

Complex Innovation Policy Systems: Towards an Evaluation Mix

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Abstract

Innovation policy has undergone a fundamental evolution during recent years. This is related to the relatively newly-acknowledged centrality of innovation for territorial competitiveness, alongside recognition that innovation is in fact a systemic rather than linear process. In response policy rationales have evolved, from predominantly neoclassical approaches to evolutionary-systemic frameworks (Laranja *et al.*, 2008). This has resulted in a large increase in policy complexity, whereby in practice it is common for a mix of innovation policies to exist within the same region, based on different rationales, employing different instruments, and operating to different timescales.

The origins of the policy mix concept can be found in monetary policy as well as in environmental policy, and in recent years this concept has been translated to innovation policies (Flanagan *et al.*, 2010). This is particularly complex as the innovation policy mix can include several different policies with quite different underlying rationales and instruments (for example from framework policies to targeted policies, or from resource-based science and technology policies to networking policies). Consequently, there is no common understanding of how the policy mix concept should be understood and applied with regards innovation policies, which results in a certain 'fuzziness' in its use. Most analysis employing the policy mix concept has thus far focused at the national or European levels (Nauwelaers *et al.*, 2009; OECD, 2010). However regions are particularly interesting units in which policy mixes from different administrative levels in fact impact; what Uyarra & Flanagan (2009) refer to as 'policy spaces'. Taking the region as a unit of analysis, there is therefore a complex system of European, national, regional and sub-regional innovation policies that have impacts on any given region.

In this paper we define the concept of policy system as a combination of policies impacting on a given space from multiple administrative levels. This implies that policies are continually interacting with one another, generating outcomes as a result of these interactions that do not necessarily correspond neatly with the stated aims of individual policies, and are indeed

potentially greater than the sum of their individual impacts. This scenario significantly complicates the evaluation of innovation policies, if they are to accurately capture these interactive impacts. However there is not yet sufficient understanding of how policies interact in complex, multilevel policy systems, and less so of how their respective evaluation processes (should) interact. In particular, a more holistic evaluation is required to adapt to the reality of policy systems.

This paper makes a conceptual contribution by defining and specifying the concept of policy system, and from this basis arguing for the need for an appropriate, holistic policy evaluation mix. This is particularly important at regional level, where there are a multitude of innovation policies from different administrative levels that exhibit potential complementarities and contradictions in their impacts in the region. These ideas are then illustrated in the paper with application to a specific regional case. We specify the innovation policy system corresponding to the Basque Country region in Spain, identifying four distinct levels of policy. From a characterisation of this system we propose a series of considerations for evaluating policy systems, which sets out an agenda for future research.

Keywords: Innovation policy; policy mix; policy evaluation; multilevel governance.