In spite of recent advancements regarding regional innovation policy rationales, there are only few studies conducting policy analysis about the actual features of existing regional innovation policies. Policy analysis is important in order to identify the different patterns of actual policies, as well as the extent to which these follow the rationales and normative suggestions about context-based policy design and the multi-level governance logic. This paper examines how regional innovation policies have reacted to changes in their environment during recent years, taking the case of Spain, a European country severely hit by the economic crisis. The paper compares four Spanish regions (two peripheral and two industrialized), examining critically the extent to which these regional policies are constructed in a responsive way to the problems and needs of the regional innovation system, particularly referring to strategies for a sustained economic development during and beyond the economic crisis. The findings show a significant variation in innovation policy patterns. It shows that most cases suffer, with different intensities, of long-term continuation of regional institutional frameworks avoiding major policy changes, and policy-makers’ idealized expectations to replicate world-class environments in their region, rarely based on sound evidence and expert diagnose about the needs and problems to be addressed. This calls for a renewed view of the barriers that hinder the expansion of the context-based policy rationales, as there seems to be a persistent gap between normative policy rationales on the one hand, and the real life and praxis of regional innovation policies on the other.
On the effectiveness and the efficiency of public R&D support schemes – An empirical analysis for a German Federal State

Investments in R&D face serious problems that are caused by market failures (Arrow 1962). Against this backdrop, policy makers have adopted various support schemes on several levels: supra-national (esp. the EU), national, and regional. The overall goal is to tackle market failures to promote R&D activities in the respective region. However, from an economic theory perspective it remains questionable whether the multitude of such policies works out in the way they are intended. Thus, the great challenge is to identify those policies that exert a positive causal effect on the program participants. If there is no causal relationship between usage of a policy and outcomes, the scheme has nothing to add to the existing policy structures. Due to the fact that policy schemes are established on different regional levels it is not an easy task to disentangle actors receiving a treatment (or a combination of different treatments) and those who did not. The work by Czarnitzki and Lopes-Bento (2014) sheds some light on the effects of R&D and innovation support schemes on several outcomes (input [R&D/sales, innovation/sales] and output indicators [sold market novelties, patents]) on firm level in Germany. They exploit German survey data and make use of the differentiation between national and European R&D support schemes. Using propensity score matching they found that EU grants and national grants (and the combination of both support schemes) yield higher innovation input and output in comparison with the respective counterfactual. In this paper we present an extended approach to Czarnitzki and Lopes-Bento (2014). Beyond support schemes on European and the national level, we also consider regional innovation policies set up at the Federal States in Germany. Our analysis relies on firm-level data of the Free State of Saxony and contains 4,230 different actors (firms and research institutions) those received grants from at least one of the three sources under analysis (federal state, national and European support schemes) in the programming periods 2000-2006 and 2007-2013 and thus covers almost the full set of funds allocated to firms in this region. First results show that including regional policy information is of importance as 1,115 out of 4,230 recipients were funded by the federal state program exclusively. Based upon a matching of these data with administrative firm-level data from the Institute for Employment Research (IAB) we aim to identify a causal relationship between R&D and the involvement of firms in different innovation support schemes. The identification strategy bases on a combination of propensity score matching and difference-in-difference. In doing so, we correct for selection bias that might be caused by unobservable characteristics. As a result, we are able to provide valuable insights into the effects of R&D funding under substitutable policy schemes that allows us to identify which programs work best for which kind of applicants.
The science-industry linkages in Czechia: induced collaborative networks from the policy perspective

David Marek

The current policy discourse both at the level of the EU and at the level of member states clearly emphasize the role of innovation as one of key drivers of economic growth (e.g. EC 2010). Contemporary innovation processes are increasingly involving a large number of networked actors. Especially cross-fertilization between research organisations and firms has become significant for knowledge creation and exploitation (Levén et al. 2014). Individual actors are embedded in particular socio-economic contexts that are shaped by institutional conditions as well as by policy actors as emphasized in the innovation systems literature (e.g. Cooke et al. 2004; Lundvall 2007). Moreover, this literature also acknowledges fully the role of past evolutionary trajectories (Boschma 2013; Isaksen, Trippi 2014), which is of particular relevance in case of Czechia, where the innovation system has been developing under the conditions of profound institutional changes and sudden openness to global competition after the collapse of state-socialism (Blažek et al. 2013). While several valuable studies provided insights into evolution of innovation systems in transition economies (esp. Žížalová 2010; Blažek et al. 2011; Hofer et al. 2011; Radosevic, Yoruk 2013), according to our knowledge, no systematic attempt to analyse the nature of science-industry interaction has been undertaken so far. The concepts of differentiated knowledge bases enhances the understanding of the way how companies source knowledge (Asheim, Gertler 2005; Tödtling et al. 2013) by explaining the broader organisational and geographical implications, including patterns of cooperation and importance of proximity (Asheim et al. 2011). Some empirical studies pointed to the fact that access to knowledge can be highly selective which illustrates well the complexity of the knowledge networks (Giuliani, Bell 2005). A structuralist approach based on social network analysis allows to investigate the variety of knowledge sources to which each node is linked, and what are the underlying factors for that behaviour (Tödtling et al. 2013; Giuliani, Pietrobelli 2014). Moreover, the spatial aspects of networks are of particular interest for understanding the role of geography in knowledge sourcing. The unique database encompassing data on R&D joint projects co-financed by public resources in Czechia enables have allowed a detailed analysis of the nature of collaboration networks, revealing emerging patterns of academia-industry linkages and questioning the prepositions stemming from the knowledge-based approach. The study concludes that, in case of Czechia, factors other than geographical proximity seem to be more important in the environment with prevailing structural inconsistency between knowledge supply and demand. Furthermore, the topography of science-industry collaborative networks differs significantly according to predominant knowledge base.
In science, sleeping beauties are articles that go unnoticed for a long time and then, almost suddenly, attract a lot of attention. They were first named by Van Raan (2004), although the phenomenon of “delayed recognition” had been known to science for a long time (Barber, 1961; Stent, 1972). There can be several reasons for a paper to become a sleeping beauty (Li et al, 2014): for instance, publishing in the “wrong” journals (targeting an audience that is not interested), the reputation of the author, or being ahead of their time. A researcher can be ahead of her time if she publishes a theory inconsistent to the established theory (the case of Mendel) or if she researches in an early field (the case of string theory in Van Raan, 2004). This effect is reinforced when the research cannot be continued due to a delay in technological discovery. Indeed, Lachance & Larivière (2014) found that sleeping beauties behave differently in technical sciences than in arts and social sciences. Nonetheless, so far the study of sleeping beauties has been restricted to science. This study analyzes the case of sleeping beauties in technology. Patent data offers a unique case of study since the knowledge recorded in patents is at the frontier of technological development. If important patents are neglected, there may be scope for policy action. Two main effects can cause a patent becoming a sleeping beauty: a technology delay and a social effect. In order to determine whether the existence of sleeping beauties in technology is an inevitable consequence of the nature of technology or it is a social construct to be addressed, we propose two hypotheses. The first possibility is that sleeping beauties are cases of an unexpected new application of an already known result. We test this hypothesis by comparing the technological classes of the sleeping beauty and the citing patents over time. A higher frequency of sleeping beauties in complex rather than in discrete technologies could point to technology delay as a main reason for their existence. The second possibility is that a sleeping beauty is not recognized for a reputation effect of the author. We study this hypothesis by analyzing the characteristics of the authors of sleeping beauties (country, number of patents published, position in the network of inventors, etc). Barber B 1961. Resistance by Scientists to Scientific Discovery: This source of resistance has yet to be given the scrutiny accorded religious and ideological sources. Science 134(3479) 596–602. Lachance C & Larivière V 2014. On the citation lifecycle of papers with delayed recognition. Journal of Informetrics 8(4) 863–872. Li S Yu G Zhang X & Zhang W 2014. Identifying princes of Sleeping Beauty - knowledge mapping in discovering princes (pp. 912–918). IEEE. Stent GS 1972. Prematurity and uniqueness in scientific discovery. Scientific American 227(6) 84–93. Van Raan AFJ 2004. Sleeping Beauties in science. Scientometrics 59(3) 467–472.