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Smart Specialisation and Innovation in Rural Areas

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Abstract

This Policy Brief has the twin aims of showing that Research and Innovation Strategies for Smart Specialisation (S3), despite their sectoral origins, provide a favourable and supportive framework for innovation in rural areas and, on the other hand, that there is a wide range of innovation activities in rural areas, often unmentioned in the innovation policy literature, which can strongly benefit from and reinforce the impact of the new generation of European Regional Policy.

The paper discusses the most significant elements of S3 related to regional development in rural areas, presenting the main challenges and opportunities for knowledge-led development with reference to both the current policy and theoretical landscapes and some relevant emerging regional experiences. In particular, we investigate how the main novelties of S3 seem able to overcome the urban bias of past innovation policies, when the rural dimension of innovation has often been neglected, affecting its contribution to economic growth and regional development related to rural resources and actors.

Keywords: Smart specialisation, rural innovation, regional development, cross-sectoral policy alignment.

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1. Introduction

The new Cohesion Policy framework emphasises its contribution to the Europe 2020 strategy (EC, 2010), as the investment arm to achieve competitiveness and growth. The goal of building a new social market economy through smart, sustainable and inclusive growth, as set out by Europe 2020 has been central to the design of the new 'generation' of European Regional Policy. In this sense, there is a clear departure from earlier generations of regional policy, characterised by redistribution and focused on infrastructure. The emphasis now is on designing, at local and regional level, investment strategies that lead to greater (local and regional) competitiveness and job creation, aligned with the European priorities of Europe 2020. The underlying principle is that regions need to be innovative in order to share prosperity in an increasingly globalised economy and respond to societal challenges.

In this sense, we are witnessing "the evolution of regional innovation policy into the mainstream of public policy" (McCann and Ortega-Argilés, 2013, p.187). However, as it has been often noted (e.g. Morgan, 2013a), we are facing a new generation of regional innovation policy, quite distinct from its predecessors such as the pilot Regional Technology Plans of the early 1990s. The current approach to regional innovation policy is based on a new "understanding of the role played by innovation in economic development and in particular its relationship with geography" (McCann and Ortega-Argilés, 2013, p.187). Indeed, from a "narrow sectoral and science-based R&D way of thinking about innovation, policy has developed into a much more multi-dimensional policy approach involving matters of institutions, geography and linkage development" (idem, p.188).

The basis for this new approach to regional innovation policy in the European Union is smart specialisation, and more specifically the promotion of Smart Specialisation Strategies (S3) to structure and prioritise investments in research and innovation¹. The concept was first developed to address the gap between Europe and other global competitors (namely USA and Japan) in what concerns both the intensity and the translation of research and development efforts into innovation outcomes. Despite its sectoral origins, the concept was able to accommodate the place-based approach as advocated in the Barca Report (Barca, 2009; McCann and Ortega-Argilés, 2011; Barca et al., 2012), and evolved over time (e.g. Foray et al., 2011), asserting and broadening its relevance to regional policy. The initial lack of regional specificity (Morgan, 2013a), was replaced by a clear message that "the smart specialisation concept can be used in all regions [being aware that] the application of the concept in a regional context has to be approached with care because the economic and institutional context varies considerably between and within European regions" (European Commission, 2012, p.14). Indeed, one of the five basic principles of smart specialisation is to be inclusive (Foray and Goenega, 2013), meaning "giving every sector a chance to be present

¹ Smart Specialisation Strategies are also referred to as Research and Innovation Strategies for Smart Specialisation, which was the term used in the original proposal of the European Commission for EU Cohesion Policy from 2014-2020.

in the strategy through a good project” (idem, p.8). The same refers to regions introducing the concept of “co-invention” (Foray et al., 2009), so differentiating the roles played by more advanced and less favoured regions while rejecting the lock-in effect that is arguably inherent to such a concept. This debate gains particular prominence for rural regions, acknowledging that, traditionally, “policies for economic development, innovation and growth typically assume an urban focus, neglecting the capabilities of rural areas” (Phillipson et al., 2011, p.9). The point, then, is to explore how S3 are connected and targeted to rural businesses and economies.

Having in mind what was said above, it is quite understandable that the new generation of regional innovation policy, Smart Specialisation Strategies, commonly recognised “as a key component of the future cohesion policy of the EU” (Foray and Goenaga, 2013, p.2), raise quite significant challenges to (regional) policy makers, (regional) stakeholders and to rural areas, with obvious cumulative effects as far as rural areas are concerned. This paper has the twin aims of showing that smart specialisation, despite its sectoral origins, does in fact provide a favourable and supportive framework for innovation in rural areas and, on the other hand, that there is a wide range of innovation activities in rural areas, which often remains unmentioned in the innovation policy literature, that can strongly benefit from and reinforce the relevance and impact of S3.

To that end, the paper will explore, in the next section, some of the basic features of smart specialisation, paying particular attention to those that may have greater relevance for the context of innovation in rural areas. In the following section, the paper will provide evidence regarding a broad pattern of innovations taking place in rural areas, relating them with the broad policy framework as defined by S3. Moreover, in the same section, the paper will highlight emerging trends on rural development and policy thinking, again establishing a parallel with the guiding conceptual and policy framework provided by S3. The final main section of the paper will be focussed on the identification of policy challenges and recommendations, aiming at strengthening the role of S3 in stimulating and supporting innovation in rural areas.

The underlying message of the paper is that smart specialisation has the potential to radically change the approach of public policy to innovation in rural areas. Traditionally, as Dargan and Shucksmith explain, “innovation at national policy level [was understood] as essentially technological development, and hence something that originates primarily in urban areas where science is produced and universities and research units are clustered, and where technology can be transferred to business” (Dargan and Shucksmith, 2008, p.281). As a consequence, “innovation ... [was seen as] alien to rural experience” (idem, p.282). Secondly, “innovatory economic development [in rural areas] is more likely to be understood in terms of social innovation (to encourage local linkage and collective learning cultures) and cultural innovation (to improve the rural milieu)...” (idem, p.285). Dargan and Shucksmith illustrate their argument with reference to the LEADER approach which promotes small scale, community led pilot projects in the EU’s Rural Development

Programme. It has had a different funding source and separate discourse from the Cohesion Policy. Although innovation was one of the original intended focuses of LEADER, a cross-country comparative study coordinated by the two authors showed that, “innovation was not an objective or concept recognised by local actors, precisely *because of the way the term is used in dominant discourses of national policy as something to do with science and technology...*” (idem, p.282. emphasis added). Moreover, among those involved in LEADER projects as well as among evaluators, the most innovative element was seen as “the territorial approach to rural development itself...” (idem, p.284). The authors conclude that, as a result, “the innovation that does take place in rural areas ... is not well incorporated into standard approaches to defining and measuring innovation” (idem, p.285). In addition, past policies for specialisation in rural areas have meant introducing new technologies for the agriculture sector, while recent experience shows that innovation in rural areas mainly came from diversification into other activities than agriculture, also combining different technologies as well as organisational and marketing strategies (OECD, 2006; 2014).

The paper will show that we are now facing a completely different situation, through the integration of funds and, particularly, with S3 providing a radically different and more favourable policy framework, one which encourages and supports an emerging trend in rural areas that increasingly draw upon scientific knowledge in the valorisation of a widening spectrum of (perceived) endogenous resources. In other words, one is facing a window of opportunity to bring together national and regional innovation policy and innovative development in rural areas.

2. Key Structuring Concepts of S3

Regional Policy in the European Union is going through a process of radical change in its approach to stimulate and support territorial development (Hahn, 2013, Wolfe, 2011). The focus is now on stimulating the economy, to promote economic growth and job creation in the framework of the Europe 2020 priorities, giving shape to a “new” economy based on smart, sustainable and inclusive growth, i.e. economic growth that respects knowledge, nature and society. A fundamental policy instrument in this context is the adoption of smart specialisation, a concept that “has been diffused at surprisingly rapid pace among European regions” (Lindqvist, 2012), and becoming “a key element of the EU 2020 innovation plan” (Foray et al., 2011, p.3). S3 is seen as a key instrument to increase the efficiency of European investments in research, innovation and entrepreneurship, as well as a way to ensure an effective use of public funds, so much so that the existence of an S3 strategy is an ex-ante conditionality for support to innovation measures from the European Regional Development Fund. Those designing S3 face the challenge “to weave together EU, national and local approaches into a coherent strategy” (Healy and Morgan, 2012) and across Europe national and regional authorities are following the same methodological guidelines, which is unique in the history of European policy making.

As Morgan (2013a, p.102) emphatically underlines, “smart specialisation signals a new era of regional innovation policy in the EU”. Although, to a significant extent, S3 “builds on the accumulated knowledge from working with Regional Innovation Strategies (RIS and RITTs)” (Midtkandal and Sorvik, 2012), smart specialisation “implies a radically different approach to the way policy is designed, delivered and evaluated” (Morgan, 2013a, p.120). The approach is supported by a handful of structuring concepts. First of all, specialisation means that it is a non-neutral policy, involving a “process of identification and selection of desirable areas for intervention” (Foray and Goenaga, 2013, p.2). It focuses on certain domains in order to realise the potential for scale, scope and spillovers in knowledge production as well as on domains which allow for distinctive areas of specialisation for the future. Secondly, smart means keeping market forces working to reveal domains and areas where priorities should be selected. This should be achieved through an “entrepreneurial process of discovery”, which involves stakeholders other than policy makers and planners and, consequently, the mobilisation of entrepreneurial knowledge that goes beyond science and techniques (Foray et al., 2011). Thirdly, it addresses “the missing or weak correlations between R&D and innovation resources and activities on the one hand and the sectoral structure of the economy on the other” (idem, p.5). Overall, “smart specialisation is both a policy objective to force regions and countries to take such risks and a process to help policy makers to identify domains and activities for potential specialisation” (Foray and Goenaga, 2013, p.3, emphasis in original). It should be added that smart specialisation policy framework signals a shift in innovation policy moving from “industrial supports to more cross-sectoral supports for value chain developments in particular locations” (McCann and Ortega-Argilés, 2013, p.211), which is extremely relevant for rural areas where innovation is going through a paradigm shift from agriculture focused technology to diversification into other activities, as will be further developed below.

The growing body of literature on the smart specialisation approach emphasises the enormous challenges that face development practitioners when attempting to put it into practice. As Foray, David and Hall (2011, p.4) write, “The simple idea of smart specialisation implies a very complex process in practice”. Such conceptual and political complexities as well as the experience and knowledge that are being acquired through its implementation in an increasingly large number of regions and countries, has given rise to rich, diverse, and illuminating discussions on the characteristics of S3. We will now briefly explore the main dimensions of smart specialisation, highlighting their relevance for enhancing and promoting the innovation potential of rural areas.

The nature of priorities

Firstly, it is important to underline that “specialisation” doesn’t mean selecting whole sectors or single firms but supporting activities that, building on existing productive resources, and possibly combining them in a different way, may give rise to a new domain of specialisation. This perspective largely reflects the incorporation of the “related variety” concept, basically concerning

the diversification of economic activities close to existing competences and/or the development of intersectoral linkages and new activities in relation to current expertise. This issue recalls the very famous argument by Albert Hirschman that "development depends not so much on finding optimal combinations for given resources and factors of production as on calling forth and listing for development purposes resources and abilities that are hidden, scattered, or badly utilized" (Hirschman,1958, p.5). Moreover, this point is of major relevance to rural areas not only because rural areas "lack the density of businesses and business networks" while having endogenous (and often neglected) resources that can be mobilised for development but also because the combination of assets is of crucial importance to reach the critical mass to sustain more competitive and prosperous development trajectories. Indeed, the idea of promoting "more cross-sectoral supports for value chain developments in particular locations" (McCann and Ortega-Argilés, 2013, p.211), holds a plethora of opportunities for innovation in rural areas.

Combining place-based and outward looking approaches

A second and related dimension is the mobilisation of stakeholders to build on local resources while, simultaneously, promoting an outward-looking policy perspective. As Barca, McCann and Rodriguez-Pose (2011, p. 22) puts it, "most of the knowledge needed to fully exploit the growth potential of a place (...) is not readily available" and must be produced through processes involving local and external actors. This approach has the additional advantage of preventing the risks of "opportunisms and rent-seeking [behaviour] on the part of policy beneficiaries due to the inherent information asymmetries" (idem, p.24). However, the point to be made is its fundamental importance in the context of rural areas, where there is often a lack of strong research universities and the mobilisation of knowledge resources assumes paramount importance (Harmaakorpi and Tura, 2012; Unicreds, 2012). Moreover, this outward looking perspective is also crucial to source relevant external entrepreneurial knowledge which may be needed to link emerging national or global markets with local product development.

Collective territorial discovery

A third dimension that is central to the S3 approach is the focus on "discovery" rather than on "simple innovations" undertaken by individual firms (Foray and Goenaga, 2013, p.5), a concept that is associated with the (collective) capacity to generate "future economic value and a possible direction of change". To a large extent, this concept is also linked with "imitative entry" which is the effect of a given "discovery" to induce other agents in following along a certain path of (entrepreneurial) change. The intention is that this will lead to a structural evolution of the regional economy through the valorisation of activities identified for future potential – "there needs to be a good match between the historical, current and future (anticipated) contexts" (Scotland Europa, 2011, p.5). This is particularly important for rural areas facing the need to rethink development

trajectories, building on the past with a clear sense of “future”, namely in what concerns new demands and emerging markets - and where the economy and the well-being of the community will largely depend on some sort of alignment between the collective action of a plurality of economic and social agents. This sense of “future”, shedding a new light on past activities (tradition being considered a resource for innovation activities), is often implicit in a shared - though informal - ‘vision’ about the desired development model to be pursued, and a largely shared ‘collective wisdom’ guiding individual behaviour. In the context of rural economies, the notion of ‘structural evolution’ opens up a new field of opportunities where the “linkages between agriculture and the wider rural economy [are yet] little explored but strategic for territorial rural development” (Saraceno, 2010). Indeed, as the same author argues “future of rural areas [should] no longer be perceived in terms of modernisation of farming but rather in terms of wider diversification and modernisation, including that of agriculture” (idem).

A holistic view of innovation

A fourth dimension of smart specialisation that is very relevant to rural development is the emphasis on a broader concept of innovation. This widening of the scope of innovation goes beyond both science- and practice-based innovation (though still important) and includes, as Morgan (2013b) puts it, different “innovation narratives”: Science and technology, ecological, social and transition. This is indeed “a major challenge to traditional regional stakeholders, who tend to frame innovation narrowly as industrial innovation” (Morgan, 2013a, p.105) but is of fundamental importance for rural areas dealing with significant demographic changes, often associated with acute environmental challenges and risks. Indeed, recent experiences of innovative economic development policy in rural areas rely heavily on social and cultural innovation, and this institutional legacy is a major resource upon which a broader perspective of innovation can be built. This dimension is also associated with the attention paid by smart specialisation to the need to integrate policy areas. As Foray, David and Hall (2011, p.14) argue, “Profitable new activities can fail to develop unless upstream and downstream investments are made simultaneously”. This requires coordination of policy interventions, for instance to provide education and training to support the growth of new activities, which in terms of ESIF translates as the capacity to mobilise different funds to support a specific policy initiative.

The goals of smart specialisation

A fifth dimension is based on the goals of smart specialisation and its relevance for different types of regions. As Foray and Goenaga (2013, p.9) maintain, “Smart specialisation principles and goals provide strategies and roles for any region”. The argument is illustrated with the concept of “co-invention”, meaning “the development of the applications of a General Purpose Technology in one or several important domains of the economy” (Foray et al., 2009, p.3) and that “co-invention of

applications actually involves a great deal of R&D, design and redesign, i.e. a collection of knowledge-driven activities” (Foray et al., 2011, p.3). Although this argument has been criticised for “locking-in” regions at different stages of development, it is clear that, for instance, stimulating related varieties in specific territorial contexts requires dedicated research that is seldom available (Carvalho and Duarte, 2009). In other words, the concept of co-invention can have quite a significant relevance for supporting innovation in rural areas.

Experimental policy

A sixth and final dimension worth stressing concerns the much celebrated experimental nature of policy. This dimension is considered one of the five guiding principles of smart specialisation (Foray and Goenaga, 2013). Monitoring, evaluation and learning are given particular emphasis under an S3 policy approach, namely to guide the entrepreneurial discovery process. As McCann and Ortega-Argilés argue (2013, p. 208), “innovation policy need to allow for experimentalism in order to discover what works in what context and what does not”. The experimental nature of policy is also related with the growing emphasis on building an outcome-oriented policy culture. However, the point to be made here is that the experimental nature of policy shifts the focus from the preparation of definitive ‘policy programmes’ to the design of evolving ‘policy trajectories’. This perspective is of crucial relevance to rural areas, having in mind that i) they are still uncovering the implications and hidden opportunities of the current context of change and ii) they inevitably need to learn how to deal with the inertia of policy making processes, that is often referred to as policy path dependency. Moreover, it also changes the nature of stakeholders’ participation in policy processes, avoiding the pitfalls associated with one-off initiatives and opening opportunities for a more perennial engagement and, with a long time-perspective, gradually building a community sense of purpose for innovation activities and policies.

The previous paragraphs shows how the S3 policy framework goes a long way to bridge the ‘traditional’ gap between a ‘national’ level understanding of innovation policy and the requirements of policy approaches to innovation in rural areas. The following section will explore empirical evidence and conceptual developments regarding rural innovative trajectories.

3. Innovation in Rural Areas

There is growing recognition that, despite the general perception of a decaying and stagnant ‘countryside’, innovation has been “a key feature of long term rural history” (Jean, 2012) and that “today [rural innovation is] underestimated but widespread, contributing to sustainable rural development” (idem). Rural change, as Copus et al (2011) argue, “is an extremely complex and nuanced phenomenon” but the perceptions of such change are dominated by many generalisations, which are often unrepresentative or inaccurate, resulting in anachronistic stereotypes (like the lack

of initiative, creativity and innovation or the 'dependency culture') with negative impacts on the (policy) understanding of such changes. Although caution is needed to avoid that one set of "stylised fallacies" is replaced by other generalisations which may introduce a new set of inflexibilities (Copus et al., 2011), many authors have in fact been arguing that rural areas have a deep capacity to generate innovative solutions (Di Iacovo and Colosimo, 2012). This is also reflected in recent policy reports such as from NESTA, which states that "the growth of innovation activities in rural areas requires greater attention from all levels of government" (NESTA, 2007, p.10).

Two ongoing studies in Portugal ("RUR@L INOV - Inovar em Meio Rural" and "Dinâmicas e Políticas para o Desenvolvimento Rural 2014-2020", 2012) have shown the plethora of innovative activities taking place in rural areas, the first identifying a huge number of innovation projects (Madureira et al., 2012) and the latter - initially aiming to address the impact of the crisis in rural areas - concluding that "there is a new rural emerging, different from the old, and we are not paying due attention to it" (Oliveira Baptista, 2013). In a similar vein, Di Iacovo and Colosimo (2012) acknowledge that rural areas are changing rapidly, more than what we can presently grasp. As Jean (2012) puts it, "a paradigm shift is needed for a better understanding of rural innovation ... [requiring] learning from and with rural people and communities [...] the innovations they put in place in order to face multi-faceted rural development challenges" (italics in original).

Rural innovation on the ground

There are some good examples available in the literature about successful innovative projects in rural areas that often make use of natural resources in an integrated way, and combining historical legacy with new technologies to meet new and emerging societal demands.

Maumbe and Brown (2013) provide a very interesting account of the strategy of a small vineyard in Kentucky, USA, where the emergence of small entrepreneurial vineyards is part of a strategy to diversify the agricultural sector from tobacco to alternative crops. Interestingly, as the authors point out, Kentucky "was home to many of America's wineries in the 1700s" but Prohibition Laws in 1920 led to the decline of vineyards and the expansion of tobacco. Current health concerns led local producers to search for alternative sources of income. Wine production has grown again but it has to face a large variety of new competitive challenges forcing local producers "to be innovative and entrepreneurial in differentiating their products, developing niche markets and adopting consumer-oriented supply-chains committed to creating superior value for costumers" (idem, p.137). The case-study shows how a successful small vineyard not only took full advantage of e-commerce marketing strategy but positioned itself as "an authentic Kentucky experience". It diversified through an agro-tourism strategy, with a restaurant using farm's wine but also products and ingredients purchased from other local farms and organised visits to the vineyard, panoramic views, wildlife and sunset visits, etc. A gift shop and a wine tasting room, and specific initiatives where visitors were informed about the history of the farm and about the characteristics and tradition of local

foods (and locally grown products) further enhanced the notion of a perfect combination between wine and food. These initiatives also included community-oriented programmes and corporate social responsibility actions, adopting a branding strategy “as a business whose values and culture are firmly rooted in the local community” (idem, p.148), as well as benefiting from shortening value-chains and using local retailing as selling points for the wine. This place-based marketing strategy had a clear impact on costumers who “find the notion of protecting American farms a cause they can identify with” (idem, p.138). In sum, through the use of technical, management, process and cultural innovations, the small vineyard was able to successfully build “an innovative product differentiation strategy based on location-based attributes and the ability to invoke something more appealing and special ... attracts customers from the local community and beyond ... [so earning] an image of selling high quality wines and local community support” (idem, p.150).

In a contrasting spatial context, the Italian association Dislivelli developed a study on innovation in the Alpine areas of Piemonte, demonstrating different forms of innovation from technological, to social and cultural (Corrado and Dematteis, 2013). In this case, the authors point to the emerging trend towards an alternative development model bringing together the valorisation of Alpine natural resources (hydric, forestry and ecological resources) and more “soft” resources like the historical heritage and local identity. According to Corrado and Dematteis (2013) in Alpine areas there is an emerging capacity to adopt an innovative approach to “territory”, opening up new ways of adding value to resources that guarantee a specific interpretation of quality of life and a pleasant mountain lifestyle. This is achieved through a combination of material and immaterial conditions, namely i) a ‘revalorisation of local natural resources’, ii) an emerging trend of revalorisation of non-consumerist lifestyles, iii) the improvement of accessibility levels and iv) the new opportunities opened by the access to information technologies (including virtual networking and telework). Those indications are also built on recent empirical findings about new inhabitants in the Alps, mainly arriving from urban areas, and the innovation that is related to such an emerging phenomenon, even if small in terms of numbers (Dematteis, 2011) as a relevant cognitive, social and economic source for new entrepreneurship based on a different use and valorisation of existing assets. Consequently, the two authors argue there is a need to review, at least partially, the traditional perception of “marginality” of mountainous areas which was associated with a policy aimed essentially at reducing the intensity of depopulation. Moreover, they argue for a new (policy) vision that, if adequately supported, can result in attracting young and skilled segments of population able to find new ways of adding value to an enlarged set of local resources. In a parallel argument, Corrado and Dematteis challenge the dominant perception that “creativity and innovation unquestionably require an urban environment to flourish”. In sum, a new approach to ‘territory’ in the context of contemporary society may create opportunities for development initiatives making full use of technological and infrastructure changes and based upon a reinterpretation of rural

resource endowment, more attuned to the specificities of different spatial contexts and to emerging societal aspirations and needs.

There are also quite illuminating examples of more policy-led (rural) development trajectories where place-based innovation has played a crucial role. A paradigmatic example can be found in the Langhe area of Italy (Lancerini, 2005; Garofoli, 2012). In the period immediately after the Second World War, Langhe was predominantly an agricultural region facing depopulation but this situation changed significantly in the last 15 to 20 years (*idem*, p. 1), with a growing integration between complementary activities (quality agricultural products, agro-food industry and local enogastronomy traditions) which was also the basis for further economic diversification, namely through tourism. The main idea, as highlighted in the Integrated Territorial Programme (2007) was the 'dialogue' between the quality development of environmental, landscape and socio-cultural resources and the promotion of quality in the agro-food filière. In other words, the investment in quality products was paralleled with investment in the quality of place. In so doing, the quality of place helped to provide an international image of quality and prestige that, in its turn, provided additional competitiveness to the quality products from the region. A virtuous cycle is then accomplished because the competitiveness and image of the quality products created the opportunity for the development of complementary economic activities in the region, like tourism, that is managed in such a way to enhance landscape, environmental and socio-cultural resources. In this process, many initiatives, like the "Landscape and Literary Park of Langhe Monferrato Roero" or the Summer Music and Literature Festival "Collisioni" (with 100.000 presences in 2014), make a contribution to both economic activity and the quality of life of the local communities. The overall strategy obviously requires a diversity of intervention areas, material and immaterial investments as well as the mobilisation of scientific knowledge and technological capacity, articulating private and public initiatives (PTI, 2007). This is another example of how "territory" can be seen and used as a resource for new development trajectories, providing scope for new types of specialisation through activities that combine the use of different but (potentially) related resources. It also shows how agriculture (and the agricultural heritage) can forge mutually beneficial links with the wider economy and community activities and how these links can be stimulated, supported and enhanced through sensitive and purposefully designed public policies.

A slightly different perspective, but with rather similar traits, can be found in the emerging trend of "sustainable local food economies" in the USA. Some of these initiatives start with a concern about health issues, specifically child obesity (e.g. Shenot and Salomon, 2006), leading to policies and programmes to promote healthy eating. The concern with healthy foods favours the policy focus on local and regional food systems, encompassing the "growing, harvesting, processing, packaging, distributing, marketing, consuming, disposing and recycling" of food (Curtis et al., p.7). The challenge then becomes "to build a sustainable food system that strives to be economically viable, environmentally sound and socially just" (*idem*). These concerns are far from being confined to the

USA. A recent report prepared for the European Commission's DG Environment (SCU, 2013) states clearly that "the adoption of 'sustainable' food systems, which can ensure 'nutritional' security without sacrificing the long-term health of the ecosystems, cultures and communities providing our food, may provide an answer ... to the unprecedented challenges the world is facing in terms of nutrition and food security" (SCU, 2013, pp.3-4). There is no doubt that such a goal is clearly knowledge demanding, as it is well illustrated by the many research programmes and projects about community food systems and sustainable agriculture, namely those associated with the need to guarantee quality certification (e.g. the Appalachian Sustainable Agriculture Project-ASAP), one among several organisations aiming to build healthy communities through connections with local food, is quite assertive stating that "research is the foundation of our work"). The following step in this process is to build "links between local agriculture, jobs and the economy" (Beverly Perdue, quoted in Curtis et al., 2010) which is seen as an opportunity to "revitalise our agricultural heritage by strengthening consumers' connections to the land and to the farmers who grow our food" (idem). The purposeful engagement of "a broad cross-section of interests" not only strengthens community bonds but also promotes "a collective sense of priority actions" (idem). In other words, one is witnessing the search for a collective sense of directionality, which is anchored in emerging societal needs and reflecting wider social values and preferences.

Emerging trends on rural development theory and policy thinking

It is quite interesting to parallel the trends that have been described above with the evolutionary trajectories that can be found in the body of literature about theoretical and policy thinking regarding rural development. A major and, indeed, an emblematic point of departure in traditional approaches to rural policy is the "New Rural Paradigm (NRP)" approach promoted by the OECD (OECD, 2006). As Atterton and Rowe (2012) so rightly put it "the NRP shifts the focus in rural policy from supporting sectors (through the provision of subsidies) to an integrated, investment approach that focusses on places" (p.2, emphasis added). The challenge is to "better understand how the various components of the local economy interact and how indigenous capabilities [...] may be supported [...] boosting the competitiveness of rural areas through identifying new economic functions and improving the conditions for rural enterprise" (idem). The influence of the NRP analytical and conceptual framework has been quite widespread, not least because of the OECD's well known rural policy studies and reviews in many countries.

The "conceptual basis for an integrative model of rural development" (Kitchen and Marsden, 2009) has been further strengthened from a more theoretically-based perspective. The new approaches to a contemporary sustainable rural development model "draws together the concepts of multifunctionality, short supply chains, quality products and new forms of marketing under a process of relocalisation" (Copus et al., 2011). Moreover, while endorsing the shift from an agricultural based development to a more integrative rural and regionally based approach, as well

as underlining “the potentialities for combining the ecological with rural social and economic development in innovative ways” (Horlings and Marsden, 2014), there is a particular concern with avoiding the “local trap” i.e., the “common mistake” of assuming the “emerging rural paradigm [as] simply a return to localism” (Marsden, 2009). As Terry Marsden puts it “a key feature of the [new] rural development paradigm is the dual socio-ecological process of rebuilding local resources ... at the same time as enlarging and deepening interactions with the wider national and international economy” (idem, p.123). The argument goes that “it is possible to rebuild differentiated rural development in ways that increase interactions with the external economy at the same time as maximizing the ways in which more economic and social value can be fixed in rural spaces” (idem, p.128).

There is in fact a striking convergence between the above mentioned theoretical developments and the principles guiding the S3 policy framework. Marsden (2009) calls “for a more engaged rural social science to identify the parameters for shaping an expanding and innovative rurality for a post-carbon world”. He recognizes this will not occur through market mechanisms alone and will require “...proactive networks of rural and urban actors and institutions ... reassembling and redefining resources and infrastructures in ways that carve out new diversified niches to produce goods and services sustainably” (idem, p.128). The conceptual underpinnings of the S3 approach undeniably provide a favourable policy framework to explore the opportunities and face the challenges of building contemporary sustainable and innovative rural development trajectories.

4. S3 and Innovation in Rural Areas: Policy Challenges

Previous sections have highlighted how innovation now plays a major role in EU Cohesion Policy. They also highlighted the basic characteristics of S3, which signal a new era of EU regional innovation policy. The focus of the analysis was however more specific, on innovation in rural areas. It started from acknowledging the risk of neglecting the innovation potential of rural areas, either because there is often an urban/industrial bias on innovation policy or because of the historical origins of the smart specialisation approach. A more in-depth analysis of the concepts associated with smart specialisation, however, revealed that the S3 approach does contain several promising elements to stimulate and support innovative activities in rural areas. The paper has also highlighted the enormous innovation potential inherent in rural areas, by pinpointing some examples of innovative projects, activities and programmes that are already taking place in rural areas. These cases allowed for building bridges between their essential characteristics and the concepts associated with S3, allowing for an evidence-based confirmation of the conclusions that had previously been reached through more conceptual analysis. Furthermore, a brief incursion on the emerging trends in rural development theory and policy has reinforced the same idea. The challenge is now to fully explore ways in which the promotion and support of innovation in rural

areas can be set within the framework of the S3 approach and, simultaneously, to reassert the contribution of rural areas to achieve the main goals of S3, namely by providing fertile ground to new activities potentially rich in innovation and spillovers, through the diversification of regional systems and through the generation of critical networks within a diversified system (Foray and Goenaga, 2013, p.9).

In an attempt to structure the emerging ideas, a series of steps in terms of policy design can be identified, broadly grouped under three headings. The first concerns the need to find 'niche activities' conveying innovation and spillover effects and, at the same time, provide a sense of "directionality" (Dargan and Shucksmith, 2008, p.280) to the development trajectory. A second group relates to the resources and conditions required to design and deliver an effective policy. A third and final group aims to build the capacity to meet the challenges of policy path-dependency, to address the requirements of the new generation of public policy and reach the institutional sustainability threshold of the new policy approach. To some extent, the 'linear' presentation of ideas may give the wrong impression of sequential steps while, in fact, several of them have to be pursued together as different facets within specific interventions.

Identifying niche activities and directionality

Firstly, there is a need to look at resources in rural areas through the lens of contemporary societal trends and challenges, exploring possible directions of change and their inherent (new?) opportunities to add value to rural assets. This is different from just extrapolating trends and dynamics, reframing significantly the perspective for assessing local development potential. To illustrate this point through an emerging trend, one could refer to the growing recognition that food supply will become one of the global challenges in the future and that the production and consumption of food (strategies) is likely to become a major binding element between urban, rural and peri-urban areas. Secondly, it is crucial to identify and understand the agents of change that are already engaged in innovative and transformative activities as well as the dynamics of change in which they are involved. This is an important step not only to identify relevant stakeholders but also "the windows of opportunity in which interventions may amplify virtuous developments" (Foray and Goenaga, 2013, p.11). Thirdly, there is a need to map the links between agricultural activities and the wider rural economy and society, an analysis which should be set in the context of the "new economy" as advocated in Europe 2020, i.e. an economy which values the links with knowledge, nature and society. Above all, however, there is a need to explore not only the possible multiplier effects but the likelihood of provoking a structural evolution in the regional economy through cross-sectoral activities leading to the discovery process and imitative entries. Finally, this is also the time to search for possible strategic alignments between local, regional, national and supra-national policy agendas, exploring the opportunities and constraints that can be derived from multilevel cooperation dynamics. In this sense, changes in rural economies and rural populations also require

to pay attention to complementary policies addressing both the needs of local communities and the different demands related to new incoming residents, both existing and potential.

Gathering resources and shaping policy initiatives

There is also a need to build a large consensus around the identification of possible niches with high potential for growth, their mutually reinforcing links with other activities and, eventually, to build solid political commitment not only about possible policy priorities but also in terms of the associated collective sense of purpose. This crucial step of political legitimation may play a decisive role in building the capacity to deal with policy path dependency and to break the inertia of policy making processes. The following step is about establishing the external links – searching for relevant scientific and entrepreneurial knowledge, in order to combine with local stakeholders and build a strong basis to exploit assets-based growth potential. In other words, it is crucial to build the regional system of innovation through purposefully networking on the basis of local needs and resources and also to build the capacity to reach and manage broader economic spaces for the valorisation of local assets. It is also crucial to bring together the relevant actors (and sectors) at local level and jointly explore ways in which each of them can contribute strategically to the growth activities of each other, along the lines of the niches of growth being prioritised. Moreover, that is the time where an analysis of possible alignments with neighbouring communities and with multi-level strategic objectives may inform and shape collaborative practices at a more operational level. Underlying all these steps, one should have in mind the need to incorporate and explore the wider concept of innovation conveyed by S3, namely through the consideration of the different innovation narratives (science and technology, social, ecological, etc.) and the need to identify the complementary investments associated with the emerging priorities.

Building institutional capacity to overcome policy path dependency

A further group of steps is related with the requirements of designing a ‘policy trajectory’, which in turn is related with the concepts of an outcome-based policy, structural evolution of the economy and of a broadly shared vision, or sense of collective direction – putting it more simply, this group of steps is largely related to the “experimental nature” of policy. The deployment of all the tasks can only take place if there is a concern, from the very early stages of the policy formation process, with the design of a governance structure with a clear remit to consider all and each of the individual projects and initiatives, monitoring and evaluating their individual contributions, but without losing sight of the aggregate pattern of (structural) change they are able to induce. As McCann and Ortega-Argilés (2013, p.196) put it so clearly “Today, the impacts of new technologies are understood to be very dependent on the local institutional and governance systems and on the nature of the engagement between different actors”. Apart from the political dimension that such governance structure is required to have, there is also a challenge of a technical-professional

nature, certainly requiring the acquisition of skills that are not often readily available. Moreover, there is the additional need to learn from past policies and take stock of their impact and induced dynamics that may inform the new policy perspectives being. A final step concerns the opportunities raised by the policy momentum at European level where all regions are engaged with the design of policies under a common strategic framework and share some common policy approaches (like S3). This provides a window of opportunity to establish networks and/or partnering with other “learning” regions with similar pattern of priorities, and share the accumulated knowledge that the whole process will inevitably produce.

5. Conclusions

The convergence between empirical cases and theoretical and policy perspectives shows that there is a huge potential for innovation and economic growth in rural areas, both grounded in existing dynamics and envisaged by conceptual thinking on rural development (or local development in rural areas). Opportunities relate, inter alia, to the increasing demand for quality and healthy food as stated by the worldwide success of the Slowfood movement (Petrini, 2003), changes in tourism and residential patterns, new rural policies supporting the evolution of agriculture towards multifunctionality (Knickel and Renting, 2000; OECD, 2003; 2008) and emerging strains for either bio-economy and eco-economy as a key element for smart and green growth in Europe (EU, 2012). Moreover, the recent focus on rural-urban partnership (OECD, 2013) as well as attempts to provide descriptions of rural areas in Europe taking into account population density, remoteness and land cover (Jonard et al., 2009), enlarged the awareness about the need to consider rural and urban areas not as separated and autonomous, also underlining that the ‘rural’ is never singular (Figueiredo et al., 2011) but houses a huge variety of situations, from peri-urban to remote inner areas, from environmental protection areas to agri-food districts, from metropolitan contexts to polycentric areas or dispersed settlements; heterogeneity being the main substantive characteristics of rural regions both in Europe and in the world (OECD, 2006).

Within those innovation frameworks, the resources and specificities of rural regions will find a useful framework in S3. Unlike the recent past, when the dominant approach at national level to innovation policy had a clear built-in bias towards urban areas, the S3 policy framework can accommodate the specificities and foster the innovation potential of rural areas, which in turn will expand the geography of innovation and make a significant contribution to fulfil the goals of S3.

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Abstract

This Policy Brief has the twin aims of showing that Research and Innovation Strategies for Smart Specialisation (S3), despite their sectoral origins, provide a favourable and supportive framework for innovation in rural areas and, on the other hand, that there is a wide range of innovation activities in rural areas, often unmentioned in the innovation policy literature, which can strongly benefit from and reinforce the impact of the new generation of European Regional Policy.

The paper discusses the most significant elements of S3 related to regional development in rural areas, presenting the main challenges and opportunities for knowledge-led development with reference to both the current policy and theoretical landscapes and some relevant emerging regional experiences. In particular, we investigate how the main novelties of S3 seem able to overcome the urban bias of past innovation policies, when the rural dimension of innovation has often been neglected, affecting its contribution to economic growth and regional development related to rural resources and actors.

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