87–91.

— (1998). "Patrimoine vivant, montagne et biodiversité". In: *Revue de géographie alpine* 86.4, pp. 7–14.

— (2004). *Les produits de terroir: Entres cultures et règlements*. Paris: CNRS Éditions.

Bérard, Laurence and Philippe Marchenay (2006a). "Biodiversité culturelle, productions localisées et indications géographiques". In: *Proceedings of the Conference* ALTER*: III Congreso Internacional de la red* SIAL*: Alimentación y Territorios*. Baeza.

— (2006b). "Local products and geographical indications: taking account of local knowledge and biodiversity." In: *International Social Science Journal* 58.187, pp. 109–116.

— (2011). *Les charcuteries de montagne*. Bourg-en-Bresse: CNRS Éditions.

Bérot, Marcellin (1998). *La vie des hommes de la montagne dans les Pyrénées racontée par la toponymie*. Tarbes: Parc national des Pyrénées.

Buffard, Pauline and Laurent Baccela (2018). *L'agroalimentaire en Occitanie 2015: un rôle stratégique pour valoriser les produits*. Tech. rep. Retrieved November 20, 2019. Direction régionale de l'alimentation, de l'agriculture et de la forêt Occitanie. URL: `http://draaf.occitanie.agriculture.gouv.fr/`.

Calboli, Irene and Wee Loon Ng-Loy, eds. (2017). *Geographical Indications at the Crossroads of Trade, Development, and Culture: Focus on Asia-Pacific*. Cambridge University Press.

Campagne, Pierre and Bernard Pecqueur (2014). *Le développement territorial: une réponse émergente à la mondialisation*. Paris: Charles Léopold Mayer.

Cardinale, Bradley J. et al. (2012). "Biodiversity loss and its impact on humanity". In: *Nature* 486, pp. 59–67.

Casabianca, François et al. (2011). "Terroire et typicité: un enjeu de terminologie pour les Indications Géographiques". In: *La mode du terroir et les produits alimentaires*. Ed. by Claire Delfosse. Paris: Boutique de l'Histoire/Indes savantes, pp. 101–117.

Cassé, Marie-Claude and Anne-Marie Granié (2000). "Comment penser le rural aujourd'hui?" In: *Proceedings of the Séminaire CNEARC-UTM: Dynamiques agraires et construction sociale*. Ed. by CNEARC. Montpellier: Centre National d'Etudes Agronomiques des Régions Chaudes, pp. 11–21.

CIHEAM and FAO (2016). *Mediterra 2016: Zéro gaspillage en Méditerranée*. Presses de Sciences Po.

CIRAD-SAR (1996). *Systèmes agroalimentaires localisés: Organisations, innovations et développement local, orientations et perspectives issues de la consultation du CIRAD "Stratégies de recherché dans le domaine de la socio-économie de l'alimentation et des industries agroalimentaires"*. Tech. rep. Nr. 134.

Claval, Paul (1995). *La géographie culturelle*. Paris: Nathan.

Conseil national des arts culinaires, ed. (1996). *Midi-Pyrénées: produits du terroir et recettes traditionnelles*. Inventaire du patrimoine culinaire de la France. Paris: Albin, Michel.

Corradini, Cesare and Nadia Innocente (2017). *The cibarium of Friuli Venezia Giulia. Atlas of traditional products*. Gorizia: ERSA.

Courlet, Claude (2002). "Les systèmes productifs localisès". In: *Études et Recherches sur les Systèmes Agraires et le Dèveloppement*, pp. 27–40.

De Benedictis, Luca and Luca Salvatici, eds. (2011). *The Trade Impact of European Union Preferential Policies: An Analysis Through Gravity Models*. Berlin Heidelberg: Springer. ISBN: 9783642165641.

Debarbieux, Bernard (1995). "Le lieu, le territoire et trois figures de rhétorique". In: *L'Espace géographique* 24.2, pp. 97–112.

Dedeire, Marc (2009). "Qualifications territoriales des Produits d'Origine Géographique et durabilité(s) des ressources". In: *Proceedings of the CIHEAM Séminaire international: Les produits de terroir, les indications*

géographiques et le développement local durable des pays méditerranéens. Ed. by Hélène Ilbert, Yavuz Tekelioglu, and Selma Tozanli. Montpellier, pp. 39–52.

Dedeire, Marc and Selma Tozanli (2007). "Les paradoxes des distances dans la construction des identités alimentaires par acculturation". In: *Anthropology of food* S3.

DeGregori, Thomas R. (1987). "Resources Are Not: They Become: An Institutional Theory". In: *Journal of Economic Issues* 21.3, pp. 1241–1263. ISSN: 00213624.

Delfosse, Claire, ed. (2011). *La mode du terroir et les produits alimentaires*. Paris: Boutique de l'Histoire/Indes savantes.

DiMaggio, Paul (1994). "Culture and economy". In: *Handbook of Economic Sociology*. Ed. by Neil Smelser and Richard Swedberg. Princeton University Press and Russell Sage, pp. 27–57.

Durbiano, Claudine and Philippe Moustier, eds. (2007). *Actes du colloque international sur les terroirs. Les terroirs: caractérisation, développement territorial et gouvernance*. Château-Arnoux: Campagnes et terroirs de Provence et des Alpes du Sud.

European Commission (1988). *The future of rural society*. Luxembourg: Supplement 4/88 Bull. EC Communication COM(88) 501.

— (2020a). *EU Biodiversity Strategy for 2030. Bringing nature back into our lives*. Tech. rep. Retrieved July 13, 2020 from the official website: https:eur-lex.europa.euhomepage.html. European Commission.

— (2020b). *Study on economic value of EU quality schemes, geographical indications (GIs) and traditional specialities guaranteed (TSGs)*. Tech. rep. Luxembourg: European Commission.

Faure, Muriel (1998). “Patrimonialisation des productions fromagères dans les Alpes du Nord: savoirs et pratiques techniques”. In: *Revue de géographie alpine* 86.4, pp. 51–60.

Fougerouse, Christian (1995). “Renouveau rural et résurgences des terroirs”. In: *Proceedings of the Séminaire pluridisciplinaire Rural 94: les recompositions de l’espace rural*. Ed. by Alain Berger. Cahiers de l’Économie Méridionale 19. Montpellier: CRPEE, pp. 97–119.

Fournier, Stéphane and José Muchnik (2011). “Le système agroalimentaire localisé pour analyser le territoire”. In: *Travaux & Innovations* 181, pp. 27–30.

GAL Open Leader (2013). *Scenari di sviluppo del settore agroalimentare del Gemonese, Canal del Ferro e Val Canale alla luce dei risultati del progetto Agrisol*. Tech. rep. Open Leader.

Gangjee, Dev Saif, ed. (2016). *Research Handbook on Intellectual Property and Geographical Indications*. Research handbooks in intellectual property. Cheltenham: Edward Elgar Publishing.

Garine, Igor de (1988). “Anthropologie de l’alimentation et pluridisciplinarité”. In: *Écologie humaine* 6.2, pp. 21–40.

Ginsburgh, Victor and David Throsby (2006). *Handbook of the Economics of Art and Culture*. 1st ed. Vol. 1. Elsevier Science.

Gould, Peter (1975). “Acquiring Spatial Information”. In: *Economic Geography* 51.2, pp. 87–99.

Haynes, Kingsley E. and Stewart A. Fotheringham (1984). *Gravity and Spatial Interaction Models*. Vol. 2. SAGE series in Scientific Geography. Beverly Hills/London/New Delhi: Sage.

Hinnewinkel, Jean-Claude (2011). “Le territoire viti-vinicole, unprojet sociétal”. In: *La mode du terroir et les produits alimentaires*. Ed. by Claire Delfosse. Paris: Boutique de l’Histoire/Indes savantes, pp. 121–139.

Hirschman, Albert Otto (1958). *The strategy of economic development*. London: Yale University Press.

Ilbert, Hélène et al., eds. (2013). *Proceedings of the CIHEAM Séminaire international d’Antalya: Indications Géographiques, dynamiques socio-économiques et patrimoine bio-culturel en Turquie et dans les pays méditerranéens*. Vol. 104. Options méditerranéennes. CIHEAM. Montpellier.

Ilbery, Brian and Moya Kneafsey (1999). “Niche Markets and Regional Speciality Food Products in Europe: Towards a Research Agenda”. In: *Environment and Planning A: Economy and Space* 31.12, pp. 2207–2222.

Jeanneaux, Philippe and Philippe Perrier-Cornet, eds. (2014). *Repenser l’économie rurale*. Update Sciences & Technologies. Versailles: Quae.

Kasakoff, Alice B. and John W. Adams (1977). *Spatial Location and Social Organisation: An Analysis of Tikopian Patterns*. Vol. 12. 1. Wiley, Royal Anthropological Institute of Great Britain and Ireland, pp. 48–64.

Kayser, Bernard (1988). “Permanence et perversion de la ruralité”. In: Pays 109, pp. 75–108.

Kop, Petra van de, Denis Sautier, and Astrid Gerz, eds. (2006). *Origin-based products: lessons for pro-poor market development*. Bullettin 372. Amsterdam: KIT Publishers.

La Masselière, Bernard Charlery de, ed. (2004). *Fruits des terroirs, fruits défendus: identités, mémoires et territoires*. Ruralités Nord-Sud. Toulouse: Presses universitaires du Mirail.

Landel, Pierre-Antoine and Nicolas Senil (2009). “Patrimoine et territoire, les nouvelles ressources du développement”. In: *Développement durable et territoires* Dossier 12.

Lysgård, Hans (2016). “The ‘actually existing’ cultural policy and culture-led strategies of rural places and small towns”. In: *Journal of Rural Studies* 44, pp. 1–11.

MacDonald, Daisy et al. (2000). “Agricultural abandonment in mountain areas of Europe: Environmental consequences and policy response”. In: *Journal of Environmental Management* 59.1, pp. 47–69.

EUROSTAT (2019). *Methodological manual on territorial typologies*. Manuals and Guidelines. Luxembourg: Publications Office of the European Union. URL: `https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-GQ-18-008`.

FAO (2009). *Linking people, places and products*. Rome: FAO.

Malassis, Louis (1994). *Nourrir les hommes*. Dominos. Paris: Flammarion.

Marchenay, Philippe and Laurence Bérard (1995). “Lieux, temps et preuves. La construction sociale des produits de terroir”. In: *Terrain* 24, pp. 153–164.

Maïzi, Pascale and Denis Sautier (2006). “Produits d’origine en Afrique de l’Ouest et du Centre: Potentiels et controverses des démarches de certification”. In: *Proceedings of the Conference ALTER: III Congreso Internacional de la red SIAL: Alimentación y Territorios*. Baeza.

Merry, Sally Engle (2011). “Measuring the World: Indicators, Human Rights, and Global Governance”. In: *Current Anthropology* 52.S3, pp. 83–95.

Moity-Maïzi, Pascale and Hubert Devautour (2000). “Patrimoines et changements techniques: la construction scial d’un produit de terroir (le Rocamadur du Quercy)”. In: *Proceedings of the Séminaire CNEARC-UTM:*

Dynamiques agraires et construction sociale. Ed. by CNEARC. Montpellier: Centre National d'Etudes Agronomiques des Régions Chaudes, pp. 133–143.

Moity-Maïzi, Pascale et al., eds. (2001). *Systèmes agroalimentaires localisés: terroirs, savoir-faire, innovations*. Etudes et recherches sur les systèmes agraires et le développement 32. Paris: INRA.

Mollard, Amédée (2001). "Qualité et développement territorial: une grille d'analyse théorique à partir de la rente". In: *Économie rurale* 263, pp. 16–34.

Muchnik, José (2006). "Identidad territorial y calidad de los alimentos: Procesos de calificacion y competencias de los consumidores". In: *Agroalimentaria* 11.22, pp. 89–98.

— (2009). "Localised Agrifood Systems: concept development and diversity of situations". In: *Proceedings of the Annual Meetings of the Agriculture, Food, and Human Values Society and the Association for the Study of Food and Society*.

Muchnik, José and Christine de Sainte Marie, eds. (2009). *Le temps des Syal. Techniques, vivres et territoires*. Update Sciences & Technologies. Versailles: Quae.

Muchnik, José et al. (2007). "Systèmes Agroalimentaires Localisés". In: *Economies et Sociétés* 29, pp. 1465–1484.

Observatoire du tourisme (2019). *Tableau de bord du tourisme dans les Hautes Pyrénées. Année 2018*. Tech. rep. Tarbes: HPTE.

Pacciani, Alessandro et al. (2001). "The role of typical products in fostering rural development and the effects of Regulation EEC 2081/92". In: *Proceedings of the 73rd EAAE Seminar: Policy Experiences with Rural Development in a Diversified Europe*.

Parc national des Pyrénées, ed. (2000). *Atlas du parc national des Pyrénées*. Tarbes: Parc national des Pyrénées.

Paus, Marguerite and Sophie Reviron (2011). "Evaluating the effects of protecting Geographical Indications: scientific context and case studies". In: *The Effects of Protecting Geographical Indications - Ways and Means of their Evaluation*. Ed. by Swiss Federal Institute of Intellectual Property. Vol. 7. 1. Swiss Federal Institute of Intellectual Property, pp. 11–30.

Pecqueur, Bernard (1987). "De l'espace fonctionnel à l'espace-territoire: essai sur le développement local". PhD thesis. Université Grenoble II.

— (2001). "Qualité et développement territorial: l'hypothèse du panier de biens et de services territorialisés". In: *Économie rurale* 261, pp. 37–49.

— (2004). "Vers une géographie économique et culturelle autour de la notion de territoire". In: *Géographie et cultures*, pp. 71–86.

— (2011). "Les terroirs constituent-ils un objet économique?" In: *La mode du terroir et les produits alimentaires*. Ed. by Claire Delfosse. Paris: Boutique de l'Histoire/Indes savantes, pp. 59–71.

Perrier-Cornet, Philippe (2009). "Les systèmes agroalimentaires localisés sont-ils ancrés localement? Un bilan de la littérature contemporaine sur les Syal". In: *Politiques agricoles et territoires*. Ed. by Francis Aubert, Vincent Piveteau, and Bertrand Schmitt. Versailles: Quae, pp. 49–68.

Perrier-Cornet, Philippe and Bertil Sylvander (1999). "Les stratégies de qualité des enterprises et l'organisation des filières: stratégies économiques". In: *Proceedings of the seminar SFER Signes officiels de qualité et développement agricole: aspects techniques et économiques*. Ed. by Louis Lagrange. ENITA, pp. 107–118.

Phongphit, Seri, ed. (1995). *Savoirs populaires et développement rural: quand des communautés d'agriculteurs et des monastères bouddhistes proposent une alternative aux modèles productivistes*. Lausanne, Paris: FPH.

Ploeg, Jan Douwe van der et al. (2008). *Towards a framework for understanding regional rural development*. European perspectives on rural development. Assen: Van Gorcum.

Poli, Daniela, ed. (2013). *Agricoltura paesaggistica: Visioni, metodi, esperienze*. Territori. Florence: Firenze University Press.

Porter, Michael Eugene (1998). "Clusters and the new economics of competition". In: *Harvard business review* 76.6, pp. 77–90.

Rautenberg, Michel et al., eds. (2000). *Campagnes de tous nos désirs. Patrimoines et nouveaux usages sociaux*. Collection Ethnologie de la France. Cahiers 16. Paris: Éditions de la Maison des sciences de l'homme.

Ray, Christopher (1998). "Culture, Intellectual Property and Territorial Rural Development". In: *Sociologia Ruralis* 38.1, pp. 3–20.

Raynaud, Emmanuel and Loic Sauvée (1999). "Stratégie collective de qualité et organisation des producteurs: l'approche par l'économie des coûts de transaction". In: *Proceedings of the seminar SFER Signes officiels de qualité et développement agricole: aspects techniques et économiques*. Ed. by Louis Lagrange. ENITA, pp. 189–191.

Regione autonoma Friuli-Venezia Giulia (2019). *Regione in cifre 2019*. Tech. rep. Retrieved April 28, 2020. Regione autonoma Friuli-Venezia Giulia. URL: `https://www.regione.fvg.it/rafvg/cms/RAFVG/GEN/statistica/`.

Regione Friuli-Venezia Giulia (2015). *Selezione delle Aree interne. Diagnosi dell'Area: dati FVG*. Tech. rep. Regione autonoma Friuli-Venezia Giulia - Servizio coordinamento politiche per la montagna.

Regione Friuli-Venezia Giulia (2019). *Piano Sviluppo Rurale 2014-2020*. Tech. rep. Version 8.2, 2019. Regione autonoma Friuli-Venezia Giulia - Direzione centrale risorse agroalimentari, forestali e ittiche.

Requier-Desjardins, Denis (2009). "Territoires – Identités – Patrimoine: une approche économique?" In: *Développement durable et territoires* Dossier 12.

Rieutort, Laurent (2012). "Du rural aux nouvelles ruralités". In: *Revue internationale d'éducation de Sèvres* 59, pp. 43–52.

Rouzier, Jacques (1995). "Eléments sur la revitalisation de l'espace rural". In: *Proceedings of the Séminaire pluridisciplinaire Rural 94: les recompositions de l'espace rural*. Ed. by Alain Berger. Cahiers de l'Économie Méridionale 19. Montpellier: CRPEE, pp. 5–14.

Rowntree, Lester B. and Margaret W. Conkey (1980). "Symbolism and the Cultural Landscape". In: *Annals of the Association of American Geographers* 70.4, pp. 459–474.

Réseau agriculture durable (2002). *Pour un développement durable en agriculture: évaluer la durabilité d'un système de production: approche globale, méthodes et diagnostics*.

Sanz Cañada, Javier, ed. (2007). *El futuro del mundo rural*. Madrid: Síntesis.

Schmidt, Anna (2014). *Völkische Siedler/innen im ländlichen Raum*. Basiswissen und Handlungsstrategien. Berlin: Amadeu Antonio Stiftung.

Sforzi, Fabio and Maria Cecilia Mancini (2012). "The reinterpretation of the agri-food system and its spatial dynamics through the industrial district." In: *Agricultural Economics (AGRICECON)* 58.11, pp. 510–519.

Shucksmith, Mark (2018). "Re-imagining the rural: From rural idyll to Good Countryside". In: *Journal of Rural Studies* 59, pp. 163–172.

Sivignon, Michel (1992). “La diffusion des modèles agricoles: essai d’interprétation des agricultures de l’est et du sud de l’Europe”. In: *Revue géographique des Pyrénées et du Sud-Ouest* 63.2, pp. 133–154.

Soulet, Jean-François and Jean-François Le Nail, eds. (1981). *Bigorre et Quatre Vallées*. Vol. I-II. Pau: Société nouvelle d’éditions régionales et de diffusion.

Sourdril, Anne (2002). “Le cidre en Bretagne: constructions sociales d’un “produit du terroir”. Anthropologie des régions cidricoles: le “Bassin de Rennes” et la “Vallée de la Rance””. In: *Proceedings of the Conference Local Agri-Foods Systems: Products, Enterprises and the local dynamics*. Montpellier: Gis Syal.

Sylvander, Bertil (1995). “Origine géographique et qualité des produits: approche économique”. In: *Revue de Droit Rural*, pp. 465–473.

— (1996). “Les controverses sur la politique de la qualité: les dispositifs d’ajustement et la certification”. In: *La qualité dans l’agro-alimentaire: émergence d’un champ de recherches*. Ed. by François Casabianca and Egizio Valceschini, pp. 106–119.

Szlanyinka, Edina (2009). “The role of cultural values in rural development”. In: *Traditional food production and rural sustainable development: a European challenge*. Ed. by Teresa de Noronha Vaz, Peter Nijkamp, and Jean-Louis Rastoin. Farnham: Ashgate, pp. 101–118.

Taillefer, François, ed. (1974). *Les Pyrénées: de la montagne à l’homme*. Toulouse: Privat.

Texier, Claude et al. (1984). “Inventaire des quatre dernieres races locales porcines continentales: bilan des trois premieres annees d’application du programme de conservation propose par l’INRA et l’ITP”. In: *Proceedings*

of the XVI Journees de la Recherche porcine en France. Ed. by CNEARC. Paris, pp. 495–506.

Throsby, David (1995). "Culture, Economics and Sustainability". In: *Journal of Cultural Economics* 19.3, pp. 199–206.

— (2008). "Linking cultural and ecological sustainability". In: *International journal of diversity in organizations, communities and nations* 8.1, pp. 15–20.

— (2016). "Les économies de terroir comme atouts économiques et culturels: valeur, valorisation et durabilité". In: *La valeur patrimoniale des économies de terroir*. Ed. by Isabelle Anatole-Gabriel and Erik Orsenna. Dijon: Éditions universitaires de Dijon, pp. 79–88.

UN Department of Public Information (1993). *Agenda 21: programme of action for sustainable development, Rio Declaration on Environment and Development, statement of forest principles : the final text of agreements negotiated by Governments at the United Nations Conference on Environment and Development (UNCED), 3-14 June 1992, Rio de Janeiro, Brazil*. New York: UN.

UNEP-UNECE (2016). *GEO-6 Assessment for the pan-European region*. Tech. rep. Nairobi: United Nations Environment Programme.

Van Caenegem, William and Jen Cleary, eds. (2017). *The importance of place: Geographical Indications as a tool for local and regional development*. Cham: Springer International Publishing.

Wilson, Alan G. (1971). "A Family of Spatial Interaction Models, and Associated Developments". In: *Environment and Planning* 3.1, pp. 1–32.

Zelizer, Viviana A. Rotman (2010). *Economic lives: how culture shapes the economy*. Princeton & Oxford: Princeton University Press.

Appendix A

NUTS3 Specific Attractiveness

Code	NUTS3 Designation	Specific Attractiveness
AT111	Mittelburgenland	0,000 777 73
AT112	Nordburgenland	0,000 741
AT113	Südburgenland	0,000 785 78
AT121	Mostviertel-Eisenwurzen	0,000 372 22
AT122	Niederösterreich-Süd	0,000 368 6
AT123	Sankt Pölten	0,000 369 94
AT124	Waldviertel	0,000 381 26
AT125	Weinviertel	0,000 369 51
AT126	Wiener Umland/Nordteil	0,000 352 8
AT127	Wiener Umland/Südteil	0,000 320 02
AT130	Wien	0,029 357
AT211	Klagenfurt-Villach	0,001 359 9
AT212	Oberkärnten	0,001 382 9
AT213	Unterkärnten	0,001 406 7
AT221	Graz	0,000 735 81
AT222	Liezen	0,000 748 45
AT223	Östliche Obersteiermark	0,000 756 32

Code	NUTS3 Designation	Specific Attractiveness
AT224	Oststeiermark	0,000 771 43
AT225	West- und Südsteiermark	0,000 780 33
AT226	Westliche Obersteiermark	0,000 765 2
AT311	Innviertel	0,000 598 91
AT312	Linz-Wels	0,000 609 1
AT313	Mühlviertel	0,000 637 73
AT314	Steyr-Kirchdorf	0,000 632 88
AT315	Traunviertel	0,000 635 02
AT321	Lungau	0,003 828 9
AT322	Pinzgau-Pongau	0,003 599 3
AT323	Salzburg und Umgebung	0,003 394 8
AT331	Außerfern	0,002 992 2
AT332	Innsbruck	0,003 046 7
AT333	Osttirol	0,003 344 6
AT334	Tiroler Oberland	0,003 098 3
AT335	Tiroler Unterland	0,003 096 4
AT341	Bludenz-Bregenzer Wald	0,002 694 5
AT342	Rheintal-Bodenseegebiet	0,002 438 7
BE100	Arr. de Bruxelles-Capitale	0,024 289
BE211	Arr. Antwerpen	0,001 140 9
BE212	Arr. Mechelen	0,001 166 7
BE213	Arr. Turnhout	0,001 204 7
BE221	Arr. Hasselt	0,001 289 5
BE222	Arr. Maaseik	0,001 285 9
BE223	Arr. Tongeren	0,001 275 5
BE231	Arr. Aalst	0,000 587 87
BE232	Arr. Dendermonde	0,000 595 24
BE233	Arr. Eeklo	0,000 625 46
BE234	Arr. Gent	0,000 596 9
BE235	Arr. Oudenaarde	0,000 632 47

Code	NUTS3 Designation	Specific Attractiveness
BE236	Arr. Sint-Niklaas	0,000 584 62
BE241	Arr. Halle-Vilvoorde	0,000 679 33
BE242	Arr. Leuven	0,000 771 51
BE251	Arr. Brugge	0,003 005
BE252	Arr. Diksmuide	0,003 138 8
BE253	Arr. Ieper	0,003 008 1
BE254	Arr. Kortrijk	0,002 846
BE255	Arr. Oostende	0,003 136 4
BE256	Arr. Roeselare	0,002 991 8
BE257	Arr. Tielt	0,002 961 6
BE258	Arr. Veurne	0,003 218 3
BE310	Arr. Nivelles	0,000 324 66
BE321	Arr. Ath	0,000 264 08
BE322	Arr. Charleroi	0,000 254 81
BE323	Arr. Mons	0,000 259 95
BE324	Arr. Mouscron	0,000 246 74
BE325	Arr. Soignies	0,000 251 45
BE326	Arr. Thuin	0,000 258 82
BE327	Arr. Tournai	0,000 256 07
BE331	Arr. Huy	0,000 492 26
BE332	Arr. Liège	0,000 453
BE334	Arr. Waremme	0,000 474 67
BE335	Arr. Verviers	0,000 479 72
BE336	Bezirk Verviers	0,000 474 34
BE341	Arr. Arlon	0,000 523 09
BE342	Arr. Bastogne	0,000 514 68
BE343	Arr. Marche-en-Famenne	0,000 513 99
BE344	Arr. Neufchâteau	0,000 530 44
BE345	Arr. Virton	0,000 529 69
BE351	Arr. Dinant	0,000 270 42

Code	NUTS3 Designation	Specific Attractiveness
BE352	Arr. Namur	0,000 250 59
BE353	Arr. Philippeville	0,000 267 68
BG311	Vidin	$4{,}778\,8 \cdot 10^{-05}$
BG312	Montana	$4{,}874\,8 \cdot 10^{-05}$
BG313	Vratsa	$4{,}969\,4 \cdot 10^{-05}$
BG314	Pleven	$5{,}060\,9 \cdot 10^{-05}$
BG315	Lovech	$5{,}098\,7 \cdot 10^{-05}$
BG321	Veliko Tarnovo	0,000 104 75
BG322	Gabrovo	0,000 105 57
BG323	Ruse	$9{,}533\,7 \cdot 10^{-05}$
BG324	Razgrad	0,000 105 58
BG325	Silistra	0,000 103 74
BG331	Varna	0,001 102 4
BG332	Dobrich	0,001 111 4
BG333	Shumen	0,001 057 4
BG334	Targovishte	0,001 047 8
BG341	Burgas	0,001 065 4
BG342	Sliven	0,001 011 4
BG343	Yambol	0,001 008 9
BG344	Stara Zagora	0,000 965 29
BG411	Sofia (stolitsa)	0,000 307 97
BG412	Sofia	0,000 379 22
BG413	Blagoevgrad	0,000 388 69
BG414	Pernik	0,000 353 41
BG415	Kyustendil	0,000 379 91
BG421	Plovdiv	0,000 210 84
BG422	Haskovo	0,000 223 25
BG423	Pazardzhik	0,000 209 98
BG424	Smolyan	0,000 237 01
BG425	Kardzhali	0,000 230 87

Code	NUTS3 Designation	Specific Attractiveness
CY000	Kypros	0,006 564 5
CZ010	Hlavní mesto Praha	0,029 494
CZ020	Stredoceský kraj	0,000 226 51
CZ031	Jihocecký kraj	0,000 381 56
CZ032	Plzenský kraj	0,000 355 75
CZ041	Karlovarský kraj	0,000 772 62
CZ042	Ústecký kraj	0,000 778 22
CZ051	Liberecký kraj	0,000 695 47
CZ052	Královéhradecký kraj	0,000 703 39
CZ053	Pardubický kraj	0,000 701 75
CZ063	Kraj Vysocina	0,000 420 34
CZ064	Jihomoravský kraj	0,000 408 39
CZ071	Olomoucký kraj	0,000 509 74
CZ072	Zlínský kraj	0,000 520 07
CZ080	Moravskoslezský kraj	0,000 534 23
DE111	Stuttgart, Stadtkreis	0,000 818 96
DE112	Böblingen	0,000 908 54
DE113	Esslingen	0,000 905 02
DE114	Göppingen	0,000 970 29
DE115	Ludwigsburg	0,000 872 49
DE116	Rems-Murr-Kreis	0,000 929 52
DE117	Heilbronn, Stadtkreis	0,000 889 11
DE118	Heilbronn, Landkreis	0,000 925 36
DE119	Hohenlohekreis	0,000 976 99
DE11A	Schwäbisch Hall	0,001 004 5
DE11B	Main-Tauber-Kreis	0,001 001 3
DE11C	Heidenheim	0,001 018 5
DE11D	Ostalbkreis	0,001 009 8
DE121	Baden-Baden, Stadtkreis	0,001 250 6
DE122	Karlsruhe, Stadtkreis	0,001 153 9

Code	NUTS3 Designation	Specific Attractiveness
DE123	Karlsruhe, Landkreis	0,001 177 1
DE124	Rastatt	0,001 231 5
DE125	Heidelberg, Stadtkreis	0,001 097 8
DE126	Mannheim, Stadtkreis	0,001 056 2
DE127	Neckar-Odenwald-Kreis	0,001 276 2
DE128	Rhein-Neckar-Kreis	0,001 128 9
DE129	Pforzheim, Stadtkreis	0,001 183 4
DE12A	Calw	0,001 250 8
DE12B	Enzkreis	0,001 200 7
DE12C	Freudenstadt	0,001 289 3
DE131	Freiburg im Breisgau, Stadtkreis	0,001 368 2
DE132	Breisgau-Hochschwarzwald	0,001 437 7
DE133	Emmendingen	0,001 458 9
DE134	Ortenaukreis	0,001 344 1
DE135	Rottweil	0,001 451 6
DE136	Schwarzwald-Baar-Kreis	0,001 432 4
DE137	Tuttlingen	0,001 449 1
DE138	Konstanz	0,001 341 2
DE139	Lörrach	0,001 397 2
DE13A	Waldshut	0,001 429 6
DE141	Reutlingen	0,000 726 14
DE142	Tübingen, Landkreis	0,000 716 36
DE143	Zollernalbkreis	0,000 777 52
DE144	Ulm, Stadtkreis	0,000 709 61
DE145	Alb-Donau-Kreis	0,000 755 88
DE146	Biberach	0,000 766 51
DE147	Bodenseekreis	0,000 764 6
DE148	Ravensburg	0,000 784 34
DE149	Sigmaringen	0,000 788 5
DE211	Ingolstadt, Kreisfreie Stadt	0,001 994 6

Code	NUTS3 Designation	Specific Attractiveness
DE212	München, Kreisfreie Stadt	0,001 573 1
DE213	Rosenheim, Kreisfreie Stadt	0,002 022 1
DE214	Altötting	0,002 234 1
DE215	Berchtesgadener Land	0,002 275 6
DE216	Bad Tölz-Wolfratshausen	0,002 084 8
DE217	Dachau	0,001 884 6
DE218	Ebersberg	0,001 986
DE219	Eichstätt	0,002 044 5
DE21A	Erding	0,002 044 8
DE21B	Freising	0,001 991 1
DE21C	Fürstenfeldbruck	0,001 852 1
DE21D	Garmisch-Partenkirchen	0,002 202 9
DE21E	Landsberg am Lech	0,002 047 9
DE21F	Miesbach	0,002 061 4
DE21G	Mühldorf am Inn	0,002 166 6
DE21H	München, Landkreis	0,001 847 5
DE21I	Neuburg-Schrobenhausen	0,002 085 1
DE21J	Pfaffenhofen an der Ilm	0,002 014 5
DE21K	Rosenheim, Landkreis	0,002 123 3
DE21L	Starnberg	0,001 915 7
DE21M	Traunstein	0,002 270 1
DE21N	Weilheim-Schongau	0,002 126 7
DE221	Landshut, Kreisfreie Stadt	0,000 888 72
DE222	Passau, Kreisfreie Stadt	0,000 977 75
DE223	Straubing, Kreisfreie Stadt	0,000 928 37
DE224	Deggendorf	0,000 950 37
DE225	Freyung-Grafenau	0,001 001 8
DE226	Kelheim	0,000 890 84
DE227	Landshut, Landkreis	0,000 932 87
DE228	Passau, Landkreis	0,000 978 36

Code	NUTS3 Designation	Specific Attractiveness
DE229	Regen	0,000 977 24
DE22A	Rottal-Inn	0,000 945 42
DE22B	Straubing-Bogen	0,000 949 28
DE22C	Dingolfing-Landau	0,000 946 25
DE231	Amberg, Kreisfreie Stadt	0,000 459 26
DE232	Regensburg, Kreisfreie Stadt	0,000 443 62
DE233	Weiden in der Oberpfalz, Kreisfreie Stadt	0,000 470 17
DE234	Amberg-Sulzbach	0,000 463 56
DE235	Cham	0,000 501 38
DE236	Neumarkt in der Oberpfalz	0,000 449 44
DE237	Neustadt an der Waldnaab	0,000 481 08
DE238	Regensburg, Landkreis	0,000 469 92
DE239	Schwandorf	0,000 469 99
DE23A	Tirschenreuth	0,000 483 82
DE241	Bamberg, Kreisfreie Stadt	0,000 495 81
DE242	Bayreuth, Kreisfreie Stadt	0,000 525 72
DE243	Coburg, Kreisfreie Stadt	0,000 539 52
DE244	Hof, Kreisfreie Stadt	0,000 534 3
DE245	Bamberg, Landkreis	0,000 516 7
DE246	Bayreuth, Landkreis	0,000 532 29
DE247	Coburg, Landkreis	0,000 554 45
DE248	Forchheim	0,000 507 37
DE249	Hof, Landkreis	0,000 545 83
DE24A	Kronach	0,000 548 39
DE24B	Kulmbach	0,000 545 57
DE24C	Lichtenfels	0,000 541 24
DE24D	Wunsiedel im Fichtelgebirge	0,000 549 98
DE251	Ansbach, Kreisfreie Stadt	0,000 947 38
DE252	Erlangen, Kreisfreie Stadt	0,000 922 09
DE253	Fürth, Kreisfreie Stadt	0,000 877 03

Code	NUTS3 Designation	Specific Attractiveness
DE254	Nürnberg, Kreisfreie Stadt	0,000 847 27
DE255	Schwabach, Kreisfreie Stadt	0,000 912 76
DE256	Ansbach, Landkreis	0,000 962 1
DE257	Erlangen-Höchstadt	0,000 954 12
DE258	Fürth, Landkreis	0,000 892 41
DE259	Nürnberger Land	0,000 928 83
DE25A	Neustadt an der Aisch-Bad Windsheim	0,000 954 52
DE25B	Roth	0,000 970 48
DE25C	Weißenburg-Gunzenhausen	0,000 983 92
DE261	Aschaffenburg, Kreisfreie Stadt	0,000 491 02
DE262	Schweinfurt, Kreisfreie Stadt	0,000 528 11
DE263	Würzburg, Kreisfreie Stadt	0,000 507 7
DE264	Aschaffenburg, Landkreis	0,000 506 07
DE265	Bad Kissingen	0,000 562 36
DE266	Rhön-Grabfeld	0,000 563 74
DE267	Haßberge	0,000 566 33
DE268	Kitzingen	0,000 538 16
DE269	Miltenberg	0,000 528 28
DE26A	Main-Spessart	0,000 538 11
DE26B	Schweinfurt, Landkreis	0,000 546 78
DE26C	Würzburg, Landkreis	0,000 526 6
DE271	Augsburg, Kreisfreie Stadt	0,001 245
DE272	Kaufbeuren, Kreisfreie Stadt	0,001 358 4
DE273	Kempten (Allgäu), Kreisfreie Stadt	0,001 352 6
DE274	Memmingen, Kreisfreie Stadt	0,001 323 7
DE275	Aichach-Friedberg	0,001 301 2
DE276	Augsburg, Landkreis	0,001 319 1
DE277	Dillingen an der Donau	0,001 335 4
DE278	Günzburg	0,001 306 8
DE279	Neu-Ulm	0,001 241 7

Code	NUTS3 Designation	Specific Attractiveness
DE27A	Lindau (Bodensee)	0,001 376 2
DE27B	Ostallgäu	0,001 438 4
DE27C	Unterallgäu	0,001 362 4
DE27D	Donau-Ries	0,001 300 5
DE27E	Oberallgäu	0,001 427 1
DE300	Berlin	0,024 901
DE401	Brandenburg an der Havel, Kreisfreie Stadt	0,000 375 24
DE402	Cottbus, Kreisfreie Stadt	0,000 384 9
DE403	Frankfurt (Oder), Kreisfreie Stadt	0,000 395 32
DE404	Potsdam, Kreisfreie Stadt	0,000 333 43
DE405	Barnim	0,000 353 92
DE406	Dahme-Spreewald	0,000 348 45
DE407	Elbe-Elster	0,000 392 38
DE408	Havelland	0,000 381 32
DE409	Märkisch-Oderland	0,000 374 88
DE40A	Oberhavel	0,000 358 1
DE40B	Oberspreewald-Lausitz	0,000 387 54
DE40C	Oder-Spree	0,000 409 7
DE40D	Ostprignitz-Ruppin	0,000 402 85
DE40E	Potsdam-Mittelmark	0,000 319 67
DE40F	Prignitz	0,000 413 53
DE40G	Spree-Neiße	0,000 400 74
DE40H	Teltow-Fläming	0,000 338 5
DE40I	Uckermark	0,000 428 7
DE501	Bremen, Kreisfreie Stadt	0,004 935 8
DE502	Bremerhaven, Kreisfreie Stadt	0,005 858 7
DE600	Hamburg	0,014 891
DE711	Darmstadt, Kreisfreie Stadt	0,001 940 5
DE712	Frankfurt am Main, Kreisfreie Stadt	0,001 785 7
DE713	Offenbach am Main, Kreisfreie Stadt	0,001 816 3

Code	NUTS3 Designation	Specific Attractiveness
DE714	Wiesbaden, Kreisfreie Stadt	0,001 913
DE715	Bergstraße	0,001 976 6
DE716	Darmstadt-Dieburg	0,002 004 5
DE717	Groß-Gerau	0,001 939 5
DE718	Hochtaunuskreis	0,001 987 5
DE719	Main-Kinzig-Kreis	0,002 043 3
DE71A	Main-Taunus-Kreis	0,001 873 4
DE71B	Odenwaldkreis	0,002 214 6
DE71C	Offenbach, Landkreis	0,001 944
DE71D	Rheingau-Taunus-Kreis	0,002 048 5
DE71E	Wetteraukreis	0,002 063 6
DE721	Gießen, Landkreis	0,000 330 19
DE722	Lahn-Dill-Kreis	0,000 331 54
DE723	Limburg-Weilburg	0,000 326 8
DE724	Marburg-Biedenkopf	0,000 345 68
DE725	Vogelsbergkreis	0,000 355 59
DE731	Kassel, Kreisfreie Stadt	0,000 642 8
DE732	Fulda	0,000 692 26
DE733	Hersfeld-Rotenburg	0,000 690 22
DE734	Kassel, Landkreis	0,000 669 74
DE735	Schwalm-Eder-Kreis	0,000 680 35
DE736	Waldeck-Frankenberg	0,000 693 99
DE737	Werra-Meißner-Kreis	0,000 707 73
DE803	Rostock, Kreisfreie Stadt	0,001 270 1
DE804	Schwerin, Kreisfreie Stadt	0,001 233
DE80J	Mecklenburgische Seenplatte	0,001 371 6
DE80K	Landkreis Rostock	0,001 345 4
DE80L	Vorpommern-Rügen	0,001 425 4
DE80M	Nordwestmecklenburg	0,001 294 4
DE80N	Vorpommern-Greifswald	0,001 400 7

Code	NUTS3 Designation	Specific Attractiveness
DE80O	Ludwigslust-Parchim	0,001 264 1
DE911	Braunschweig, Kreisfreie Stadt	0,000 648 64
DE912	Salzgitter, Kreisfreie Stadt	0,000 675 04
DE913	Wolfsburg, Kreisfreie Stadt	0,000 686 71
DE914	Gifhorn	0,000 693 12
DE916	Goslar	0,000 704 75
DE917	Helmstedt	0,000 699 32
DE918	Northeim	0,000 688 05
DE91A	Peine	0,000 660 76
DE91B	Wolfenbüttel	0,000 686 66
DE91C	Göttingen	0,000 668 16
DE922	Diepholz	0,000 607 8
DE923	Hameln-Pyrmont	0,000 586 27
DE925	Hildesheim	0,000 591 74
DE926	Holzminden	0,000 589 44
DE927	Nienburg (Weser)	0,000 602 23
DE928	Schaumburg	0,000 580 39
DE929	Region Hannover	0,000 561 19
DE931	Celle	0,000 529 47
DE932	Cuxhaven	0,000 638 38
DE933	Harburg	0,000 539 53
DE934	Lüchow-Dannenberg	0,000 606 28
DE935	Lüneburg, Landkreis	0,000 579 63
DE936	Osterholz	0,000 567 8
DE937	Rotenburg (Wümme)	0,000 562 89
DE938	Heidekreis	0,000 566 4
DE939	Stade	0,000 556 12
DE93A	Uelzen	0,000 574 76
DE93B	Verden	0,000 524 22
DE941	Delmenhorst, Kreisfreie Stadt	0,001 003 7

Code	NUTS3 Designation	Specific Attractiveness
DE942	Emden, Kreisfreie Stadt	0,001 155 9
DE943	Oldenburg, Kreisfreie Stadt	0,001 019 1
DE944	Osnabrück, Kreisfreie Stadt	0,000 903 91
DE945	Wilhelmshaven, Kreisfreie Stadt	0,001 148 9
DE946	Ammerland	0,001 078 6
DE947	Aurich	0,001 222 7
DE948	Cloppenburg	0,001 030 5
DE949	Emsland	0,000 971 17
DE94A	Friesland (DE)	0,001 121 7
DE94B	Grafschaft Bentheim	0,000 946 29
DE94C	Leer	0,001 100 5
DE94D	Oldenburg, Landkreis	0,001 030 5
DE94E	Osnabrück, Landkreis	0,000 945 19
DE94F	Vechta	0,001 024 3
DE94G	Wesermarsch	0,001 109 2
DE94H	Wittmund	0,001 173 6
DEA11	Düsseldorf, Kreisfreie Stadt	0,001 343 9
DEA12	Duisburg, Kreisfreie Stadt	0,001 376 6
DEA13	Essen, Kreisfreie Stadt	0,001 332 4
DEA14	Krefeld, Kreisfreie Stadt	0,001 434 1
DEA15	Mönchengladbach, Kreisfreie Stadt	0,001 486
DEA16	Mülheim an der Ruhr, Kreisfreie Stadt	0,001 337 8
DEA17	Oberhausen, Kreisfreie Stadt	0,001 349 4
DEA18	Remscheid, Kreisfreie Stadt	0,001 515 3
DEA19	Solingen, Kreisfreie Stadt	0,001 455 7
DEA1A	Wuppertal, Kreisfreie Stadt	0,001 481 8
DEA1B	Kleve	0,001 696 2
DEA1C	Mettmann	0,001 458 2
DEA1D	Rhein-Kreis Neuss	0,001 435 2
DEA1E	Viersen	0,001 491 7

Code	NUTS3 Designation	Specific Attractiveness
DEA1F	Wesel	0,001 503 2
DEA22	Bonn, Kreisfreie Stadt	0,001 199 3
DEA23	Köln, Kreisfreie Stadt	0,001 111 4
DEA24	Leverkusen, Kreisfreie Stadt	0,001 144 8
DEA26	Düren	0,001 322
DEA27	Rhein-Erft-Kreis	0,001 238 5
DEA28	Euskirchen	0,001 341 4
DEA29	Heinsberg	0,001 284 8
DEA2A	Oberbergischer Kreis	0,001 289 3
DEA2B	Rheinisch-Bergischer Kreis	0,001 202 9
DEA2C	Rhein-Sieg-Kreis	0,001 259 5
DEA2D	Städteregion Aachen	0,001 302
DEA31	Bottrop, Kreisfreie Stadt	0,000 369 09
DEA32	Gelsenkirchen, Kreisfreie Stadt	0,000 364 16
DEA33	Münster, Kreisfreie Stadt	0,000 442 43
DEA34	Borken	0,000 445 32
DEA35	Coesfeld	0,000 448 8
DEA36	Recklinghausen	0,000 381 43
DEA37	Steinfurt	0,000 464 39
DEA38	Warendorf	0,000 460 34
DEA41	Bielefeld, Kreisfreie Stadt	0,000 467 88
DEA42	Gütersloh	0,000 479 23
DEA43	Herford	0,000 475 74
DEA44	Höxter	0,000 531 35
DEA45	Lippe	0,000 490 2
DEA46	Minden-Lübbecke	0,000 509 97
DEA47	Paderborn	0,000 504 22
DEA51	Bochum, Kreisfreie Stadt	0,000 664 15
DEA52	Dortmund, Kreisfreie Stadt	0,000 691 25
DEA53	Hagen, Kreisfreie Stadt	0,000 743 97

Code	NUTS3 Designation	Specific Attractiveness
DEA54	Hamm, Kreisfreie Stadt	0,000 788 41
DEA55	Herne, Kreisfreie Stadt	0,000 669 73
DEA56	Ennepe-Ruhr-Kreis	0,000 703 85
DEA57	Hochsauerlandkreis	0,000 861 48
DEA58	Märkischer Kreis	0,000 787 44
DEA59	Olpe	0,000 853 59
DEA5A	Siegen-Wittgenstein	0,000 850 69
DEA5B	Soest	0,000 861 3
DEA5C	Unna	0,000 725 64
DEB11	Koblenz, Kreisfreie Stadt	0,000 761 43
DEB12	Ahrweiler	0,000 763 59
DEB13	Altenkirchen (Westerwald)	0,000 791 94
DEB14	Bad Kreuznach	0,000 795 23
DEB15	Birkenfeld	0,000 849 3
DEB17	Mayen-Koblenz	0,000 746 12
DEB18	Neuwied	0,000 759 29
DEB1A	Rhein-Lahn-Kreis	0,000 785 29
DEB1B	Westerwaldkreis	0,000 772 47
DEB1C	Cochem-Zell	0,000 828 39
DEB1D	Rhein-Hunsrück-Kreis	0,000 811 3
DEB21	Trier, Kreisfreie Stadt	0,000 978 55
DEB22	Bernkastel-Wittlich	0,001 006 4
DEB23	Eifelkreis Bitburg-Prüm	0,001 006 4
DEB24	Vulkaneifel	0,000 988 41
DEB25	Trier-Saarburg	0,001 003 8
DEB31	Frankenthal (Pfalz), Kreisfreie Stadt	0,000 613 27
DEB32	Kaiserslautern, Kreisfreie Stadt	0,000 654 94
DEB33	Landau in der Pfalz, Kreisfreie Stadt	0,000 641 35
DEB34	Ludwigshafen am Rhein, Kreisfreie Stadt	0,000 570 63
DEB35	Mainz, Kreisfreie Stadt	0,000 573 98

Code	NUTS3 Designation	Specific Attractiveness
DEB36	Neustadt an der Weinstraße, Kreisfreie Stadt	0,000 633 36
DEB37	Pirmasens, Kreisfreie Stadt	0,000 683 71
DEB38	Speyer, Kreisfreie Stadt	0,000 620 9
DEB39	Worms, Kreisfreie Stadt	0,000 625 74
DEB3A	Zweibrücken, Kreisfreie Stadt	0,000 694
DEB3B	Alzey-Worms	0,000 642 03
DEB3C	Bad Dürkheim	0,000 637 48
DEB3D	Donnersbergkreis	0,000 660 08
DEB3E	Germersheim	0,000 641 78
DEB3F	Kaiserslautern, Landkreis	0,000 685 91
DEB3G	Kusel	0,000 686 6
DEB3H	Südliche Weinstraße	0,000 646 23
DEB3I	Rhein-Pfalz-Kreis	0,000 615 83
DEB3J	Mainz-Bingen	0,000 617 61
DEB3K	Südwestpfalz	0,000 689 69
DEC01	Regionalverband Saarbrücken	0,000 723 92
DEC02	Merzig-Wadern	0,000 755 1
DEC03	Neunkirchen	0,000 735 25
DEC04	Saarlouis	0,000 743 41
DEC05	Saarpfalz-Kreis	0,000 737 93
DEC06	St. Wendel	0,000 753 28
DED21	Dresden, Kreisfreie Stadt	0,000 953 8
DED2C	Bautzen	0,001 108
DED2D	Görlitz	0,001 117 6
DED2E	Meißen	0,001 052 1
DED2F	Sächsische Schweiz-Osterzgebirge	0,001 035 2
DED41	Chemnitz, Kreisfreie Stadt	0,000 563 2
DED42	Erzgebirgskreis	0,000 596 9
DED43	Mittelsachsen	0,000 591 44
DED44	Vogtlandkreis	0,000 587 24

Code	NUTS3 Designation	Specific Attractiveness
DED45	Zwickau	0,000 577 81
DED51	Leipzig, Kreisfreie Stadt	0,000 891 79
DED52	Leipzig	0,000 929 12
DED53	Nordsachsen	0,001 004 1
DEE01	Dessau-Roßlau, Kreisfreie Stadt	0,000 320 03
DEE02	Halle (Saale), Kreisfreie Stadt	0,000 294 67
DEE03	Magdeburg, Kreisfreie Stadt	0,000 305 42
DEE04	Altmarkkreis Salzwedel	0,000 341 3
DEE05	Anhalt-Bitterfeld	0,000 321 07
DEE06	Jerichower Land	0,000 329 99
DEE07	Börde	0,000 321 77
DEE08	Burgenlandkreis (DE)	0,000 315 51
DEE09	Harz	0,000 322 67
DEE0A	Mansfeld-Südharz	0,000 320 87
DEE0B	Saalekreis	0,000 308 13
DEE0C	Salzlandkreis	0,000 323 7
DEE0D	Stendal	0,000 341 72
DEE0E	Wittenberg	0,000 333 62
DEF01	Flensburg, Kreisfreie Stadt	0,002 234 4
DEF02	Kiel, Kreisfreie Stadt	0,001 951 3
DEF03	Lübeck, Kreisfreie Stadt	0,001 808 2
DEF04	Neumünster, Kreisfreie Stadt	0,001 953
DEF05	Dithmarschen	0,002 178 5
DEF06	Herzogtum Lauenburg	0,001 848
DEF07	Nordfriesland	0,002 283 9
DEF08	Ostholstein	0,001 86
DEF09	Pinneberg	0,001 848 1
DEF0A	Plön	0,002 090 4
DEF0B	Rendsburg-Eckernförde	0,002 140 4
DEF0C	Schleswig-Flensburg	0,002 209

Code	NUTS3 Designation	Specific Attractiveness
DEF0D	Segeberg	0,001 707 4
DEF0E	Steinburg	0,001 986
DEF0F	Stormarn	0,001 735
DEG01	Erfurt, Kreisfreie Stadt	0,000 428 51
DEG02	Gera, Kreisfreie Stadt	0,000 437 06
DEG03	Jena, Kreisfreie Stadt	0,000 429 85
DEG04	Suhl, Kreisfreie Stadt	0,000 446 84
DEG05	Weimar, Kreisfreie Stadt	0,000 436 56
DEG06	Eichsfeld	0,000 433 58
DEG07	Nordhausen	0,000 438 99
DEG09	Unstrut-Hainich-Kreis	0,000 435 73
DEG0A	Kyffhäuserkreis	0,000 440 48
DEG0B	Schmalkalden-Meiningen	0,000 443 47
DEG0C	Gotha	0,000 431 98
DEG0D	Sömmerda	0,000 448 67
DEG0E	Hildburghausen	0,000 456 83
DEG0F	Ilm-Kreis	0,000 452 34
DEG0G	Weimarer Land	0,000 445 38
DEG0H	Sonneberg	0,000 456 8
DEG0I	Saalfeld-Rudolstadt	0,000 448 26
DEG0J	Saale-Holzland-Kreis	0,000 442 95
DEG0K	Saale-Orla-Kreis	0,000 445 03
DEG0L	Greiz	0,000 453 24
DEG0M	Altenburger Land	0,000 444 61
DEG0N	Eisenach, Kreisfreie Stadt	0,000 420 98
DEG0P	Wartburgkreis	0,000 428 66
DK011	Byen København	0,004 346 3
DK012	Københavns omegn	0,004 747 8
DK013	Nordsjælland	0,005 356
DK014	Bornholm	0,006 476 7

Code	NUTS3 Designation	Specific Attractiveness
DK021	Østsjælland	0,000 471 96
DK022	Vest- og Sydsjælland	0,000 524 78
DK031	Fyn	0,000 954 5
DK032	Sydjylland	0,001 012 9
DK041	Vestjylland	0,000 531 98
DK042	Østjylland	0,000 511 49
DK050	Nordjylland	0,000 853 03
EE001	Põhja-Eesti	0,000 301 25
EE004	Lääne-Eesti	0,000 315 86
EE006	Kesk-Eesti	0,000 337 88
EE007	Kirde-Eesti	0,000 362 77
EE008	Lõuna-Eesti	0,000 328 78
EL301	Voreios Tomeas Athinon	0,002 444 8
EL302	Dytikos Tomeas Athinon	0,002 509 3
EL303	Kentrikos Tomeas Athinon	0,002 217 9
EL304	Notios Tomeas Athinon	0,002 853
EL305	Anatoliki Attiki	0,003 589 5
EL306	Dytiki Attiki	0,005 021 8
EL307	Peiraias, Nisoi	0,003 679 7
EL411	Lesvos, Limnos	0,001 941 1
EL412	Ikaria, Samos	0,002 259 4
EL413	Chios	0,002 237
EL421	Kalymnos, Karpathos, Kos, Rodos	0,019 175
EL422	Andros, Thira, etc.	0,014 477
EL431	Irakleio	0,010 055
EL432	Lasithi	0,010 922
EL433	Rethymni	0,010 23
EL434	Chania	0,010 24
EL511	Evros	0,000 490 64
EL512	Xanthi	0,000 468 3

Code	NUTS3 Designation	Specific Attractiveness
EL513	Rodopi	0,000 465 85
EL514	Drama	0,000 444 35
EL515	Thasos, Kavala	0,000 454 9
EL521	Imathia	0,001 486 8
EL522	Thessaloniki	0,001 335 7
EL523	Kilkis	0,001 438 8
EL524	Pella	0,001 455 5
EL525	Pieria	0,001 484 1
EL526	Serres	0,001 459 4
EL527	Chalkidiki	0,001 531
EL531	Grevena, Kozani	$7{,}311\,5 \cdot 10^{-05}$
EL532	Kastoria	$7{,}217 \cdot 10^{-05}$
EL533	Florina	$6{,}901\,5 \cdot 10^{-05}$
EL541	Arta, Preveza	0,000 670 55
EL542	Thesprotia	0,000 612 28
EL543	Ioannina	0,000 590 42
EL611	Karditsa, Trikala	0,000 548 46
EL612	Larisa	0,000 526 29
EL613	Magnisia	0,000 547 11
EL621	Zakynthos	0,016 644
EL622	Kerkyra	0,013 31
EL623	Ithaki, Kefallinia	0,017 273
EL624	Lefkada	0,015 638
EL631	Aitoloakarnania	0,000 430 04
EL632	Achaia	0,000 423 04
EL633	Ileia	0,000 460 84
EL641	Voiotia	0,000 348 9
EL642	Evvoia	0,000 340 03
EL643	Evrytania	0,000 363 91
EL644	Fthiotida	0,000 342 63

Code	NUTS3 Designation	Specific Attractiveness
EL645	Fokida	0,000 356 22
EL651	Argolida, Arkadia	0,000 675 36
EL652	Korinthia	0,000 625 68
EL653	Lakonia, Messinia	0,000 740 83
ES111	A Coruña	0,000 656 85
ES112	Lugo	0,000 675 22
ES113	Ourense	0,000 674 24
ES114	Pontevedra	0,000 649 1
ES120	Asturias	0,000 903 05
ES130	Cantabria	0,001 639 9
ES211	Araba/Álava	0,001 569
ES212	Gipuzkoa	0,001 451 2
ES213	Bizkaia	0,001 461 6
ES220	Navarra	0,000 442 66
ES230	La Rioja	0,000 487 13
ES241	Huesca	0,000 258 95
ES242	Teruel	0,000 273 21
ES243	Zaragoza	0,000 258 45
ES300	Madrid	0,003 972 1
ES411	Ávila	0,000 197 54
ES412	Burgos	0,000 187 94
ES413	León	0,000 209 76
ES414	Palencia	0,000 195 92
ES415	Salamanca	0,000 204 74
ES416	Segovia	0,000 189 29
ES417	Soria	0,000 193 26
ES418	Valladolid	0,000 193 54
ES419	Zamora	0,000 206 58
ES421	Albacete	0,000 116 41
ES422	Ciudad Real	0,000 122 49

Code	NUTS3 Designation	Specific Attractiveness
ES423	Cuenca	0,000 115 23
ES424	Guadalajara	$9{,}797\,8 \cdot 10^{-05}$
ES425	Toledo	0,000 111 79
ES431	Badajoz	0,000 160 25
ES432	Cáceres	0,000 154 4
ES511	Barcelona	0,002 828 8
ES512	Girona	0,003 353 3
ES513	Lleida	0,003 835 7
ES514	Tarragona	0,003 551 5
ES521	Alicante / Alacant	0,003 287 9
ES522	Castellón / Castelló	0,003 312 6
ES523	Valencia / València	0,003 141 7
ES531	Eivissa, Formentera	0,026 287
ES532	Mallorca	0,022 934
ES533	Menorca	0,026 694
ES611	Almería	0,001 585
ES612	Cádiz	0,001 599 5
ES613	Córdoba	0,001 526 3
ES614	Granada	0,001 507 9
ES615	Huelva	0,001 649 3
ES616	Jaén	0,001 472 8
ES617	Málaga	0,001 472 3
ES618	Sevilla	0,001 471 9
ES620	Murcia	0,000 803 65
ES630	Ceuta (ES)	0,018 311
ES640	Melilla (ES)	0,022 991
ES703	El Hierro	0,055 732
ES704	Fuerteventura	0,047 996
ES705	Gran Canaria	0,038 674
ES706	La Gomera	0,052 667

Code	NUTS3 Designation	Specific Attractiveness
ES707	La Palma	0,052 394
ES708	Lanzarote	0,046 288
ES709	Tenerife	0,039 474
FI193	Keski-Suomi	0,000 156 86
FI194	Etelä-Pohjanmaa	0,000 161 99
FI195	Pohjanmaa	0,000 167 98
FI196	Satakunta	0,000 148 51
FI197	Pirkanmaa	0,000 143 01
FI1B1	Helsinki-Uusimaa	0,001 338 7
FI1C1	Varsinais-Suomi	0,000 191 7
FI1C2	Kanta-Häme	0,000 197 42
FI1C3	Päijät-Häme	0,000 204 88
FI1C4	Kymenlaakso	0,000 213 06
FI1C5	Etelä-Karjala	0,000 227 36
FI1D1	Etelä-Savo	$8{,}746\,9 \cdot 10^{-05}$
FI1D2	Pohjois-Savo	$9{,}226\,4 \cdot 10^{-05}$
FI1D3	Pohjois-Karjala	$9{,}774\,3 \cdot 10^{-05}$
FI1D5	Keski-Pohjanmaa	$9{,}727\,4 \cdot 10^{-05}$
FI1D7	Lappi	0,000 111 99
FI1D8	Kainuu	0,000 101 08
FI1D9	Pohjois-Pohjanmaa	0,000 105 53
FI200	Åland	0,000 514 38
FR101	Paris	0,002 593 6
FR102	Seine-et-Marne	0,005 021 1
FR103	Yvelines	0,004 390 2
FR104	Essonne	0,004 792 7
FR105	Hauts-de-Seine	0,002 885 9
FR106	Seine-Saint-Denis	0,003 114 1
FR107	Val-de-Marne	0,003 388 5
FR108	Val-d'Oise	0,004 101 3

Code	NUTS3 Designation	Specific Attractiveness
HU211	Fejér	0,000 436 55
HU212	Komárom-Esztergom	0,000 406 98
HU213	Veszprém	0,000 418 82
HU221	Gyor-Moson-Sopron	0,000 583 07
HU222	Vas	0,000 604 35
HU223	Zala	0,000 640 64
HU231	Baranya	0,000 320 84
HU232	Somogy	0,000 294 06
HU233	Tolna	0,000 302 86
HU311	Borsod-Abaúj-Zemplén	0,000 287 07
HU312	Heves	0,000 285 51
HU313	Nógrád	0,000 277 14
HU321	Hajdú-Bihar	0,000 203 36
HU322	Jász-Nagykun-Szolnok	0,000 192 63
HU323	Szabolcs-Szatmár-Bereg	0,000 206 52
HU331	Bács-Kiskun	0,000 149 34
HU332	Békés	0,000 164 84
HU333	Csongrád	0,000 161 57
ITC11	Torino	0,000 572 37
ITC12	Vercelli	0,000 554 14
ITC13	Biella	0,000 584 2
ITC14	Verbano-Cusio-Ossola	0,000 628 72
ITC15	Novara	0,000 526 83
ITC16	Cuneo	0,000 670 46
ITC17	Asti	0,000 602 54
ITC18	Alessandria	0,000 576 77
ITC20	Valle d'Aosta/Vallée d'Aoste	0,001 152 2
ITC31	Imperia	0,003 328 9
ITC32	Savona	0,003 006 5
ITC33	Genova	0,002 832 6

Code	NUTS3 Designation	Specific Attractiveness
ITC34	La Spezia	0,003 118 5
ITC41	Varese	0,001 258 2
ITC42	Como	0,001 370 8
ITC43	Lecco	0,001 424 7
ITC44	Sondrio	0,001 770 6
ITC46	Bergamo	0,001 416 6
ITC47	Brescia	0,001 512 5
ITC48	Pavia	0,001 402
ITC49	Lodi	0,001 457
ITC4A	Cremona	0,001 570 8
ITC4B	Mantova	0,001 605
ITC4C	Milano	0,001 137 3
ITC4D	Monza e della Brianza	0,001 176 3
ITF11	L'Aquila	0,000 797 61
ITF12	Teramo	0,000 792 66
ITF13	Pescara	0,000 784 73
ITF14	Chieti	0,000 816 11
ITF21	Isernia	0,000 140 02
ITF22	Campobasso	0,000 144 91
ITF31	Caserta	0,001 633
ITF32	Benevento	0,002 170 8
ITF33	Napoli	0,001 464 3
ITF34	Avellino	0,002 067 5
ITF35	Salerno	0,002 088 4
ITF43	Taranto	0,001 226 1
ITF44	Brindisi	0,001 256 2
ITF45	Lecce	0,001 289 1
ITF46	Foggia	0,001 145 5
ITF47	Bari	0,001 13
ITF48	Barletta-Andria-Trani	0,001 143 7

Code	NUTS3 Designation	Specific Attractiveness
ITF51	Potenza	0,000 403 44
ITF52	Matera	0,000 413 1
ITF61	Cosenza	0,001 050 3
ITF62	Crotone	0,001 147 1
ITF63	Catanzaro	0,001 087 4
ITF64	Vibo Valentia	0,001 113 1
ITF65	Reggio di Calabria	0,001 103 4
ITG11	Trapani	0,001 245 8
ITG12	Palermo	0,001 159 2
ITG13	Messina	0,001 045 3
ITG14	Agrigento	0,001 298 9
ITG15	Caltanissetta	0,001 226 9
ITG16	Enna	0,001 224 7
ITG17	Catania	0,001 068 1
ITG18	Ragusa	0,001 214 3
ITG19	Siracusa	0,001 182 8
ITG25	Sassari	0,001 080 8
ITG26	Nuoro	0,001 108
ITG27	Cagliari	0,001 220 1
ITG28	Oristano	0,001 139
ITG29	Olbia-Tempio	0,001 030 7
ITG2A	Ogliastra	0,001 161 3
ITG2B	Medio Campidano	0,001 158 6
ITG2C	Carbonia-Iglesias	0,001 204 9
ITH10	Bolzano-Bozen	0,004 776 4
ITH20	Trento	0,003 057 2
ITH31	Verona	0,003 552 1
ITH32	Vicenza	0,003 653 9
ITH33	Belluno	0,004 341 1
ITH34	Treviso	0,003 770 6

Code	NUTS3 Designation	Specific Attractiveness
ITH35	Venezia	0,003 776
ITH36	Padova	0,003 595
ITH37	Rovigo	0,003 975 1
ITH41	Pordenone	0,001 292 4
ITH42	Udine	0,001 294 8
ITH43	Gorizia	0,001 289 5
ITH44	Trieste	0,001 276 4
ITH51	Piacenza	0,001 711 7
ITH52	Parma	0,001 791 8
ITH53	Reggio nell'Emilia	0,001 776 2
ITH54	Modena	0,001 746 4
ITH55	Bologna	0,001 781 9
ITH56	Ferrara	0,001 893 6
ITH57	Ravenna	0,001 941 3
ITH58	Forlì-Cesena	0,001 983 3
ITH59	Rimini	0,002 097 6
ITI11	Massa-Carrara	0,002 288 7
ITI12	Lucca	0,002 271 6
ITI13	Pistoia	0,002 239 5
ITI14	Firenze	0,002 186 9
ITI15	Prato	0,002 113 3
ITI16	Livorno	0,002 374 6
ITI17	Pisa	0,002 301 7
ITI18	Arezzo	0,002 479 4
ITI19	Siena	0,002 486 5
ITI1A	Grosseto	0,002 659 1
ITI21	Perugia	0,000 878 59
ITI22	Terni	0,000 909 36
ITI31	Pesaro e Urbino	0,001 252 2
ITI32	Ancona	0,001 282 8

Code	NUTS3 Designation	Specific Attractiveness
ITI33	Macerata	0,001 344 9
ITI34	Ascoli Piceno	0,001 353 3
ITI35	Fermo	0,001 336 1
ITI41	Viterbo	0,002 732 1
ITI42	Rieti	0,002 791 7
ITI43	Roma	0,002 277 9
ITI44	Latina	0,002 710 2
ITI45	Frosinone	0,002 802 5
LI000	Liechtenstein	0,000 958 35
LU000	Luxembourg	0,000 938 14
LV003	Kurzeme	0,000 167 73
LV005	Latgale	0,000 167 64
LV006	Riga	0,000 128 24
LV007	Pieriga	0,000 160 8
LV008	Vidzeme	0,000 175 82
LV009	Zemgale	0,000 156 22
MK001	Vardarski	0,000 151 55
MK002	Istocen	0,000 152 26
MK003	Jugozapaden	0,000 162 65
MK004	Jugoistocen	0,000 158 18
MK005	Pelagoniski	0,000 160 66
MK006	Poloski	0,000 154 4
MK007	Severoistocen	0,000 145 44
MK008	Skopski	0,000 140 52
MT001	Malta	0,062 337
MT002	Gozo and Comino	0,076 359
NL111	Oost-Groningen	0,000 569 29
NL112	Delfzijl en omgeving	0,000 604 34
NL113	Overig Groningen	0,000 585 08
NL124	Noord-Friesland	0,001 005 3

Code	NUTS3 Designation	Specific Attractiveness
NL125	Zuidwest-Friesland	0,000 981 53
NL126	Zuidoost-Friesland	0,000 959 8
NL131	Noord-Drenthe	0,002 489
NL132	Zuidoost-Drenthe	0,002 365 5
NL133	Zuidwest-Drenthe	0,002 359 9
NL211	Noord-Overijssel	0,001 711 1
NL212	Zuidwest-Overijssel	0,001 651
NL213	Twente	0,001 625 8
NL221	Veluwe	0,001 700 4
NL224	Zuidwest-Gelderland	0,001 737 5
NL225	Achterhoek	0,001 788 9
NL226	Arnhem/Nijmegen	0,001 664 9
NL230	Flevoland	0,000 789 33
NL310	Utrecht	0,001 493 1
NL321	Kop van Noord-Holland	0,007 299 6
NL323	IJmond	0,006 151
NL324	Agglomeratie Haarlem	0,005 946 5
NL325	Zaanstreek	0,005 914 9
NL327	Het Gooi en Vechtstreek	0,005 526
NL328	Alkmaar en omgeving	0,006 509 1
NL329	Groot-Amsterdam	0,005 458 6
NL332	Agglomeratie 's-Gravenhage	0,002 368 9
NL333	Delft en Westland	0,002 409 2
NL337	Agglomeratie Leiden en Bollenstreek	0,002 552 3
NL33A	Zuidoost-Zuid-Holland	0,002 5
NL33B	Oost-Zuid-Holland	0,002 564
NL33C	Groot-Rijnmond	0,002 453 7
NL341	Zeeuwsch-Vlaanderen	0,002 820 1
NL342	Overig Zeeland	0,003 046 7
NL411	West-Noord-Brabant	0,001 467 9

Code	NUTS3 Designation	Specific Attractiveness
NL412	Midden-Noord-Brabant	0,001 468 9
NL413	Noordoost-Noord-Brabant	0,001 482 7
NL414	Zuidoost-Noord-Brabant	0,001 446
NL421	Noord-Limburg	0,003 720 7
NL422	Midden-Limburg	0,003 770 4
NL423	Zuid-Limburg	0,003 701 8
PL213	Miasto Kraków	0,000 861 06
PL214	Krakowski	0,000 980 24
PL217	Tarnowski	0,001 106
PL218	Nowosadecki	0,001 118 8
PL219	Nowotarski	0,001 094 5
PL21A	Oswiecimski	0,000 944 38
PL224	Czestochowski	0,000 559 69
PL225	Bielski	0,000 539 08
PL227	Rybnicki	0,000 519 37
PL228	Bytomski	0,000 502 05
PL229	Gliwicki	0,000 500 15
PL22A	Katowicki	0,000 454 14
PL22B	Sosnowiecki	0,000 535 84
PL22C	Tyski	0,000 498 59
PL411	Pilski	0,000 157 84
PL414	Koninski	0,000 145 9
PL415	Miasto Poznan	0,000 128 44
PL416	Kaliski	0,000 142 52
PL417	Leszczynski	0,000 140 69
PL418	Poznanski	0,000 141 05
PL424	Miasto Szczecin	0,000 698 81
PL426	Koszalinski	0,000 853 91
PL427	Szczecinecko-pyrzycki	0,000 850 66
PL428	Szczecinski	0,000 800 61

Code	NUTS3 Designation	Specific Attractiveness
PL431	Gorzowski	0,000 113 73
PL432	Zielonogórski	0,000 111 3
PL514	Miasto Wroclaw	0,000 419 74
PL515	Jeleniogórski	0,000 462 7
PL516	Legnicko-Glogowski	0,000 465 9
PL517	Walbrzyski	0,000 470 3
PL518	Wroclawski	0,000 486 21
PL523	Nyski	0,000 101 81
PL524	Opolski	0,000 101 73
PL613	Bydgosko-Torunski	0,000 290 05
PL616	Grudziadzki	0,000 313 1
PL617	Inowroclawski	0,000 292 11
PL618	Swiecki	0,000 308 75
PL619	Wloclawski	0,000 301 1
PL621	Elblaski	0,000 183 68
PL622	Olsztynski	0,000 186 62
PL623	Elcki	0,000 206 03
PL633	Trojmiejski	0,000 624 41
PL634	Gdanski	0,000 704 2
PL636	Slupski	0,000 726 26
PL637	Chojnicki	0,000 698 93
PL638	Starogardzki	0,000 701 08
PT111	Alto Minho	0,000 956 15
PT112	Cávado	0,000 855 45
PT119	Ave	0,000 828 52
PT11A	Área Metropolitana do Porto	0,000 765 68
PT11B	Alto Tâmega	0,000 940 81
PT11C	Tâmega e Sousa	0,000 847 76
PT11D	Douro	0,000 936 78
PT11E	Terras de Trás-os-Montes	0,000 931 09

Code	NUTS3 Designation	Specific Attractiveness
PT150	Algarve	0,009 928 6
PT16B	Oeste	0,000 570 11
PT16D	Região de Aveiro	0,000 534 77
PT16E	Região de Coimbra	0,000 547 28
PT16F	Região de Leiria	0,000 573 93
PT16G	Viseu Dão Lafões	0,000 549 9
PT16H	Beira Baixa	0,000 579 94
PT16I	Médio Tejo	0,000 563 46
PT16J	Beiras e Serra da Estrela	0,000 550 76
PT170	Área Metropolitana de Lisboa	0,009 553 8
PT181	Alentejo Litoral	0,000 279 35
PT184	Baixo Alentejo	0,000 265 25
PT185	Lezíria do Tejo	0,000 236 41
PT186	Alto Alentejo	0,000 242 78
PT187	Alentejo Central	0,000 253 03
RO111	Bihor	0,000 146 69
RO112	Bistrita-Nasaud	0,000 175 19
RO113	Cluj	0,000 158 56
RO114	Maramures	0,000 161 53
RO115	Satu Mare	0,000 156 92
RO116	Salaj	0,000 162 35
RO121	Alba	0,000 280 22
RO122	Brasov	0,000 289 92
RO123	Covasna	0,000 298 04
RO124	Harghita	0,000 312 43
RO125	Mures	0,000 291 6
RO126	Sibiu	0,000 283 85
RO211	Bacau	0,000 115 67
RO212	Botosani	0,000 115 75
RO213	Iasi	0,000 120 59

Code	NUTS3 Designation	Specific Attractiveness
RO214	Neamt	0,000 116 37
RO215	Suceava	0,000 113 03
RO216	Vaslui	0,000 122 73
RO221	Braila	0,000 308 59
RO222	Buzau	0,000 289 56
RO223	Constanta	0,000 336 04
RO224	Galati	0,000 312 12
RO225	Tulcea	0,000 353 38
RO226	Vrancea	0,000 304 72
RO311	Arges	0,000 104 46
RO312	Calarasi	0,000 117 01
RO313	Dâmbovita	0,000 104 5
RO314	Giurgiu	0,000 105 3
RO315	Ialomita	0,000 117 59
RO316	Prahova	0,000 103 62
RO317	Teleorman	0,000 108 1
RO321	Bucuresti	0,001 938 1
RO322	Ilfov	0,002 779 7
RO411	Dolj	0,000 112 72
RO412	Gorj	0,000 115 42
RO413	Mehedinti	0,000 113 26
RO414	Olt	0,000 113 99
RO415	Vâlcea	0,000 116 02
RO421	Arad	0,000 106 15
RO422	Caras-Severin	0,000 115 74
RO423	Hunedoara	0,000 116 42
RO424	Timis	0,000 107 39
SE110	Stockholms län	0,003 421 3
SE121	Uppsala län	0,000 278
SE122	Södermanlands län	0,000 268 28

Code	NUTS3 Designation	Specific Attractiveness
SE123	Östergötlands län	0,000 261 66
SE124	Örebro län	0,000 268 02
SE125	Västmanlands län	0,000 270 99
SE211	Jönköpings län	0,000 272 16
SE212	Kronobergs län	0,000 268 62
SE213	Kalmar län	0,000 282 5
SE214	Gotlands län	0,000 317 88
SE221	Blekinge län	0,000 752 58
SE224	Skåne län	0,000 601 63