

Mainstreaming innovation policy in less favoured regions: the case of Patras Science Park, Greece

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Creativity and human capital are increasingly being recognised by an expanding body of work on regional economics, and policy and innovative workspaces. A short review of this literature provides the theoretical base for discussing a number of challenges related to mainstreaming creativity in regional and urban economies. Implementing innovation policies in peripheral, less favoured contexts is challenging and requires specific adaptations. This paper argues that a science park and triple-helix institutions can act to animate regional creativity in Europe's less favoured regions. It illustrates this point with a case study of the regional economic and policy environment for innovation, creativity and entrepreneurship, in Patras, Greece. Lessons learnt include: the need for consistency and continuity in planning, local ownership of the initiatives, multilevel collaboration in the governance and effective collective learning channels and processes between academia, business and state government.

IN RECENT YEARS, POLICY INITIATIVES on innovation and research in Greece's peripheral, Less Favoured Regions (LFRs) have followed national applications of the evolving priorities of the EU cohesion policy (Kyrgiagini and Sefertzi, 2003; Henderson, 2000). This is hardly an original observation and has been repeated in a number of cohesion countries and in Eastern Europe (Cooke *et al.*, 1997). What is characteristic of the Greek case,

however, is the persistent weakness in instituting viable innovation systems to operate at the regional level (Komninos and Tsamis, 2008; General Secretariat for Research and Technology (GSRT), 2007). Increasing distance of decision making from the empirical ground, unchecked centralisation of cohesion policy management masquerading and diverting structural funds programmes to achieve unrelated short-term political gains have hampered the already weak governance and administrative implementation of innovation-related policies as much as in the other policy fields. This usually leaves the LFRs, for existing regional dynamics and advantages worth supporting, with inconsistent and too-little-too-late policy interventions (Tsipouri and Papadaku, 2005). Ever since the Second Community Support Framework, nationalised community policies have been implemented only or exclusively as policy pilots. This results in a short-lived patchwork of interventions with limited viability and inherent problems of sustaining momentum without renewed support. Perhaps, one of the rare exceptions, that still continues and is still expanding has been the formation of science parks and business incubators, which was usually done after local initiatives and to cater

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This paper is based on a presentation given at the XXIV IASP World Conference on Science and Technology Parks, held on 1–4 July 2007 at Barcelona, Spain.

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for the needs of small university-related entrepreneurial ventures (Bakouros *et al*, 2001). However, in the absence of a clear and integrated state policy on innovation and development, the instruments available for fostering innovation remain few and barely sufficient. This paper explores the efforts to organise the regional innovation system at Patras, driven by

the Patras Science Park (PSP) and using the Regional Innovation Pole (RIP) as an instrument.

We argue that joined-up initiatives such as the RIP, if expanded and adequately instituted can contribute, not only to overcoming the lack of development of governance capabilities for innovation, (emphasised by Tsipouri and Papadakou (2005)) at least at the most important Greek regional knowledge locations, but can also offer special instruments for fostering regional creativity, which are fine-tuned to the regional needs.

The case of innovation support efforts at the Patras region is relevant to the discussion of innovation support in LFRs. First, because it can be compared and contrasted to other cases (in Greece and other European LFRs) and help identify differences in the socio-institutional context and governance–firm–territory relationships; secondly, because of the extent and multistakeholder involvement of the current policy initiative that set an example in innovation policy; and thirdly, because of the differential instruments it employed for enhancing the interaction with local educational institutions (university, research centres), new business start-up creation and the local labour market, and fostering innovation and creativity within local firms, which are dissimilar to the other known cases.

This paper is organised as follows: first, it surveys the literature that is relevant for understanding creativity in regional contexts like Western Greece. Secondly, it presents the context for a case study of the Patras region in Western Greece. Thirdly, it presents the science park. Fourthly, it discusses issues of creativity and innovation in the local economy. It then considers the main support instruments for innovation in the region: the science park and especially the RIP. In conclusion, it links the discussion with the general demand for supporting and strengthening the competitiveness and innovative profile of a local economy which has a fragmented innovation system.

Relevant ideas on creativity from the wider literature

It is widely accepted that there is a multitude of approaches to the concept of creativity. There is a well-developed research area in a long list of disparate fields ranging from the studies of learning and education, to human resource management and organisational studies, to social geography and modern urban theory, and the studies of economic development. It seems that there are four interrelated, but relatively independent, levels of analysis for creativity: the individual, the organisational–firm, the local, urban and regional, and the national and international. Of course, all these levels are essentially connected in a scheme of overlapping social milieux. A creative individual interacts with his or her own network of ties which extends to the

individual's workplace and beyond. Similarly, the firm is not an isolated actor but is an active player in the local economic life, and increasingly a nodal point in a global network of production and transactions. In turn cities and regions, as functional spatial units, are the geographical areas where most economically important activities are spatially clustered.

It is beyond the scope of this paper to synthesise the theoretical and empirical studies on creativity. Such an effort is far from being realised and in fact the vagueness of the concept and the diversity of approaches make it a highly complex undertaking. But since one of the aims of this paper is to assess creativity (for the benefit of local firms), the discussion will benefit from the introduction of some definitions.

First, measuring and conceptualising creativity (see Figure 1) is by no means a *fait accompli*; Venable (1994) in a review of the literature of testing and measuring individual creativity noted that:

I am reminded of a metaphor in which several blind-folded people are situated around an elephant, each touching some aspect of the animal. The ensuing individual definitions of 'elephant' from divergent vantage points only shed light on a small part of a large whole. In the case of creativity testing, researchers have developed such a plethora of methods that there exists a glut of complex results and conclusions, many inconclusive, rendering this animal called creativity educationally impotent.

Secondly, there is no need to argue that technological change is central to the analysis of economic

growth. The key for technological change is how knowledge and innovation are actually 'created' in an economy. This was emphasised by Adam Smith and more recently in the substantial literature devoted to this 'from Schumpeter, to Schmoockler to David and Rosendberg' (North, 1990). However, neoclassical economics do not provide any adequate explanation to maximisation other than the price mechanism (Williamson, 1985).

Thirdly, initially the critical (Knight 1921; Coase, 1937) and later the institutional approaches (Williamson, 1985; North, 1990) offer more elaborate explanations of the formation and role of the firm. North's approach to neo-institutional economics 'integrates the maximising objectives of the organisation, which have been conditioned by the institutional framework, with the development of the stock of knowledge':

In fact, the real tasks of management are to devise and discover markets, to evaluate products and product techniques and to manage actively the actions of employees; these are the tasks in which there is *uncertainty* and in which investment in information must be acquired.

Furthermore:

[these tasks] do not occur in a vacuum. They entail the development of *tacit knowledge* to unravel the complexities associated with problems of measurement and enforcement. The kinds of information and knowledge required by the entrepreneur are in a good part a consequence of a particular *institutional context*.

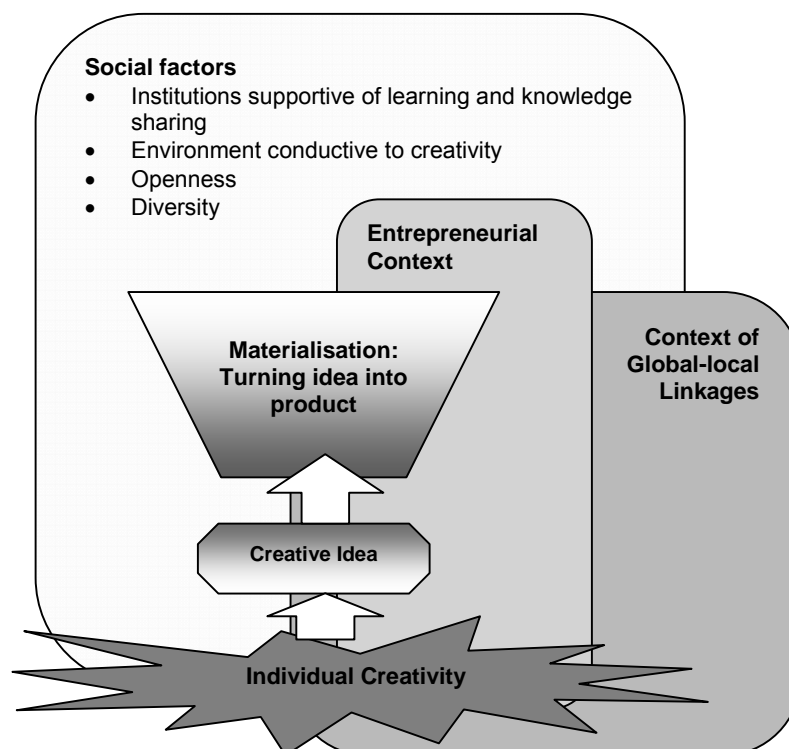


Figure 1. The process and context of creativity

That context will not only shape the internal organisation and determine the extent of vertical integration and governance structure, but also determine the pliable margins that offer the greatest promise in maximising the organization's objectives. (North, 1990: 77, emphasis added)

Fourthly, the above points do not preclude the possibility that firms and institutions are in fact localised. The argument is not whether or not regional settings are conducive to economic growth, but rather which regional setting is the best incubator of technological change and economic growth (Desprochers, 2001). Some authors (Feldman and Audretsch, 1999; Glaeser *et al*, 1992; Harrison *et al*, 1996 (quoted in Desprochers, 2001)) talk about “geographically localised dynamic knowledge externalities or ‘Jacobs externalities’, as the spatial concentration of diverse individuals increases personal interaction across economic sectors, which in turn generates new ideas, products and processes”. However, ‘other scholars argue that while localised *diversity* might be important in certain cases, local *specialisation* allows a better allocation of resources and/or increased competition and is therefore more conducive to innovation and growth’ (Desprochers, 2001).

Fifthly, knowledge spillovers stemming from diversity have been a central focus of mainstream urban research in recent years. Creativity and idea generation are not unconnected to innovation and growth (see Figure 2). As Glaeser (2004) notes, Adam Smith emphasised the importance of knowledge creation. Youl *et al* (2004) trace ‘the initial attention to the role of cities in concentrating and spurring human creativity’ to Park *et al* (1925), and Jacobs (1961) who “explained how cities function as ‘open systems’ to attract talented people from vari-

ous backgrounds”. In his bestselling work Florida (2005), summarised and underlined these older points (Glaeser, 2004), saying that ‘It’s all about creativity’. Youl *et al* (2004) state that ‘Creativity and diversity are [seen as] more fundamental than critical resources for entrepreneurship such as tax rate, human capital, venture capital or entrepreneurial zone. It can be regarded as social habitat’. In that respect they view lower ‘entry barriers’ as important in ‘making it easier for human capital with various backgrounds to enter the region and stay with it’.¹ Moreover they see the relation between creativity and entrepreneurship as existing by definition based first, on the definition of creativity by Sternberg (1999) as ‘the ability to produce work that is both novel (i.e. original, unexpected) and appropriate (i.e. useful, adaptive concerning task constraints)’, then on Sternberg and Lubart’s definition of entrepreneurship as ‘a form of creativity that can be labelled as business or entrepreneurial creativity because often new businesses are original and useful’ and finally on Catell and Butcher’s argument that ‘creativity is perhaps best acquired by association with creativity’ (in Youl *et al*, 2004).

In examining the effects of creativity Youl *et al* (2004) employ Florida’s existing Creativity Index (2002) which “is measured by using the Bohemian Index—a measure of the proportion of ‘bohemians’ and other artistically creative people in a region” as indicative of the openness of a region to creativity of the sort not directly associated with technological and business-related innovations. However, diversity can also be measured by the melting pot index (the percentage of immigrants in the population) and the so-called diversity index used to capture the broader openness of a region.

Sixthly, taking a deeper look into Jacob’s theory, Desprochers (2001), notes that it is firmly rooted in

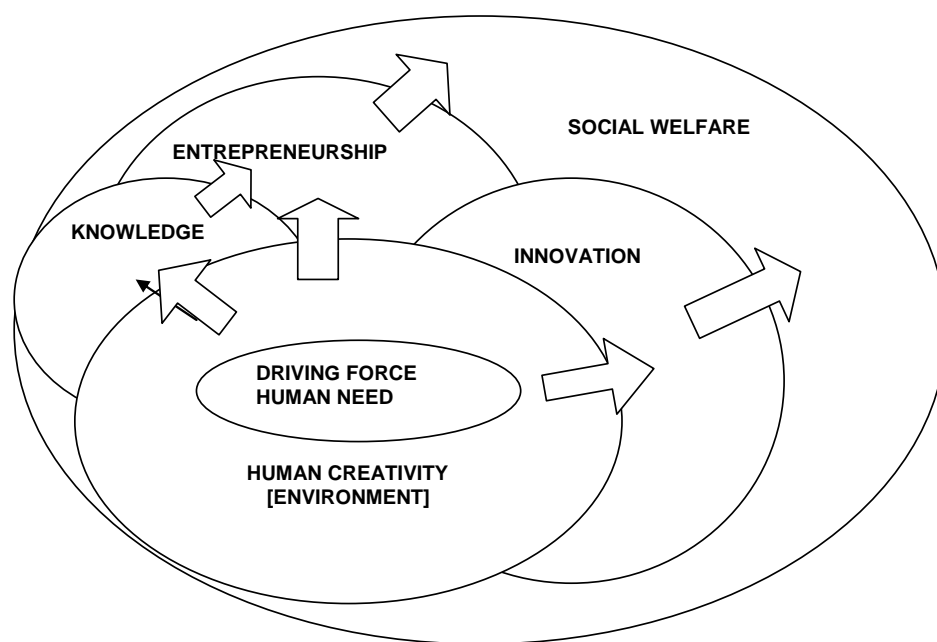


Figure 2. Expanding circles of human creativity, innovation and entrepreneurship, and their social utility

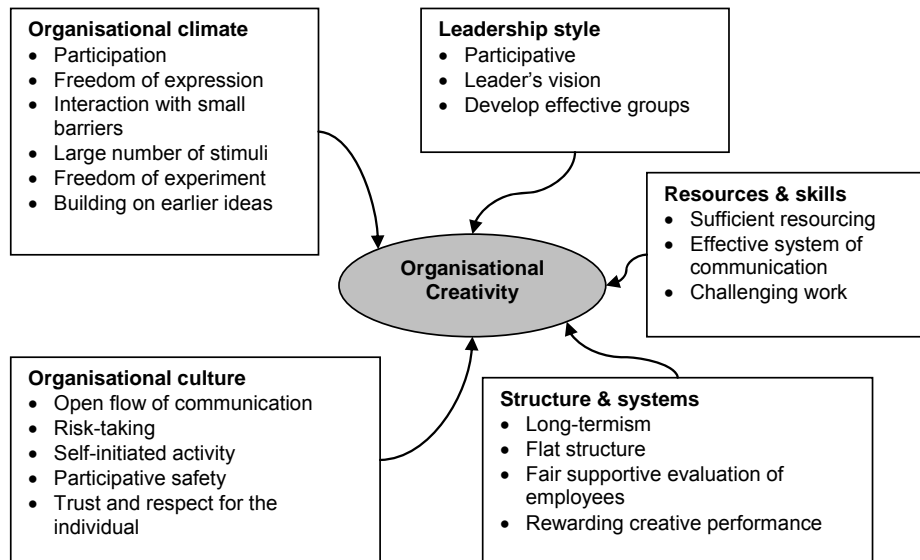


Figure 3 Factors affecting organisational creativity (from Andriopoulos, 2001: 835)

the study of human creativity, a process which can be summarised with the formula 'Adding new kinds of work with other kinds of older work' (Jacobs, 1970: 51). He rightly argues, however, that her work carries a broader perspective, which encompasses entrepreneurship and agglomeration economies.

In short, an idea for a new marketable device is but the genesis of the lengthy process towards producing a successful commercial product. Much work, most of it entrepreneurial in nature, still remains to be done and it might be that urbanisation economies are more important at this point. (Desprochers, 2001: 372)

He then exemplifies this point by viewing how 'individuals possessing very different expertise collaborate with one another, whether by working with other individuals in a firm, by collaborating with individuals working on different things for other employees or by moving among establishments producing different final goods and services' (Desprochers, 2001: 379).

Finally, summarizing the management literature on organisational creativity, we can borrow from a schema of the five major organisational factors that enhance creativity in a work environment (Andriopoulos, 2001) (see Figure 3), namely:

- organisational climate;
- leadership style;
- organisational culture;
- resources and skills; and
- structure and systems of an organisation.

Development context of the Patras region

Patras is a small metropolitan area 200km west of Athens. The population of the wider region is 733,816 (7% of the total population of Greece) and

its main urban centre, Patras, is a conurbation of 250,000 people. As a port, the local economy of Patras benefits from good access to the foreign markets through its frequent ferry connection to Italy. The main regional specialisation is in the service sector (51% of the regional gross domestic product (GDP)), the manufacturing and food processing sector (22% of GDP) and in the agricultural sector (27% of GDP).²

The Patras region has had an eventful economic history since the formation of the Greek state. Initially one of the country's main ports for exporting Corinthian raisins and the agricultural produce of the Peloponnese, Patras became the second city and industrial port of Greece, being parallel only to Athens in prosperity and economic growth for most of the 19th and early 20th centuries. Since the early 1900s, however, the growing concentration of trade, shipment and economic and administrative activities at Athens halted the relative growth of Patras (Burgel, 2000). By the 1930s the value of trade in traditional agriculture produce declined in importance but fundamental drivers like demography and also its favourable location facilitated the onset of a period of industrialisation stemming from the national centre.

Having suffered considerable human loss and destruction of infrastructure in the Second World War, Patras found itself on a rapid course of urbanisation, and industrialisation, which lasted well into the 1970s and was propelled mainly by the influx of

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cheap unqualified labour from the rural periphery, as has been the case with all the other major cities in Greece. In the 1960s and 1970s Patras became an industrial city-port with its main activities being paper mills, textile processing and the production of food and drinks. Beginning in the late 1970s, however, changes in the international economic situation, the opening up of the Greek economy to European markets due to the country's admission to the EU, as well as the spatial competition for labour and resources with the Athens conurbation, left Patras' traditional industries at a disadvantage and further weakened its role in the national urban system. Lack of investment in the city and region, with the exception of the establishment of a technical university, reinforced a trend of unequal development, which is particularly obvious in rural areas. For most of the 1980s and early 1990s the industrial decline of the Patras region, similar to that of other industrial city-port areas, made headlines in the national press and contributed to critical problems of labour redundancies, chronic unemployment and subsequently unbalanced growth in low value services in the public and private sectors.

Economic recovery was assisted by state and EU-funded investments in the university and research institutes, the establishment of a regional hospital and the rise in public sector employment and later renewed physical infrastructure investments in roads and a highway bridge connecting Patras to mainland Greece, and investment in new industries at the Patras industrial area. The increased traffic from the port to Italy contributed to some increase in shipping and logistics activities.

In the late 1980s the idea of investing in technological development as a way to respond to the industrial decline and loss of prosperity, gained significance within the local community of researchers and entrepreneurs. 'The first government initiatives to develop science and technology (S&T) parks and incubators were undertaken in 1989, through the funding of public research centres. Their goal was to build incubators for spin-off and start-up companies near their laboratory facilities. The government policy encouraged universities and public research institutes to create new firms exploiting their R&D and also aimed at attracting other knowledge intensive enterprises willing to benefit from the proximity of the education and research institutions' (GSRT, 2007: 16).

Patros Science Park

The PSP and business incubator was established as part of the above initiatives and became fully operational in 1998 with the aim of establishing an innovative business area in the region of Western Greece, mainly hosting entrepreneurial spin-offs from Patras University and related institutes, namely the Institute of High Temperature Chemical

Processes (FORTH-ICEHT). PSP has since been instrumental in nurturing the first generation of new technology firms in microelectronics, energy and environmental technologies.

As part of its objectives PSP, in association with the Centre for Business and Technological Development of Western Greece created a 'benchmarking club', in order to support its members in issues of evaluation and competitiveness. The benchmarking analysis functioned as the basic tool for evaluating the innovative capabilities of local firms and, with the growing role of the PSP, in the regional innovation policy. It has since been incorporated (as a strategic tool) into the nationally funded regional innovation platform, as the RIP of Western Greece.

Creativity in the local economy: how 'creative' is the local mix of activities?

There is increasing enterprise activity around commerce and services, the higher education institutions and the regional hospital on the one hand, and a long and continuing industrial tradition especially in food processing and the wine and beverages sector, on the other hand. The latter were the focus of the benchmarking exercise undertaken in the period July 2005–December 2006. Based on this study, combined with studies and reports on regional innovation, this paper attempts to develop insights on the role of the RIP in terms of fostering and stimulating creativity in the region.

Generally speaking, there is a shortage of studies focusing on creativity issues for local firms. Since creativity has only recently entered business discourse, and enterprise support structures have so far emphasised traditional and harder aspects of performance, it is reasonable that there has been little interest in creativity. However, newer national and local studies have focused on the innovative profile of firms (e.g. showcasing innovative Greece, benchmarking studies, ICAP Company's study on innovation on Western Greece) mainly based on assessments of employee's skills and R&D activities. Those studies draw their samples mainly from the new technology sector and well-established firms in the conventional manufacturing sector.³

While safe conclusions on the value of creativity for local firms cannot be reached on the basis of the existing data, there is evidence to suggest there is a relatively high level of innovation with regard to services. However, developments in this 'innovative segment' of the services sector are not effectively matched by other sectors such as agriculture and the retailing and manufacturing sectors. This may be due to the structural problems, which the other sectors are facing, i.e. low productivity, de-industrialisation, traditional small-scale agriculture. The innovative (services) sector has emerged quite recently (mid 1990s) drawing mainly from the pool of skills and knowledge of the University of Patras

and its connected research and technological institutions. Moreover the main concentration of activities in the research-intensive sector is in microelectronics and embedded systems with most companies located in the northern part of the Patras area. (For a discussion of semiconductor R&D activities and effects of transregional investment see Antonopoulos and Papadakis (forthcoming).) As interviews with entrepreneurs have suggested, the diffusion of knowledge-intensive activities is limited to the area around the university, while there are some leading and innovative firms mainly in the food and drinks sector, but these are scattered in the city-region and usually do not maintain intensive ties with research at the university and its specialised institutes.

In general, most of the high technology and innovative services sector activities are spatially concentrated in and around the urban centre of Patras. This is not the case for other, smaller, less populated, cities in the region.

The Regional Innovation Pole

In an effort to boost the innovative performance of key regional centres of competence, the Greek government designed a new policy for innovation, which emphasised the creation of research and exploitation consortia at the regional level with the joining up of business, research and academic actors.

The creation of RIPs constitutes the first measure taken in Greece in order to promote the development of an integrated strategy for innovation at regional level, in areas of great interest for each region. It is an action implemented within the Operational Programme

Regional innovation poles were created in Greece to promote the development of an integrated strategy for innovation at regional level

'Competitiveness' of the 3rd Community Support Framework 2000–2006. (GSRT, 2007: 20)

With the initiative of the PSP and support from the academic institutions of Patras and the administration, the RIP for Western Greece was established in 2007 (see Figure 4). It thus became a pilot project. In its initial phase it attempted to connect the basic elements and actors of an existing local 'system' or 'innovation environment' and subsequently assist the growth of this local system with instruments for self-learning, information and support aimed at building its organising capacity and rendering it more sustainable, dynamic and visible in the long run. Achieving this integration of innovation actors was viewed by government and participants as critical for securing future employment and economic growth.

In defining the local innovation environment, the term 'local innovation system' can be used to characterise the sum of the actors who are based in the Patras region and interact with each other and also with external actors in a multitude of ways, in the current model of an open innovation process. While one of the standard concepts in the literature on (geographical) innovation systems, is the regional

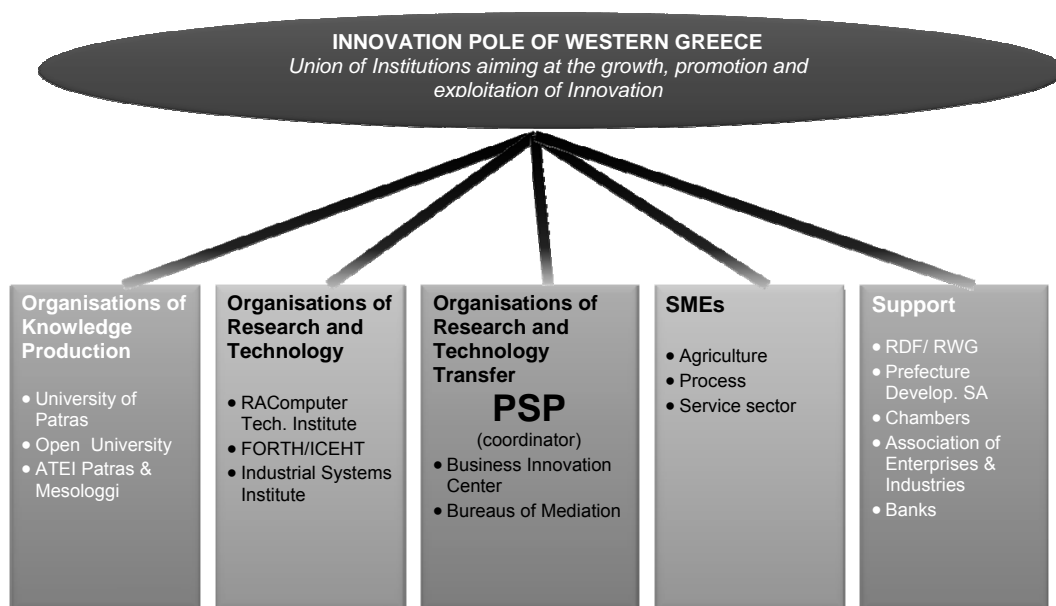


Figure 4. Structure of RIP of Western Greece.

Source: PSP

Notes: ATEI (Region of Western Greece, Technological Educational Institution)
RDF (Regional Development Fund)

innovation system, in the case of Greece and particularly the Patras region, it would be highly tentative to argue about an existing regional innovation system, on the one hand because it would constitute an exaggeration regarding its geographical extent, since most of the important actors and participants are heavily concentrated in the urban centre of Patras, and on the other hand because the level of dynamism and integration (internal and external) of this system is limited enough to allow a characterisation that presupposes established links at the local, national and international levels. Consequently, the capacity of the local system of innovation still does not allow it to be competitive with the national centre and more advanced regional centres internationally, in its respective areas of expertise.

One could argue about a nascent innovation system, since most of the existing evidence suggests a high level of fragmentation. This is because most of the potential parts of an open and highly interconnected 'innovation system' are in this case not fully functional or when they perform their functions they lack coherence and complementarity, resulting in waste of resources and especially organising efforts without any visible results. For example, in recent years there have been many cases of new entities (business innovation centres, centres for research and technological development (R&TD)) that have been created to support entrepreneurship and innovation in the region. Together with chambers of commerce and other local actors, these entities developed activities in accordance with their statutory aims, but usually in a limited time-frame, scale and to service a very small number of local businesses.

The recognition of this situation is hardly an original statement, and certainly not unique for this region. It is, in fact, acknowledged by members of staff in the support entities, and there have also been infrequent references to the situation in local meetings and networking events. But by looking only into the results originating from one part of this whole system one is invited into the logical fallacy of searching for the problem in the most obvious area and not where it really lies. So what should logically be the major concern of the student of regional innovation is the capacity and efficiency of the system as a whole (its integral parts and processes and their interactions) and not one-way approaches which seek explanations in a small part of this whole spectrum of (isolated) activities that constitutes the existing 'system of innovation'.

Nevertheless, we still lack an agreed diagnosis of the causes of this suboptimal situation, so that quick progress can be achieved. The diagnosis of the problem is essential before any new policy, which aspires to introduce change in the current state of affairs, can be developed. From what is known from empirical studies that have attempted to analyse the efficiency of 'regional systems of innovation' in lagging regions, a set of structural factors, which influence its efficiency have been identified. While not

accepting that whatever is observed in other lagging regions is identical to what is taking place in this region, from the general similarities one can see the factors at the heart of the problem. A recent empirical study by Oughton *et al* (1997) categorises the factors affecting the regional innovation systems in lagging regions as follows (list taken from Landabaso, 1997):

- Shortcomings relating to the capacity of firms in the regions to identify their needs for innovation (and the technical knowledge required to assess them) and lack of structured expression of the latent demand for innovation together with lower quality and quantity of scientific and technological infrastructure.
- Scarcity or lack of technological intermediaries capable of identifying and 'federating' local business demand for innovation (and R&TD) and channelling it towards regional/national/international sources of innovation (and R&TD) which may give response to these demands.
- Poorly developed financial systems (traditional banking practices) with few funds available for risk or seed capital (and poorly adapted to the terms and risks of the process of innovation in firms) to finance innovation.
- Lack of a dynamic business services sector offering services to firms to promote the dissemination of technology in areas where firms have, as a rule, only weak internal resources for the independent development of technological innovation (Capellin, 1989).
- Weak cooperation between the public and private sectors, and the lack of an entrepreneurial culture prone to inter-firm cooperation (absence of economies of scale and business critical masses which may make certain local innovation efforts profitable).
- Sectoral specialisation in traditional industries with little inclination for innovation and a predominance of small family firms with weak links to the international market.
- Small and relatively closed markets with unsophisticated demands, which do not encourage innovation.
- Little participation in international R&TD networks, scarcely developed communications networks, difficulties in attracting skilled labour and accessing external know-how.
- Few large (multinationals) firms undertaking R&D with poor links with the local economy.
- Low levels of public assistance for innovation and aid schemes poorly adapted to innovation needs of local SMEs.

From the presentation of these factors, which (negatively) affect the efficiency of the 'local system of innovation', it becomes clear that policies such as the RIP differ from past policy attempts to tackle the problems.

If we are to form a preliminary assessment of the role of the RIP in addressing the shortcomings of regional innovation systems in an LFR like Patras, a number of points should be made, drawing from Oughton and Landabaso's framework.

- Most policy interventions to date had either a very macroscopic (national sectoral policies) or either very limited horizon of implementation (pilot projects). The RIP has been the first explicit attempt to create the conditions for shaping an integrated local policy for innovation and innovative entrepreneurship. This attempt involve the inclusion and establishment of some basic mechanisms of diagnosis (e.g. technological foresight) and tools for techno-mediation ('metagnosis'), as well as SME support (e.g. business angels) and, in a break with the past, there was an explicit intention to function beyond the narrow limits of the implementing authority.
- At the same time, the implementation of the RIP, creates a precedent for cooperation between the fragmented local actors. The least that the project achieved was to cultivate positive expectations among the entrepreneurs and members of staff of the implementing agents for a departure, in terms of efficiency and outcomes from the relevant attempts of the past. It is worth mentioning that for the first time after years many of the locally critical development authorities convened at the same place with a specific agenda, beyond the standard annual events for local entrepreneurs. This achievement might seem small and its implications might be difficult to measure but it has been a good first step and a basis on which to continue and expand the effort.
- It is clear from the reports and final deliverables of the project, what has been produced through the internal processes for the RIP. But apart from the limited objectives of the project, one of the most important results has been the (informal) 'mapping' of the local innovation system. This constitutes in itself an essential knowledge asset (know-how), which is available for the implementing authority and the partners to exploit fully. This informal mapping took place at two levels. The first was that of participants, where the suggestions of those directly involved in the system of innovation and the processes of the RIP were recorded (both formally and informally); at the same time many possible actors who had not been included in the pilot project but could contribute in some way to the strengthening of the local innovation system were identified. The second is the level of the mapping for dynamic elements of the local innovation system. This became possible through the categorisation in sectors of specialisation (information and communication technologies, food technologies, and renewable energy and environment), which in broad terms reflect the areas where the relevant region of West Greece has an existing or potential advantage. But at this point it also became apparent which of the selected areas of expertise could be included (e.g. the drinks and beverages sector), or which are developing rapidly as well as those which are developing slowly.
- We have to acknowledge that intervening factors in the process of implementation or in the broader framework of the effort did not contribute to the maximisation of benefits from the RIP project. But, in contrast to past innovation projects and among the other RIPs, this is more an example of successful and accurate joining of efforts and not merely a recycling of fragmented small-scale efforts. On the other hand, the brief time horizon of the project and the limited budget, as well as the intrinsic problems of organising cooperation that can be observed among local actors, have again been undermining the effort. Moreover, there were also easy criticisms made right from the start, which predicted it would be another example of lost opportunities. But even those criticisms were expressed in good faith and possibly as a result of heightened expectations.
- The recognition of the fragmented nature of activities in regional innovation has brought increasing interest in more specialised and adequate policy frameworks. The RIP offered a number of lessons, which should form valuable feedback for future projects. In a joined-up initiative like the RIP, emphasis is placed on the institutional capacity at the level of implementation. The RIP has been a good test for that, and has shown the need for more commitment, more funding, better dissemination and perhaps above all, more and better capacity building efforts. There is no doubt that the national coordinators and the central government have a lot to learn from such initiatives, especially on how to manage the potential for innovation in the regional economies.
- While the RIP has been the first explicit policy framework to deal with the innovation in a coherent way, it has also highlighted the need to actively inform policy by learning tools about the performance of local firms. This becomes more of a critical task in a local economic system that cannot be characterised as having high degrees of creativity, except presumably in the small, innovative services sector. In the next section we will attempt to draw inferences on the creativity of local firms based on the benchmarking exercise in the beverages and the new technology sectors in Western Greece.

Conclusions

As the analysis of the RIP shows, and as suggested by the literature, a successful innovation environment is characterised by a number of interrelated attributes, transactions and interdependencies, which go beyond the specific contributors to the system

(firms, support intermediaries, research centres, individuals, markets). The simple versions of the triple-helix models point to the major contributors and suggest strengthening them and the linkages between them. However, a more challenging situation arises when the linkages are at a rather low level or many of the contributors and institutional players are either weak or absent from the field (Etzkowitz, 2008; Groumpos, 2008). Moreover, the concrete policy prescriptions that we can draw from models of learning regions and regional innovation systems are useful to the extent that they are directed to the systemic dimensions of the problem and represent a way of operating and functioning for a successful innovation system.

Judging the strategy of innovation poles on the prominent cases of more competitive regions that have been either at the technological and economic forefront for decades offers little practical advice on how to adapt, essentially fragmentary innovation systems, in economically weak regions to the requirements of constant global economic and technological change.

The conjunction of the completion of the first phase of the RIP in Western Greece, first highlighted the structural problems facing regional innovation communities in a meaningful way for re-calibrating the applied policies. Secondly, it widened the pool of participants from the few state-funded institutions to include the private sector and an increasing population of research-oriented firms in niche sectors like embedded systems, energy technologies, and food. Thirdly, it created confidence and demand that the initiative is worth continuing and expanding to address, in a strategic and regional consensus-based way the core problems of regional innovation systems. Finally, it acts as a guidance and learning process for policy makers to actually face the demands of the regional innovation communities and calibrate policy processes and instruments to more specific regional needs.

There is no question that regional innovation systems continue to be immature or fragmentary, after the policy intervention of the RIP. The short-term, resource scarce and low capacity actions are not enough to overturn the status quo. But creating region-wide institutions, with many inputs and feedback loops as well as above average efficiency, sets a good standard for the continuation of the initiative and a gradual re-evaluation and re-organisation of regional poles and capabilities.

Notes

1. We need to enter a caveat. These conclusions do not seem to apply to less favoured Mediterranean cities and regions given low mobility, low labour force participation, high entry barriers in peripheral regions etc.
2. Source: Part on Dytiki Ellada from Bezirtzoglou (2006).
3. Compared to other Greek regions, Western Greece has a high percentage of innovative services (58.4%), only second

to Sterea Ellas. The total number of innovative enterprises is 25.1% (close to the country average). In ratings of innovative transformation the score is below the country average (Logotech for GSRT 2003). In terms of gross value added (GVA) first ranks the tertiary sector (71.0% of the total), with commerce/retailing (22.4%) and hotels/restaurants (9.7%) being its largest contributors. The secondary sector contributes 16.7% GVA, with manufacturing (43.9%) and construction (41.5%) being its largest contributors. Finally, the primary sector contributes 12.3% of the total GVA.

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Subscription information, see inside back cover.

Typeset mainly in Times by Hilary Soper, Beech Tree Publishing, and printed by EntaPrint, Cranleigh, Surrey, UK.

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