

Some reflections on regional innovation policy

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Introduction

This paper consists of a number of short reflections associated with regional innovation policy making. Since my work concentrates on building bridges between evolutionary economics and economic geography, most reflections are, by and large, inspired by evolutionary thinking. When talking about regional policy, I limit my attention to regional innovation policy, which means any policy effort (by supra-national, national and regional policy makers) that is focused on enhancing the capability of local organizations to contribute to the innovation process. Putting it differently, regional innovation policy aims to stimulate the ability of regions to upgrade their economic base by creating new variety, in order to offset variety-destroying processes.

This paper on rethinking regional innovation policy is not meant to be exhaustive. It does not contain a proposal for a regional policy model either. It serves only one purpose: to provide some inputs for debating issues of regional innovation policy matters in our Expert Group meeting. It consists of several notes that I think need to be addressed and discussed when rethinking regional innovation policy.

Evolutionary policy making

Evolutionary economics provides us with two interesting questions every public policy maker is confronted with when designing and implementing policy.

- (1) evolutionary economists put a lot of effort in explaining why change is unlikely to occur, and why change is often incremental and gradual of nature. They make use of evolutionary concepts, such as bounded rationality, routines, trajectories, lock-in, rigid institutions, etc. to provide an explanation. This raises interesting questions concerning

policy implications: how should public policy cope with such inertial forces? In other words, how to stimulate real change in regions? Is it possible to escape from regional path dependency?

- (2) evolutionary economics also accounts for the importance of uncertain and unexpected outcomes in an economy. This implies it is hard to predict where and when regional change will take place. How about regional policy in such circumstances? Dalum et al. (1992) state that “implicit in evolutionary thinking there are hidden arguments in favour of non-intervention” (p. 298). There seems to be little room for effective policy making. Are policy makers largely constrained in stimulating new trajectories, or are they not? Do they have the power to steer regional development in new directions, and if so, how?

Regional innovation policy: some issues

When defining objectives/features of regional innovation policy and assessing the options of policy makers, we have to keep in mind these fundamental questions. Below, I will discuss a few policy issues, building on evolutionary insights.

Regional specificity

Evolutionary thinking claims there exists no optimal development model that can be applied universally to whatever local context. Since inter-regional variety is a persistent feature of economies, policy makers have to define their objectives and policy measures based on an analysis of the region-specific context. There are no blueprints policy makers can build on, and top-down models (such as standardized policy solutions common in neo-liberal and Keynesian thinking) are rejected. Instead, it is the local environment that determines to a large extent available options and probable outcomes of regional policy. It might be therefore recommendable to build on existing strengths/capabilities in regions to stimulate innovation. Development trajectories of regions differ. Innovation policy should take that as point of departure. That is, it should be based on a bottom-up strategy attuned to the needs and resources of regions. Adopting such a regional focus, it can build on potentials and tackling problems/bottlenecks that have been observed and defined in a region-specific context (responding to local problems, upgrading local environment, strengthening connectivity between organizations, etc).

It means that regional innovation policy based on R&D is too narrowly focused. This issue is reconfirmed by a study of the Spatial Planning Agency in the Netherlands. It shows that only a few regions in the Netherlands (most interestingly the areas outside the urban core areas of the Netherlands) would benefit from such R&D policy. If, however, other indicators than R&D intensity are used to define the innovation potential of regions, such as the role of ‘knowledge or creative workers’, or the importance of ‘high-tech and medium-tech activities’, a totally different spatial pattern emerges. That is, other regions would show up as the ones that have the highest potential for growth. This implies tailor-made policy strategies need to be developed, depending on what kind of innovation potentials need to be encouraged. Some areas would benefit from R&D-based policies, such as stimulating R&D-spending and industry-university collaboration networks, while other areas would gain from policies focused on attracting ‘creative workers’, through e.g. the upgrading of living environments.

For public policy makers, such a strategy would most likely decrease uncertainty. That is, policy makers are more likely to be successful as long as their actions are localized. This is because policy makers (like firms) have to confront fundamental uncertainty when promoting

change. As history tells, new development paths cannot be planned or foreseen. This is not to deny the important and active role governments can play in this respect (e.g. through defense expenditures), but they have not determined (at least not consciously) the place where these new growth paths took place.

This means that policy makers are not optimizers, but adapters: that is, they learn and adapt in the light of experience. Regional policy making is a process of ‘trial-and-error’: we have to accept that policy making may fail, especially policies that are innovative. Having said that, potential impacts of public policy may be the larger the more the policy objectives and features are embedded in the local environment. As such, policy makers are more inclined to embrace a policy that is focused on localized change: there is less risk involved, local support will be much stronger, and the guarantee of success may be higher.

Such a regional innovation policy framework would probably mean a more realistic policy approach. It recognizes that much more players are involved in regional development: the government exercises only a minor influence on decisions of local agents. It accounts for processes of co-evolution in regions, in which many players (of which the public sector is only one) take part and determine together (but in an unplanned manner) the trajectory of regional development. Such a policy view acknowledges the fact that spontaneous governance structures are of increasing importance, and will become so even more when adopting a region-specific policy approach (that is, tackling region-specific problems/bottlenecks together with the main stakeholders in the region). Such a policy framework is, of course, not without risks: there might occur problems of legitimacy. Moreover, situations of institutional lock-in may arise that leave no room for new basic variety to develop. Since the ideal circumstances for effective spontaneous governance structures at the regional level are specialized regions with a few strong players, it is likely to encourage policy making that tends to reflect the interests of the dominant players rather than it encourages strategic policy making based on new players and real economic renewal.

Evolutionary economists would most likely take a very critical look at benchmarking practices, despite the fact that they realize that policy makers have a strong drive to learn from other policy experiences (just like firms try to imitate successful routines from other firms), because of the fundamental uncertainty outlined earlier. Evolutionary economists would seriously question the transferability of good practice. The core problem of regional policy by imitation of best practices concerns the (often subtle) interdependencies that exist between the different components contributing to a successful model. This implies that imitation of one component that contributed to the success in one region may be detrimental for another region, because of the mismatch with existing structures and routines. Copying of best practices is almost impossible when it concerns region-specific assets that are ‘soft’, tacit and intangible (such as a knowledge and competence base, or an institutional setting), and which are the results of long histories in specific contexts.

This is not to deny that it is useful to compare the structure and performance of regions. For example, benchmarking studies provide considerable insights in the wide range of successful development paths available to regions. Policy makers, however, should be reluctant to imitate a successful (institutional) model (such as the Silicon Valley model) that has its origin in a different environment, without accounting for region-specific contexts. As explained before, there is no such thing as an optimal model in evolutionary thinking, and benchmarking studies are therefore unlikely to reveal one. In this respect, benchmarking may be useful as a learning tool for policy makers when it makes them aware of the dangers of simply copying best practices developed elsewhere. Thus, the historical trajectory of a region sets serious limits on copying an external model that owed its success to its deep roots in an alien

environment. This is not only true for the whole system, but also for transferring one successful part of an innovation system (such as joint research tradition) from one local context to another.

The foregoing suggests that policy makers can hardly learn from experiences outside their own regions. Each individual case should be considered almost unique. This implies we have to accept it is difficult to identify and specify preconditions for good and effective policy making. A way out of this unsatisfactory situation might be to define categories of regions that are useful to distinguish from a policy point of view.

Taking a region-specific perspective does not necessarily mean that policy should be exclusively focused at the local level (a similar line of reasoning is used when questioning the usefulness of cluster policies). For example, we have to be aware of the fact that the innovative capacity of local firms is often determined by non-local factors: networks may, for instance, contribute to the transfer of knowledge, but there is nothing inherently local about networks. Moreover, many elements in the institutional context that influence the innovative behaviour of local firms are determined at the national level (such as labour market policies, competition policy, national laws and regulations, etc.), or even beyond. Policy makers should therefore take these issues more into account when designing regional innovation policy.

Regional diversity

As noticed before, inertial forces (like routines, rigidities, lock-in) are often paramount in regional economies. For instance, a current regional trajectory acts not only as a filter for interpreting and assessing new opportunities. It also constrains adjustments local organizations and institutions need to implement to seize these opportunities. In order to avoid such a situation of lock-in, evolutionary economics puts a lot of emphasis on stimulating diversity and openness in local contexts. The evolutionary argument is that diversity and openness provide not only triggers (stimulating new ideas and creativity) but also resources (such as complementary capabilities) that may lead to new and unexpected initiatives and developments. This comes close to the Schumpeterian concept of innovation, meaning the recombination of existing pieces of knowledge ('Neue Kombinationen'). Regions may play an essential role in this process of learning and innovation.

Diversified urban agglomerations may have a large potential here. They host a large diversity of competences, they are well connected, and they offer an attractive living environment that retain and attract many 'knowledge workers'. Specialized regions with a large exposure to the outside world (openness) may also fulfill this requirement of a diversified environment, because extra-regional linkages bring new variety into the region. However, other complementary conditions are required in specialized regions to absorb and implement the external knowledge gained from extra-regional linkages, such as cognitive and institutional proximity. Nevertheless, specialized regions remain vulnerable for external shocks.

It proves essential to make a distinction between related and unrelated variety. Unrelated variety (i.e. a diversity of sectors in a region that do not complement each other) protects a region from an external shock (e.g. a fall in demand in one particular sector). This risk-spreading effect (or portfolio effect) of regional diversity dampens regional unemployment. Instead, related variety is expected to have a positive impact on regional development, because knowledge is likely to spill over between complementary sectors: their co-location may provide an extra source of knowledge spillovers and innovation, and thus, cause additional economic growth. A recent study of the Netherlands demonstrates indeed that related variety in a region tends to stimulate employment growth (suggesting positive

knowledge spillovers), while unrelated variety is a safeguard against job losses (suggesting portfolio arguments).

This result puts the debate on the usefulness of a ‘picking-the-winner’ policy (selecting *a priori* particular sectors) in a slightly different perspective. Advocates for such a ‘picking-the-winner’ policy argue that economic history shows that the most promising developments in an economy tend to cluster in a few (emerging) sectors. Policy should therefore explicitly aim at generating these new driving forces for long-term economic growth. Other economists take a critical stand toward such policy making, claiming it is a waste of public money. They argue that growth/change in an economy should be encouraged by generic rather than specific policy, because it often takes place in unexpected sectors and places. In other words, there is a serious risk of picking out the wrong activities. For example, technology fields that were selected as most promising in the Netherlands in the early 1980s appeared to be not the most successful ones in economic terms in the subsequent decades.

Policies based on supporting ‘related variety’ take a sort of intermediate position. On the one hand, the risk of selecting wrong activities is reduced when the region-specific context is taken as point of departure. This would mean that regional competences are used as building blocks for the purpose of broadening the economic base of the region. On the other hand, such policies acknowledge the fact that generic technologies (like ICT) may have a huge and pervasive impact on economic development, due to the many potential fields of application, such as the giving birth to many new sectors (creating new ‘related variety’). In other words, regional innovation policy based on related variety may combine the advantages of regional specialization in complementary sectors (inducing knowledge spillovers) with the advantages of regional diversity (dampening the risk of sector-specific shocks).

Institutional flexibility

Evolutionary theory acknowledges the importance of flexibility or adaptability of existing structures. This is an issue that policy making has not been very keen on in the past, but which might be considered essential in stimulating innovation in regional economies. On the one hand, evolutionary thinking claims that the local environment (consisting of organizations and institutions) needs to be transformed in order to benefit from new technologies. On the other hand, it is aware of the fact that organizations and institutions are unlikely to adapt spontaneously, due to the many inertial forces mentioned before. As a result, regional policy intervention should be oriented to transforming the local environment, that is, restructuring old organizations and institutions, creating new ones, and making new connections. This requires a pro-active attitude of regional policy makers: to identify new technological opportunities as soon as possible, and to anticipate the institutional changes required.

Maybe this is one of the key features of regional development: the institutional capacity of regions to deal with change. Regions accumulate different institutional settings over time. These institutions affect the capacity of regions to upgrade, transform or restructure specific institutions required for the development of new economic activities. What matters is whether institutions are flexible and responsive to change: this dynamic capability of institutions might affect the long-term competitiveness of regions to a considerable degree.