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Policy options for lagging regions—effects, new approaches and emerging challenges: introduction to the special issue

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1 Introduction: policies for lagging regions

Regional disparities have recently received increasing attention in public and scientific debates because they are thought to explain at least partly the phenomenon of rising populism (Rodríguez-Pose 2018). These debates have also sparked renewed interest in (placed-based) policies that aim at promoting growth in lagging regions and reducing regional disparities. The European Union and many highly developed countries spend a significant share of their budget on policies that are supposed to foster development in structurally weak areas. Various approaches and measures have been applied in this context. However, robust evidence on the effects of these policies is still scarce and findings are ambiguous (Brachert et al. 2019; Rodríguez-Pose 2018).

Persistent regional disparities in many countries and regional policy measures that seem to produce mixed results so far suggest a revision of conventional development strategies. Moreover, new challenges for regional policy emerge as labour supply declines due to demographic change in many lagging regions and the EU Commission proposes to modernize regional policy for the 2021–2027 programming period. The need to rethink development strategies for structurally weak areas calls for a comprehensive knowledge base on the effects of different policy measures. Theory and robust empirical evidence on the effectiveness of various instruments should inform the design of new policies. This special issue aims to contribute to the

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required knowledge base. The papers in this issue consider emerging regional policy challenges and discuss new policy options and strategies such as smart specialization. They also provide evidence on the effects of novel policies that are applied to foster development in lagging regions.

There is a long-standing scientific debate about the impact of regional policies on disparities among European regions. Evidence provided by most recent studies points to significant effects of EU cohesion policy on economic development of lagging regions. However, the effectiveness of place-based measures and innovation policies seems to differ across regions eligible for assistance (Becker et al. 2013; Di Caro and Fratesi 2021). As a consequence, it is not clear whether these policies are factors of convergence or divergence (Izsak and Radošević 2017). The economic structure of lagging regions might be an important mediating factor. Economically weak areas are often dominated by small and medium-sized enterprises (SMEs), which frequently lack an own R&D department and the absorptive capacity to benefit from policy measures. The common toolkit for policy support might therefore be less effective in lagging regions compared to high-performing areas (Alecke et al. 2012). However, our understanding of these differences is still rather scattered and further studies are needed.

Several papers in this issue take up the topic of place-dependent policy effects. By this, they contribute to our understanding, although the interdependencies are such multifaceted that still a lot of research needs to be done. The paper by Hassink and Kiese (2021) uses a case study to show that the policy of smart specialization meets various obstacles especially in old industrial districts. While the literature has so far shown that policy effects are different for more or less prosperous regions, the discussion by Hassink and Kiese could be interpreted as a hint that less prosperous regions should be further classified.

Heterogeneous effects are also likely in other policy fields that tend to affect regional disparities such as innovation policy or fiscal equalization schemes, but empirical evidence on this issue is still scarce (Brenner and Pudelko 2019; Wardenburg and Brenner 2020). Therefore, further investigations of how the effects of policies differ across regions depending on the factors targeted by the policy measures might provide important information for the design of these measures. This is done in the paper by Furková (2021), who analyses heterogeneous effects of R&D inputs on innovation performance of lagging and more prosperous regions and also find strong differences. The paper by Ghorbani and Brenner (2021) does not examine the effects of policies, but analyses the successful development in rural regions that had been lagging before. Their results also point to regional differences that lead to different potential developments and, hence, different policy options.

While an improved understanding of the place-dependence of policy effects is one building block, the development of improved or new policy approaches is the other necessity. Two papers in this special issue contribute to this. Some of the identified problems of lagging regions are due to the absence of large firms, a factor pointing to a need for more SME-focused policy approaches. Alecke et al. (2021) describe such a new policy, which focuses on a development stage of the innovation process that is particularly difficult for SMEs: the transition from a scientific invention to its successful commercial exploitation.

Moreover, human capital is a key factor for economic development. An extensive literature points to significant contributions of skilled workers to regional economic growth by increasing the local knowledge base and fostering innovation (e.g., Faggian and McCann 2008; Gennaioli et al. 2013). Labour shortage is thus an increasingly important bottleneck for economic development in lagging regions in Europe as these areas are often confronted with a declining work force due to demographic change and net outmigration. Demographic change and in particular the development of the regional work force might therefore become significant mediating factors that will likely influence the effectiveness of regional policy measures in the future. Recruitment problems of firms and skill mismatch are expected to be particularly pronounced in small and remote rural regions. Especially for young high-skilled workers peripheral areas seem to be less attractive compared to large urban labour markets (Buenstorf et al. 2018). Nyström (2021) studies the perception of recruitment problems in rural and urban region and the policies that might help to reduce these problems.

2 The articles in this special issue

The paper by Robert Hassink and Matthias Kiese (2021) provides a discussion of the restructuring problems of (former) old industrial regions and especially critically reflects on the impact that the smart specialization policy can have in such regions. The authors argue that smart specialization is a policy that works more successfully in structurally strong regions, while it has problems to generate the intended effects in structurally weak regions and especially in old industrial regions, such as the Ruhr area. As reasons they identify the existing lock-ins on the various levels of decision making, which make these regions less entrepreneurial, in general, and the occurrence of a transformative entrepreneurial discovery based on the existing structure quite unlikely, in particular. To support this general assessment, the authors examine the actions taken by governments on various levels in the Ruhr area and contrast these with data on the dynamics of specialization there. They identify three problems that cause the so far unsuccessful implementation of smart specialization in the Ruhr area: 1) the existence of different government levels with different strategies, 2) the fact that most of the support went towards already existing industries/activities and 3) the difficulty to mobilize new directions.

The paper by Andrea Furková (2021) investigates heterogeneous effects of innovation inputs and spatial spillovers on innovation performance of European regions. The study makes use of detailed information on R&D and innovation for 220 European regions provided in the Regional Innovation Scoreboard 2019. The author estimates a regional knowledge production function applying a new spatial econometric approach, a mixed geographically weighted regression that also allows for spatial knowledge spillovers. Thus, the analysis considers spatial heterogeneity and spatial autocorrelation simultaneously. The regression results indicate that there are, in fact, important spatial spillovers effects and a significant spatial differentiation of model parameters. In particular, there are heterogeneous effects of R&D expenditure on regional patent applications. The estimates point to stronger effects of R&D

expenditure in more prosperous European regions compared to lagging regions eligible for the highest support from the EU funds. This implies that primarily the more developed EU regions may benefit from policies, which aim at increasing regional R&D expenditure. Corresponding policy measures might therefore counteract the aim of reducing regional disparities.

The contribution by Björn Alecke et al. (2021) investigates the effects of a regional policy shift introduced by the federal state government of Saxony in 2007 on innovation performance of SMEs. The importance of the novel innovation policy lies in the implementation of close-to-the-market innovation support making use of the EU's *de minimis* principle. The policy aims at building a bridge over the so-called "valley of death" for innovative SMEs, i.e. the difficult transition from a promising invention to its successful commercial exploitation, via supporting the further development and market launch of new products. The authors apply a regional benchmarking approach and micro data from the Establishment Panel of the Institute for Employment Research to compare Saxon firms with similar firms in other East German regions. The results of difference-in-difference regressions indicate that the share of micro and small firms that introduced a product innovation or product improvement to the market has significantly increased in Saxony compared to other East German regions after the introduction of the policy. The findings suggest that this new policy approach with its focus on SMEs and market launch of new products might become a blueprint for EU innovation policy in lagging regions.

The study by Kristina Nyström (2021) considers the difficulty of recruiting scarce competencies to rural peripheral regions. The author discusses different policy measures that aim at facilitating the recruitment to small rural labor markets and might help to reduce skill mismatch in these areas. Information from a survey of municipality officials in Sweden is used to analyze whether the perception of recruitment problems differs significantly between rural and non-rural regions. The findings of the analysis indicate that officials in both rural and non-rural regions experience difficulties related to recruitment, which are perceived as obstacles to economic growth. However, it seems that there are important differences within the group of rural regions. Respondents in rural areas that are in close proximity to urban regions seem to face less problems compared to their counterparts in very remote rural areas. As regards policies that are supposed to reduce recruitment problems there are no important differences between urban and rural regions: providing incentives for writing off student debt and supporting the job search of accompanying persons are primarily seen as the most promising approaches. Altogether, officials in rural regions appear to be more inclined to implement corresponding policies.

The contribution by Masoumeh Ghorbani and Thomas Brenner (2021) studies the situation in Iran, a country rarely focused on in the respective literature. While the basic aim of this paper is similar to those of other papers in the special issue—analyzing policy options for structurally weak regions—the approach is different. The paper examines 140 cases of rural areas in Iran that successfully developed a specialization with a significant economic activity. Existing detailed reports are used to analyze the prerequisites and initial developments in those regions. The findings show that there are two fundamentally different developments in successful regions. In most cases, the development is based on some endowments within

the region, either related to tourism, based on local resources or based on specific production skills developed in the region. Regions with such preconditions seem to be adequate places to apply a smart specialization strategy. In the other cases, one successful initial firm provided the role model for others, with the founders being in most cases people returning to the region after gathering experience or education outside the region. Hence, policy measures that encourage people to return to their lagging home region are the second policy option elaborated in the paper.

3 Concluding remarks

It is very likely that regional disparities and policies for lagging regions will remain an important research topic in the near future although a large body of research has emerged by now that investigates the effects of regional policy (e.g. Becker et al. 2012; v. Ehrlich and Seidel 2018). However, there is still a lack of detailed empirical evidence on the effectiveness of different policies.

One reason for the lack of understanding is the complex interaction between policy measures and regional circumstances. Using place-based policies is a reaction to the relevance of regional preconditions. From a scientific perspective, it requires either to distinguish types of regions in statistical effect analyses or to do in-depth case studies and bring the findings of many such studies together. Three papers in this issue (Hassink and Kiese 2021; Furková 2021; Ghorbani and Brenner 2021) contribute to this as well as an increasing number of papers in the literature. However, regions and their preconditions differ strongly and many more studies of this kind are needed to fill all the gaps in our understanding.

Another reason is the wide range of different policy approaches applied in different countries and regions. Different measures lead to different impacts and different interdependences exist with the regional preconditions (as shown in Wardenburg and Brenner 2020). This increases the difficulty to obtain general insights. Moreover, novel policies are constantly introduced. Due to changes in the economy and in the problems that regions, and especially lagging regions, face (e.g., the increasing skill shortage), new measures have to be developed continuously. Two papers in this issue (Alecke et al. 2021; Nyström 2021) contribute to this topic, but more research is required. Due to the changing problems and the complex interaction between measures and preconditions policy makers are in need of more detailed information on how to design new policies.

Robust evidence on the effectiveness of different policy measures should inform the design of regional policy. However, high quality evaluations of the effects of policies that can provide necessary information are still rather scarce because poor data availability often prevents the implementation of comprehensive and sophisticated analyses. Gibbons et al. (2014) note that the most common data problems arise from the lack of appropriate information and difficult access to data sets. When introducing new policy measures, policy makers therefore need to pay more attention to the collection of data that enables a thorough analysis of policy effects. Moreover, policy makers need to ensure access of researchers to relevant policy-specific datasets.

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