Lucrările Seminarului Geografic Dimitrie Cantemir
Vol. 47, Issue 1, October 2019, pp. 98-116
http://dx.doi.org/10.15551/lsgdc.v47i1.05

Article

Regional Innovation Dilemmatic Policy-Making: between Misconceptions and Missing Conceptions

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Abstract. Regions are widely recognised as playing a fundamental role in the promotion of the knowledge economy, but most research has been focusing on diagnosing territorial archetypes, their dynamics peculiarities, as well as their drivers of innovation and innovative performance. Less attention has been paid on establishing a linkage between these theoretical foundations and the design of a policy framework and guidelines to promote regional innovation in a systemic way. Based on a vast theoretical research and on the analysis of empirical evidence, the main objective of this article is precisely to discuss this issue in the light of the mainstream theoretical frameworks that enable a better understanding of the relationship innovation-territory, analysing, also, the main criticisms those approaches are arising among some scholars. This article will present a discussion of the main approaches that constitute the theoretical corpus of the so-called territorial innovation models, pointing out to some of their main ambiguities, misconceptions and conceptual gaps and, lastly, will integrate this reflexion into an alternative framework proposal for a new generation of regional innovation policy.

Keywords: innovation; innovation policy; territorial innovation policy; territory.

Résume. Les régions sont largement reconnues comme jouant un rôle fondamental dans la promotion de l'économie de la connaissance, mais la plupart des recherches se sont concentrées sur le diagnostic des archétypes territoriaux, leurs particularités dynamiques, ainsi que leurs moteurs d'innovation et de performance innovante. Une attention moindre a été accordée à l'établissement d'un lien entre ces fondements théoriques et la conception d'un cadre politique et de lignes directrices pour promouvoir l'innovation régionale de manière systémique. Sur la base d'une vaste recherche théorique et de l'analyse de preuves empiriques, le principal objectif de cet article est précisément de discuter de cette question à la lumière des cadres théoriques traditionnels qui permettent une meilleure compréhension de la relation innovation-territoire, en analysant, également, les principales critiques soulevées par ces approches chez certains chercheurs. Cet article présentera une discussion des principales approches qui constituent le corpus théorique des modèles d'innovation territoriale, soulignant leurs principales ambiguïtés, idées fausses et lacunes conceptuelles et, enfin, intégrera cette réflexion dans une proposition de cadre alternatif pour une nouvelle génération de politique d'innovation régionale.

Mots-clés: innovation; politique d'innovation; politique d'innovation territoriale; territoire.

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Introduction

Regional policies, until nearly two decades ago, have been basically an instrument for compensating territories with structural development disadvantages through financial incentives to support infrastructure and public services in the lagging regions, as well as to induce companies to remain in or relocate to such areas. Those instruments often distorted markets and harmed the development chances of the regions in the medium and long term; in many cases they rather created displacement of investment and labour than growth (Uyarra et al., 2017; Trippl at al., 2018). Attempts were also made to help restructuring declining industrial sectors, avoiding the rapid implementation of downsizing strategies, so as to protect local economies, even when such sectors were being condemned in the long term. These government responses often failed in their objectives of reducing inequality over the medium and long term, by generating new jobs in lagging areas or by triggering a culture of economic dynamism in targeted areas. Moreover, these actions had unintended consequences, in many cases creating a vicious circle of dependency in recipient territories, many of which experienced development traps.

As a consequence to these mixed effects, the focus of regional policies in many countries evolved from a top-down compensatory public policy , aiming at reducing inter-regional asymmetries, towards a broader family of policies defining new objectives, new units of intervention, new strategies and new actors (Huggins et al., 2018). The emergence of territorial approaches based on innovation strategies is affiliated on this policy context.

The matter of regional competitiveness has become a critical issue, mainly now that the rhythm of structural change imposed by the global and knowledge economy is dictating new patterns of regional behaviour and competition. That is why, arguably, the promotion of territorially embedded innovation policies seems a critical strategy to face contemporary regional development challenges, as long-term regional competitiveness and sustainability have less to do with cost-efficiency and more to do with the capability of companies and institutions to innovate, improving their knowledge base. In this context, regions became protagonists of their own development paths, thus abandoning the implicit constraints of the centre-periphery approach (Camagni et al., 2013; Coenen et al., 2016; Torre, 2018).

However, up to now, the theoretical debate about the dialectics innovation-territory remains largely at an abstract and general level, being necessary an important operationalization effort of the main concepts to enrich the empirical research. Usually, the analysis is focused on urban-metropolitan areas and on medium to high-tech sectors. The regional innovation systems in peripheral regions, and the likelihood of their acting as instruments for territorial competitiveness, have seldom been the subjects of discussion.

This paper will begin by analysing the main dimensions that characterise the academic discussion about the relationship between innovation and territory, then it will point out the critical dimensions that still constitute theoretical and methodological unresolved issues and, finally, it will suggest some guidelines that may help redesign new generation territorial innovation policies.

2. The current debate about innovation and territory

A good deal of the traditional and more orthodox regional policy can still be detected in numerous countries. It is not always easy to tell the dissimilarity in practice, since concerns about, for instance, equal access to essential services mean that some degree of financial equalization and support for service provision in lagging territories is possibly necessary on political terms and quite defendable on grounds of territorial cohesion. Many countries, due to their idiosyncrasies, still identify inter-regional inequalities and decay of areas with structural problems as the main issue to be addressed by regional policies. Nevertheless, the heavy tendency is for governments to diagnose that the main objective of regional policy should be regional economic competitiveness before the reduction of regional asymmetries (OECDa, 2018).

The academic debate about the dialectics innovation-territory is very rich, the discussion being deepened by theoretical frameworks, methodologies and instruments coming from different complementary scientific fields, namely geography, economy and sociology. Nevertheless, besides the contribution that "territory matters" on the innovative regional outputs, with all the diverse dimensions this assertion contains, still remains largely, in a certain way, a "black box". The underlying principle for this model is grounded on the belief that opportunities for growth may exist in the whole territory and across all kinds of regions (Lagendijk, 2011). Therefore, the regional innovation systems approach is genuinely assumed as a place-based policy, covering a multitude of territorial specificities and governance mechanisms across diverse levels of government.

Innovation usually encompasses a strong territorial and institutional dimension which constitutes an essential vehicle of the process of techno-economic creation, as well as a strong path-dependency on the learning behaviours (Santos et al., 2014). It is argued that the territorial dynamics creates specific interdependencies among the actors and between the actors and the institutions that evolve into a peculiar scientific, technological and economic trajectory. Several analytical frameworks share this particular approach, in particular the Industrial District paradigm, the Innovative Milieu conceptual model, the Learning Region concept and the Regional Innovation Systems approach (Doloreux et al., 2005; Santos, 2009).

Moreover, the determinants of innovation have been, above all, associated with socio-economic contexts richly endowed with material and immaterial assets that

allow for cumulative innovative trajectories - case studies often report examples of successful insertion of those territories into the global economy, usually anchored on RD&I factors (Asheim et al., 2016; Elouar-Mrizak et al., 2018). However, the lessons obtained from these examples are rarely or, at least, mechanically transferable to other territorial settings. Besides, there is still a deficit on understanding the role regional innovation policy can play in peripheral regions with structural development problems. Empirical evidence with descriptive but, above all, with explanatory dimensions about the regional innovation systems on those territories is still scarce (Elouar-Mrizak et al., 2018).

The main question, for most of the territories that want to succeed, remains to know the critical structural conditions that must be met to engage in more competitive and sustainable development trajectories, a discussion that cannot be dissociated from the process of policy design, delivery and implementation (Mollard et al., 2007).

There is a body of literature that claims that knowledge externalities are geographically identifiable but also unbounded, because geographical proximity facilitates local and global knowledge sharing and innovation (Boschma, 2014). Economic policy makers in many countries have reintroduced a regional dimension to their innovation policies inspired by the idea that nowadays regions are the drivers of innovation, and forced by globalization, (Fritsch and Stephan, 2005). However, recent experiences have called into question the way this territorialisation of innovation policy has been formulated and implemented. Technology and innovation policy has been, and still is, primarily focused on enhancing R&D wrongly assuming that R&D policy will benefit every region in the same way (Boschma, 2005; Cooke, 2007). There is increasing awareness that 'one size-fits-all' regional policy models do not work, because these are not embedded in their specific territorial contexts (Tödtling et al., 2005).

These territorial innovation approaches concentrate their appreciations on three main axes (Morgan, 2013):

- on one hand, the strengthening of a collaborative culture: an innovation is highly dependent on information and knowledge; the capacity to innovate implies the necessity to access such invisible factors through networking capacity, which can be seen as the disposition to collaborate to achieve mutual beneficial ends;

- on the other hand, it emphasizes the growing importance of the formal and informal mechanisms of information and knowledge production and consumption, an assumption that envisages knowledge as the most important resource and learning as the most critical process; this way territories must adopt contexts favourable to knowledge creation and continuous learning, reinforcing the centrality of the collective learning capability as strategic to regional development;

- last but not least important, those approaches attributed a great emphasis to a more endogenous perspective of development, with the aim of mobilizing the full tangible and intangible territorial potential and, thus, adding value to the diverse regional economies.

The now extensively used notion of Smart Specialisation, which has been underlined by the European Commission as a crucial pillar of the Europe 2020 Strategy (EC, 2014), is, in our opinion, a semantic declination of the Innovative Milieu, Learning Region and Regional Innovation Systems models. The argument is that regions will be required to spot the sectors, the technological domains, or the major areas of likely competitive advantage, and then focus their regional policies as to support innovation in these fields. In particular, the argument is crucial for the regions which are not on a major science-technology frontier, like most traditional regional areas.

The first apparent distinctive trait of the Smart Specialisation approach relates to the fundamental logic of the innovation system, and assumes that context matters for the potential evolution of the system. In other words, the potential evolutionary pathways of an innovation system depend on the inherited structures and existing dynamics including the adjustment or even radical conversion of the system (Benner, 2013). The second apparent perceived distinctive trait of the Smart Specialisation model is associated to the mechanisms by which the strategy operates. The Smart Specialisation proposers envisage that the identification of the knowledge-intensive areas for potential growth and development are related to the function of certain classes of players (researchers, suppliers, manufacturers and service providers, entrepreneurs, users) and to the public research and industry science links (Kroll, 2015; Barca et al., 2012). The players are regarded as being the agents who employ their knowledge-acquisition facilities and resources (human assets, ideas, academic and networking). Their added-value comes from the search, through an entrepreneurial discovery process, of the existing local economic and market opportunities, to identify technological and market niches for exploitation, and therefore proceed as a catalysts for driving the emerging transformation of the economy.

The original concept was entirely sectorial in its construction. Nevertheless, the concept recently begun to be applied in a territorial context. Here, the adaptation of the Smart Specialisation logic and its application to the EU regional context is largely affiliated on the regional innovation systems logic. The Smart Specialisation approach, thus, should be understood essentially as a local knowledge and learning enhancement concept (Dax et al., 2011; Wintjes et al., 2011; Boschma, 2014). It brought to the regional discussion new methodological insights, underlying the need to apply different procedures and formalisms, as well as a more efficient trade-off in terms of policy design.

Therefore, the theoretical debate about innovation and territory besides reinforcing the importance of innovation production, in their different modalities, emphasizes principally the understanding of the local or regional competitiveness as a result of a collective learning process whose output is a continuous innovative production (Landel et al., 2016).

3. Unresolved issues

3.1. About misconceptions

Territorial innovation policy faces, frequently, a double challenge: on one hand, the challenge of upgrading the competitive profile of the companies associated with the most representative sectors of the different industrialization models of those territories and, on the other hand, the challenge of contributing to the emergence of new vectors of productive specialization. The main objective is trying linkages to new and more demanding activities in scientific and technological inputs, and also to provide an effective accumulation of technical knowledge (Prange, 2008; Santos, 2012; Coenen et al., 2016). It thus includes a development framework that may help to diversify the economic profile of those territories, often too narrow and fragile.

There is thus the need, as for challenging the regional innovation orthodoxy of the mainstream literature, reiterating there are alternative ways regions to recombine their knowledge basis to enhance both either their competitive profiles and their cohesion levels (Doloreux et al., 2005).

A supply-side bias

Until two decades ago, innovation policy in peripheral territories was often simply equated as a supply-side problem, accordingly with the dominant paradigm then accepted of the linear model of innovation. Government policies have usually been designed to support knowledge production, for example through incentives to R&D activities, rather than knowledge dissemination and utilization.

It is now widely accepted that the promotion of the innovation capability in regional least favoured regions also has to be addressed as a demand-side problem, the constraints to the innovation dynamics being not so much the production of strategic information and knowledge but, instead, its diffusion and absorption by the regional actors. When knowledge creation and transfer are considered the most important devices for economic growth and well-being, creating and sustaining innovations are regarded as the keys to improve global competitiveness. Therefore, the role of innovation policies and, especially, the tools used to promote companies and institutions' ability to innovate do not solely depend on the entrepreneurs, as

also communities, and especially regions, have an effect on innovation processes (Hudson, 2003; Shearmur, 2011; McCann et al. 2013).

The emerging entrepreneurial ecosystem approach brings additional grounding to this perspective, since it ascribes businessmen a central role on the regional equation, helping, at least partially, to work around the so-called invisible man syndrome, a situation that is typified by the overshadowing of the entrepreneurial behaviours into the regional analysis (Stough, 2016).

Collective learning gaps

As mentioned, for most of the territories their relative absence of economic dynamics is rooted in the very limited learning capacities of their innovative systems. The main focus of public intervention on this ambit now relies on the promotion of interactive learning-oriented processes for the whole of the territorial agents (Cooke, 2016). Moreover, one of the core problems that is crucial to attack is related to the fact that depressed territorial areas are typically affected by very limited learning abilities. These are often the real cause of their economic anaemia and, accordingly, the main focus of public intervention should be based on the promotion of enlarged, inclusive and collective learning dynamics, of catching-up and of institutional reorganization (Lajarge et al. 2012).

Usually, traditional theoretical frameworks fail to take into account the diversity of actors and activities contributing to regional development and hence to reckon the diverse types of knowledge and human skills needed to sustain regions in the globalising knowledge economy. The focus should be put, as we have mentioned before, not so much on the innovation output production, per se, but more on the innovation process perspectives, and on the facts that affect it - not on innovations, as such (Landabaso, 2011). Policy interventions must recognize the need for promoting interfaces, while simultaneously ensuring that knowledge accumulates domestically and filters out into the economy for re-use, recombination and experimentation.

Networking, design of value-added dialogue platforms and the opening up of new interfaces between innovation support infrastructures and industry are main supply aspects that should therefore be fostered, particularly between private and public spheres.

A target myopia

Nevertheless, it seems that, at the enterprise level, the efforts of public support should focus on the local micro and SMEs of mostly traditional sectors that have not yet understood the need to innovate. In this sense the regionally based innovation policy in least favoured areas must have a pedagogical and experimental dimension.

A clear strategic objective, thus, should be the increasing of the capability and of the competence of the public administration to interact with an enlarged set of actors of the innovation process, to deepen its awareness concerning the demands of the firms and to build up broker organizations that could: "assist firms in analysing their situations ... and define their particular needs in relation to the innovation process" (Asheim et al., 2016).

An important operational axis of the whole innovation policy should lie on the organizational capacities of the networks of relationships that can become a crucial determinant of the entire institutional architecture of the regional innovation system. It should be an important aim to involve micro and SMEs as much as possible on all the ongoing, evolving process, to make sure that their long-term needs are duly taken into consideration (Landabaso, 2011; Camagni et al., 2013; Torre, 2018). Anyway, SMEs usually face particular problems that hamper their effective participation in the innovative dynamics, such as a difficult access to information, lack of qualified labour force, financial and administrative constraints, etc. It is undeniable that, often, this dimensional group of enterprises may require specific assistance. There is thus a need for additional empirical evidence of the capacities of the different categories of SMEs so that a more pragmatic appreciation of this sector will be gained helping to formulate targeted policy-measures aimed at stimulating greater SME participation, a *sine qua non* condition for the achievement of a systemic innovation process on a territorial regional basis.

It seems important to promote consistent efforts to strengthen the technology absorption capacity of SMEs which may involve facilitating the processes of learning and accumulating knowledge and strengthening skills in the firms. The regional innovation support services that now only serve a minimal part of the firms' universe, and therefore are not promoting innovation as efficiently as they should, must be able to answer not only the specific demands of traditional innovators but rather to be concentrated on the promotion of a co-operation and systemic culture amongst the elements of the territorial innovation architecture. This means adopting a proactive, continuous and pedagogical role in order to identify hidden and latent entrepreneurial demands for innovation (Markey, 2010; Asheim et al., 2011).

A narrow perspective of innovation

It has been questioned whether the current focus of learning regions is adequate to ensure the competitiveness of in the knowledge economy (Tovey, 2008). Regional development processes do not only require technological, codified expert knowledge but at the same time indigenous tacit knowledge about local places and locally-embedded resources. Regional learning therefore requires a shift from focusing on forms of knowledge towards focusing on knowledge processes, exploring dimensions of knowledge building, collaborative social learning and the

re-embedding of knowledge (Uyarra et al., 2017). The current focus of regional learning and innovation processes on scientific, technological expert knowledge must therefore be challenged. There is a need to focus less on research excellence, *in abstracto*, but more on local innovation applications, valuing local identities and the diversified typology of territorially incorporated knowledge. Tapping underutilized potential is vital for enhancing regional competitiveness and sustainability.

Mainstream economics had great difficulty in fitting entrepreneurship into its theory and for long time the theoretical firm remained "entrepreneurless" and this seems to be a conceptual problem that constitutes, till now, a barrier to a more proficient theorization in this field. This theoretical gap results on the incapability to include the entrepreneur figure as a potential explanatory agent of several regional economic phenomena (Stough, 2016).

A crucial problem for many regions is the systematic incongruity between research and innovation (Boschma, 2014; Miguélez et al., 2013). Usually, there prevails a rather optimistic perspective that assumes that Investments in education and training, R&D, technology transfer and marketing will mechanically turn into innovations. Frequently, they are not entrepreneurial territories as they lack enough SMEs and creative entrepreneurs in new technological areas. Policies, as referred before, often still suffer from a supply-side bias, lacking adaptation to private sector needs.

These kind of structural problems is often coupled with other challenges that institutional regional innovation systems encounter: the bridging of the gap between R&D and innovation, between global and local knowledge, between recognized industrial strengths and new technological trajectories, between successful global enterprises and a diversified industrial fabric of innovative SME.

In which way systemic?

It happens, often, that the search for a systemic approach is merely regarded either as a solution for gathering additional institutional thickness per se or the obligatory fulfilling of formal procedures of the regional planning process (Morgan, 2013).

A systemic approach also implies to take into consideration in a more pro-active way the needs of the main actors of innovation, i.e. firms and, consequently, to adapt the supply of services and their respective structures. In particular, innovation support should meet more intensely the micro and SMEs needs and expectations, thus being more responsive to the composition of the productive fabric (Torre at al., 2013; Lajarge et al., 2012). The aim is that this systemic and bottom-up approach favours cooperation and leads to a better regional embeddedness of the system, a particular challenge being the promotion of the endogenous innovative capability of the productive fabric. It should also constitute an effort to break the traditional

institutional inertia in the public and private sectors, fostering inter-firm networks which engage in interactive learning dynamics, but also embracing new inputs coming from the fourth and fifth innovation helixes analysis (Carayannis et al., 2014; Bourdin et al., 2020).

This new approach to regional development should try to redesign the regional innovation architecture, by building upon pre-existent structures and seeking to modify their static, task specific competences into a system of flows and processes based on the network paradigm.

Governance deficits

Within the regional territories, the partnership approach intrinsic to governance is particularly necessary as no single stakeholder has the resources to tackle the multi-dimensional problems of regional development (Scott, 2004; Markey, 2010 Markey et al., 2010). Through adequate governance mechanisms, the actions of different governments and agencies may complement each other. The foremost dimension in building a successful regional innovation upgrading strategy seems to lie in leadership, and this work is absolutely vital to make some innovative agents assume a mobilizing and strategic leadership (Torre et al., 2013). So, a multi-level governance architecture is urgently needed in order to create rationality and synergies among the innovative entrepreneurial and institutional actors.

If we agree that the intervention by the authorities should give priority to the implementation and strengthening of a relational culture, then policies have to comply with the existing overall network architecture and its specific territorial assets, rather than focus more on punctual and atomized actions. Thus it aims at the reinforcement of the mechanisms for horizontal coordination and partnership, as well as interface management that frequently constitute the weakest ties of the interdependent system, avoiding political intervention supported in sectorial logics or fragmented actions. It should focus, primarily, on functions and content rather than on the regional components, trying to activate the linkages among them.

So far, however, the governance of regional learning and innovation processes in regional development has not been given the necessary attention. Institutional learning is also a critical learning-by-experiencing process (Miguélez et. al, 2011; Rutten et al. 2014). Considering the high diversity of activities that contribute to regional development, one can argue that changes in institutional arrangements are vital and must occur frequently. The focus should therefore be put on the learning-by-learning process through which institutional arrangements are (re)established and operationalised, impacting proactively and positively on the regional economic basis (Coenen et al. 2016). Accordingly, the smart region that embraces this kind of learning and innovation processes is a learning region with emphasis on contextual,

informal and collective learning processes that lead to innovation and institutional change.

3.2. About missing conceptions

The idiosyncrasy of regional innovation trajectories

A first critique is that the case studies that constitute the empirical evidence that supports the literature of the territorial innovation models are too specific to a particular kind of industrial region, usually on Europe or on the United States, particularly those involved in high-technology manufacturing. Part of this relates to the genesis of the ideas which can be traced to understanding a wider socio-economic shift from Fordist manufacturing to a post-Fordist, post-industrial formula of economic organization. Also, within this there can be identified the role of policy-makers who have sought solutions for their territories with problems which has encouraged the uncritical transference of policy processes between regions. This has the effect of making these concepts appear in regions where they are not necessarily appropriate (Asheim et al., 2011; Bailly et al, 2012).

The incapability to adequately address regional peculiarities, as if diverse realities had to be encapsulated into pre-existent typologies, does not help to solve this problem (Coenen et al., 2016). This requires a particular attention both for scholars and policy-makers. It seems the gap between the academia and the political-institutional spheres has to be shortened, a closer cooperation would probably reduce the risks of an (external and internal) incoherent planning process, surpassing the discrepancies along the different phases of the planning cycle.

An insufficiently grounded theory

A second critique is that the territorial innovation models are under-conceptualized and that there has been theoretical borrowing and fusion between the different approaches, which has left them as fringe theories incapable of challenging external global mainstream powers and structures, as suggested by Campagne and Pecqueur (2014). This argument has most effectively been settled by Cooke (2016) who critically assessed many studies for failing to actually test theory through empirics. Lagendijk (2011) claimed that there was an urgency towards the insensitive development of concepts which were never scrupulously empirically confirmed, and which became the foundation for additional theoretical developments.

Hudson's (2003) argument was that the theoretical deficit had served to disconnect the concepts from wider political economies of power and reify the idea of the 'local' as subordinated to the 'global', which in turn served a specific kind of neo-liberal economic development agenda. There is also a tendency to project the model of a global city-region elsewhere around the world, interpreting just about any

manifestation of territorial specificity as a response to global restructuring. This constructed model is then propagated and sold back to urban and regional leaders as a model to emulate, so producing new wine in old bottles, the fundamental question remaining of how much these approaches are an interpretation of the world and how much they are a mere construction (Markey et al, 2008; Campagne et al., 2014).

From theory to policy – still a bridging gap

Another dilemma that has been perpetuating is related to theory. Most theoretical approaches concepts remain quite imprecise about potential policy repercussions. Both because policies should be context-sensitive and because academics often neglect, or disregard, the possible policy implications of new additional theoretical advancements, there is rarely a translation of their findings to a level which allows its regional policy makers to transfer these conclusions into real regional policy making (Bailly, 2009; Bailly et al., 2012). They are often too abstract or vague, or even worse, they lack coherence and are unrealistic. In fact, the literature linked to territorial innovation, such as industrial districts, innovative milieu or regional innovation systems, provide no explicit policy guidelines – researchers were more attentive to the innovative dynamics and its understanding. No wonder that, in these circumstances, policy makers and politicians are easily caught and trapped on a series of pitfalls facilitated by their voluntarism and the need to adopt fashionable, even if ad hoc, recipes.

Doloreux and Parto (2005) also underline that there is far too much emphasis on local institutional landscape without a satisfactory breakdown of what the institutions are or how they interact in different systems, at different scales, or at different levels of interrelation. Emphasizing localized learning and the existence of untraded interdependencies is simply not enough for understanding the scale at which regional innovation systems can be deemed to function or to be studied or reconfigured. In this context, regional innovation approaches need to be enriched by a theory of change, that, as pointed out by Torre (2018), allows for an in-depth analysis of the "black box of fabrication of territorial innovation".

Finally was the critique that territorial innovation models had been compelled by policy-makers who had subsidized academics to give their normative ideas a layer of scientific credibility, or in a less sceptical view of the process, had stimulated academics down a particular theoretical track which was seductive to them as policy-makers (Martin, 2006; Morgan, 2017). Certainly, it is hard to refute the accusation that a huge number of empirical studies were undertaken having little connection to theory, undermining serious comparisons and further detaching theoretical developments from empirical efforts (Coenen, 2006; Torre et al, 2013). Nevertheless, as Nijkamp (2016) argues, the criticism here was not so much one of rigor as to the side-effects of policy-makers rather than academics modelling the research agenda,

with a sense that academics were required to find out the anticipated and awaited results.

While it is certainly instructive to examine and learn from successful regions and city-regions, policy makers should be wary about treating them as examples that can be easily replicated or emulated in their own regions. Policies rarely travel well: successful strategies in one region do not transplant easily into other territories. In fact, given that many of the sources of regional competitive advantage are locally rooted and embedded, policies necessarily have to respond to, and take account of, regional idiosyncrasies. It is unlikely that there is one size fits all recipe for promoting regional innovation potential and competitiveness.

4. Redesigning new generation territorial innovation policies

As already mentioned, the generalisation of regional development paths, sometimes grounded on underlying regional role models which do not encompass all possible territorial arrangements, leads to the peculiar fact that regional policy makers develop a convinced understanding of how the advance of their region should occur.

Here we face another dilemma. Since theoretical approaches seem incapable to deliver accurate policy responses, other territorial role models are assumed as source for orientation. In many regions a propensity to duplicate, *mutatis mutandis*, policy approaches which turned out to be effective in certain areas can be observed, not reflecting that the achievement could have been a solo event extremely reliant on specific regional actor patterns and framework conditions (Koschatzky, 2003; Bailly, 2009). One example of this emulation method can be mirrored in the ever-increasing popularity of the cluster notion. Not only clusters, but also whole role models like successful regions from the USA, Germany or Finland serve for direction. Due to their often inadequate replication and the implementation of correlated policy approaches, disillusionment may arise among the policy makers themselves, but also within the entire territory, when expected impacts and outcomes do not arise or when within a projected period of time no tangible improvement in the regional economic performance can be registered (Martin, 2006). Role replicas do also serve the objective of legitimation. In a territorial context which longs for an upgrading of its development trajectory, but which is characterised by insecurity about possible new development choices and paths, successful role models could be 'sold' more straightforwardly to policy makers and politicians than other not yet tested approaches – turnkeys solutions are far more appealing with their vast array of miraculous solutions and myths (Uyarra et al., 2017; Elouar-Mrizak et al., 2018; OECDb, 2018). Garcilazo et al. (2010) read it as a way of path dependency by which the choice set in an uncertain setting is tightened and decision making is associated to already proven development cases.

Table 1. From traditional innovation policy to a new generation innovation policy

Traditional innovation policy	New generation innovation policy
Top-down design and implementation policy	Multi-level participative policy
Knowledge understood as a free resource	Entrepreneurial and institutional empowering as a critical learning process
Mechanical transfer of successful urban-metropolitan case studies	Pedagogical and experimental approach
Focus on technological innovation (product, process)	Wide spectrum of innovative activities and outputs (encompassing, also, organizational, market and social innovations)
High-tech approach	Focus on traditional sectors and medium to low-tech firms.
Entrepreneurial demand as a *no problem* situation – intermediation RD&I factors with the *usual* dynamic firms and new technology-based start-ups	Entrepreneurial demand as a key challenge – search and stimulation of the hidden or latent demand
Based on the RD&I infrastructure	Focus on the firms, on the socioeconomic *milieu* and, specially, on the entrepreneurs' profiles
Demand-pull or science-push instruments	Interactive and systemic dynamics
S&T knowledge dissemination as a key strategic instrument	Strategy focused on the enhancement of the firms knowledge absorption and on the networking promotion
Universities as global players	Universities as *glocal* players
Organizational proximity matters	Civic
Competitive advantages	Built advantages

It is a theoretical approach that includes an endogenous dimension, although it refuses to be encapsulated in autarchic visions. Away from the orthodox compensatory model, the contemporary regional policy paradigm encompasses a broader range of policies aimed at improving regional performances. Although it focuses on finding and activating endogenous specific and differentiated assets, it looks strategically to combine it with complementary exogenous investments, putting an emphasis on opportunities rather than disadvantages and on a participative multi-level governance arrangement, with the central government taking a less dominant role (Camagni et al., 2013; Rutten et al., 2014). It is essential to answer to a double challenge, respectively both internal and external connectivity (Miguélez et al., 2013). The dilemma of regionalisation and globalisation determines the relationship between prevailing, globally oriented groups and smaller firms oriented towards regional and national markets (McCann et al., 2013; Landel et al., 2016). Table 1 shows a comparative perspective of the traditional innovation approach *versus* the proposal for a new generation innovation policy.

It is fundamental to engage with the right targets, namely the institutionalized inertia and the loneliness syndrome which characterizes so many regional less favoured regions (Tura et al., 2005; Suorsa, 2007; Santos et al., 2014). There is no way out: a sustainable regional economy based on innovation demands much more of local capacity. From a value-added viewpoint, territorial actors and institutions are

called upon to be the foundation of contextual knowledge that identifies community and regional assets (Lajarge et al., 2012). Territorial capability must also hold and build up new relationships and partnerships that signify critical sources of innovation in social and economic development within the context of a more globalized economy (Camagni et al., 2013; Kroll, 2015). In this way, it can be seen as an instrument of establishing a learning framework for all partners involved in the construction of the socio-economic trajectory of the territory. This really seems to be the challenge for almost all regions and a critical assessment must be done to the implementation of ready-made recipes.

Conclusion

The new paradigm tries to change the regional policy discourse from a zero-sum game that attempts to allocate assets towards particular places towards an approach that comprises the formulation of a menu of strategic investments targeted towards the stimulation of the regional milieu. According to this modern approach, policies diverge to adequately adjust to territorial frameworks but at the same time they need to be co-ordinated across levels of government. The logic underneath this new regional model is based on the principle that opportunities for growth exist across all types of regions. This implies a diligent coordination of the policy mix, as there is a need to manage actions across a wide range of policy domains.

More work is now needed to disclose and reveal the contingencies, and specificities of the various contexts and environments where knowledge creation, innovation and entrepreneurship take place in order to obtain a better understanding of factors enabling or impeding these processes. Policy design at the regional level does not only involve issues of externalities and knowledge spill-overs, it also encompasses the information asymmetries and principal-agent problems associated with engagement with local elites. This competitive approach, based on a collective learning process, is therefore more complex than a simplified form of comparative advantage.

It was argued that special attention should be paid to the design of the intervention policy, trying to avoid the classical functional top-down and supply-side approach, the classical repertoire of some innovation policies; innovation-led regional policies must basically address the questions of enhancing the territorial capabilities to foster interaction among the regional actors, of engaging the actors in processes of collective learning and of producing strategic knowledge or, more synthetically, to increase the stock of social capital in territories where there is a clear deficit of these immaterial assets. About this point, one might raise the question of the capability gap of policy makers to manage regional innovation policies, a question which is so much more important when one knows that the innovation literature has discussed in

depth the role and rationality of innovation policies, although often disregarding the policy-making process itself. Additionally, it is well-known, as Uyarra (2010) points out, that evolutionary scholars are generally biased towards normative analysis (what policymakers should do) devaluing the positive analysis (what policymakers really do).

Disclosure statement

No potential conflict of interest was reported by the authors.

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