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Contextualizing the role of universities to regional development: introduction to the special issue

Paul Benneworth ^a and Rune Dahl Fitjar ^b

ABSTRACT

Universities are increasingly expected to provide contributions to regional innovation and economic development processes. Despite much work on how universities can contribute to regional growth processes, there is much less consideration about why universities might choose to engage in regional development. Even though they may receive public funding, universities have no specific duty to engage, and together with recent pressures to internationalize, university regional engagement activities face tensions from these delocalization pressures. This special issue explores four ways in which universities negotiate these tensions in ensuring that their globally focused knowledge creation activities supports local innovation. First, universities can contribute to labour market upskilling, but where there are substantive problems associated with the absorption of those graduates on both the supply and demand sides, there be mismatch and even graduate underemployment. Second, world-class academics may contribute to host regions' innovation networks, but this depends on local industries' research and development geography, on individual academics' motivations as well as highly skilled researchers' willingness to stay in one region. Third, universities can steer and support academics towards regional engagement, but they risk engagement activities being exclusively oriented towards what high-level strategic actors believe to be important. Finally, universities can raise the quality of regional innovation strategy processes and create collective innovation assets, but are reliant upon grass-roots-change agents that might not necessarily be visible to strategic managers. A better understanding of these four tensions is necessary to deliver practical improvements to university contributions to smart, social and sustainable regional development.

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INTRODUCTION

In the knowledge economy, universities are increasingly expected to provide vital contributions to regional innovation and economic development processes (Sánchez-Barrioluengo, 2014). The

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Organisation for Economic Co-operation and Development (OECD) recommends that regional innovation strategies systematically incorporate universities to help drive regional growth (OECD, 2007). In the European Union, university strategic engagement in regional development processes has effectively been made compulsory by requiring all regions to have a 'smart specialisation strategy' in whose drafting universities are actively engaged (Pugh, 2014). These expectations for the universities' role build on long-standing research showing that there are manifold ways in which universities can potentially contribute to knowledge-driven research processes (Kempton, 2015).

Despite much work on how universities can contribute to regional growth processes, there is much less work that considers *why* universities might choose to engage in regional development. Even though they may receive public funding, universities are not regional development agencies. Regional engagement (and societal impact more broadly) is one of several missions to which universities are expected to contribute, alongside teaching and research. Universities have recently faced intense funder pressure to prioritize improving various aspects of their operations, including teaching quality, internationalization and research excellence (Benneworth, Pinheiro, & Karlsen, 2017). The challenge of prioritizing all these aspects simultaneously can result in 'mission overload' (De Boer, Enders, & Leisyte, 2007).

In particular, the tensions and contradictions between these excellence and internationalization pressures and the expectations for regional engagement require further analysis. For instance, introducing English as a standard teaching and publication language is important for promoting research excellence, but often constitutes a real barrier for engaging local partners. Staff career mobility between universities reduces engaged academics' opportunities to create long-term connections to local partners and weave their knowledge into society. As Van den Broek, Rutten, and Benneworth (2019) show, even differences between national education accreditation systems inhibit universities collaborating in cross-border regions. This special issue explores four ways in which universities negotiate these tensions in ensuring that their globally focused knowledge creation activities supports local innovation.

First, universities *can* contribute to labour market upskilling, supporting new industries' emergence (Marques, 2017). However, in peripheral regions, there are substantive problems associated with the absorption of those graduates on both the supply and demand sides. This can lead to mismatch and even graduate underemployment (Evers, 2019, in this issue; Germain-Alamartine, 2019, in this issue).

Second, world-class academics may contribute to regional innovation networks in their host regions (Korotka, 2015). This nevertheless depends on the geography of research and development (R&D) in partner industries, on the motivations of individual academics as well as the willingness of highly skilled researchers to stay in one region for a long period of time (Alpaydin, 2019, in this issue; Atta-Owusu, 2019, in this issue; Ahoba-Sam, 2019, in this issue).

Third, universities can create structures to steer and support academics towards regional engagement (Miller, 2014). However, this risks that engagement activities are oriented towards what high-level strategic actors believe to be important, rather than reflecting real knowledge connections between universities and regional partners (Salomaa, 2019, in this issue; Cinar, 2019, in this issue).

Finally, universities can raise the regional innovation strategy processes' quality by helping to create collective innovation assets (Anderton, 2016). However, success in this regard depends heavily on particular change agents in those universities, which are not necessarily visible to strategic leaders (Nieth, 2019, in this issue; Fonseca, 2019, in this issue; Radinger-Peer, 2019, in this issue).

CONTRIBUTIONS MADE BY HIGHLY SKILLED GRADUATES

Evers (2019, in this issue) examines how establishing universities affects local labour markets. He explores how thin graduate labour markets in peripheral regions hinder corporate skilled-labour

access, thereby undermining the development of knowledge-intensive industries. The paper uses Danish register data to show how the 1974 establishment of Aalborg University (AAU) contributed to upgrading the regional labour market. Starting from a low level, graduate employment and wage growth since then kept pace with developments in larger urban regions. While the AAU's first graduate cohorts had an extremely high regional retention rate, that rate subsequently stabilized at two-thirds of local students and one-third of incoming students. Overall, this represents a five-fold increase in the share of university graduates in Aalborg's regional labour force (1982–2006). Hence, the study shows that it is possible for regional labour market graduate demand to keep pace with the increasing supply created by the establishment of a university.

Germain-Alamartine (2019, in this issue) explores the regional employment of a subset of particularly high-skilled candidates: doctoral graduates in Catalonia. Limited academic job availability sees increasing numbers of doctoral graduates entering non-academic labour markets, although little is understood of the demand for doctoral graduates in university regions' labour markets. The study uses a survey of Spanish doctoral graduates from Catalan universities who completed their degrees in the period 2011–13. More than 80% of graduates remained in Catalonia post-completion, reflecting the regional labour market's relevance for their job opportunities. Although 94% of graduates were employed in 2017, only 32% of those remaining in Catalonia had a doctoral-level employment functioning, highlighting the mismatch between their education level and their jobs' skill requirements. Those skill and wage gaps reflect both a lack of demand for doctoral-level skills regionally and the fact that doctoral candidates had not developed transferable skills.

ACADEMICS SPANNING REGIONAL AND GLOBAL KNOWLEDGE NETWORKS

Alpaydın (2019, in this issue) explores the role of geographical proximity to universities in influencing the intensity of knowledge flows in university–industry collaborations (UICs). He presents the case of a single multinational enterprise (MNE), Equinor, and its patterns of co-publication with university partners. Alpaydın reveals that Norwegian universities are the most significant partners for all Equinor sites, but the only location that cooperates with its local university is Trondheim, close to the Norwegian University of Science and Technology (NTNU). Alpaydın challenges the conventional wisdom that MNEs' external R&D sites are accessing national knowledge – 40% of non-Norwegian-based collaborations are with partners outside the site's local region. This suggests a not widely understood strategic dimension to MNEs' knowledge processes not readily reducible to locations reflecting access to local knowledge pools. Understanding university industrial collaborations' patterns should therefore better account for these corporate strategic processes, not simply assuming that geographical proximity determines these collaborations.

Atta-Owusu (2019, in this issue) explores how academics' international networks facilitate access to global knowledge flows supporting innovation. The study focuses on 'bridging academics' who link global and regional knowledge communities through their networking and collaboration activities (Trippel, 2013). The case explores academics at the University of Twente with extensive academic and non-academic networks: these academics' academic collaboration and scientific competence enhanced their visibility and attractiveness for non-academic partners. These non-academic partnerships subsequently reinforced and provided resources for scientific research. In many cases, the academics also initiate collaboration with industrial partners. The type of partner approach reflected those academics' research orientation and the stage of their research. These collaborations contribute to knowledge flows through two main mechanisms: first, permanent or temporary mobility of researchers/students bring in human capital, but also build networks between sending and receiving regions. Second, collaboration projects allowed

academics to partner with local stakeholders in solving societal problems. Through these mechanisms, bridging academics fill an important role in enabling peripheral regions to tap into to global knowledge flows.

Ahoba-Sam (2019, in this issue) explores why engaged academics – individuals responsible for undertaking external knowledge exchange – engage locally. The paper analyzes interviews at the University of Stavanger to develop a typology for the reasons why academics are motivated to engage, considering motivation a necessary precursor to engagement (Lam, 2010). Various kinds of personal motivation function through engaged academics' careers to set academics that find regional engagement rewarding on career pathways with more engagement. The regional value of that engagement was that regional collaborations were often more applied and interactive, whilst remote collaborations were more rigidly structured around formally designated research projects. Regional collocation allowed genuine collaboration around ongoing problem-solving, binding academics into regional collaborations and encouraging subsequent future collaborations. Although proximity matters, it is the cognitive and epistemic proximity developed between universities and industrial partners that augments territorial innovation capacity.

UNIVERSITY STRUCTURES FOR STEERING ACADEMIC ENGAGEMENT

Salomaa (2019, in this issue) switches focus away from the 'university' as individual actors to administrative structures that coordinate activities and acquire systemic properties that represent regional development assets. She conceptualizes university engagement structures using Vorley and Nelles's (2012) 'entrepreneurial architectures' concept, asking how far regional location affects entrepreneurial architectures. Salomaa presents a case study of the UK's University of Lincoln, which shifted location from an urban (Hull) to a rural, weakly innovative location (Lincoln). The weak regional innovation environment affected the university's institutional architecture; limited external demand for knowledge exchange activities led to engagement depending on projects and subsidies rather than emerging from collaborative, interactive problem-solving building up cognitive and organizational proximity. Salomaa highlights the effects of local contexts on shaping university entrepreneurial architectures, arguing for context-specific diversity of engagement mechanisms. She makes a compelling case for developing more nuanced understandings of context-specific support mechanisms that allow university engagement activities to strengthen regional environments.

Cinar (2019, in this issue) further elaborates on this by exploring potential mismatches between university strategy, academics' collaborations and regional needs. His starting point is the apparent absence of large-scale university commitments to promoting social innovation despite universities regularly committing to grand societal challenges that would necessitate social as well as technological innovation. The University of Twente case study foregrounds the tensions between organic collaboration between academics and regional partners around social innovation, and an institutional strategy primarily oriented towards technological innovation. He traces the ways in which social innovation activities mismatched with how the university legitimated regional innovation activities as institutionally important: in effect regional social innovation was made 'institutionally invisible'. Cinar highlights that effective regional engagement requires strategy processes to do more than simply signal ambitions. They should provide internal legitimation of those activities encouraging organic collaborations, binding university knowledge into the region whilst simultaneously improving university regional contributions.

UNIVERSITIES AS STRATEGIC ACTORS IN POLICY PROCESSES

Nieth (2019, in this issue) examines coalitions of government, industry and higher education institutions collaborating to develop and implement regional development policy. Although

such coalitions should work together to deliver long-term regional change, actors often end up working in their own short-term interests (Sotarauta, 2004). Nieth examines why such strategic suboptimality occurred in regional innovation coalitions in Twente, identifying three main drivers. First, the stakeholders' interests were misaligned, often prioritizing institutional interests within their own system whilst failing to communicate these to the other stakeholders. Second, there were no intermediary organizations to bridge the gaps between the different stakeholders. Third, the collaboration depended on a small set of individuals who operated simultaneously in multiple forums, leaving them vulnerable to these individuals departing. However, these drivers also served as excuses for partners' unwillingness to engage in genuine partnership and setting aside short-term interests, developing connections to the partners and building mutual understanding. Hence, she concludes that regions need change agents and institutional entrepreneurs to develop coalitions capable of leading smart specialization processes.

Fonseca (2019, in this issue) examines the university's role in the regional innovation policy-making process, using a case study from Aveiro in Portugal. In less-developed regions, institution-building and governance activities may be more important tasks for the university than R&D or university–industry interaction. University collaboration with regional policy-makers can trigger learning processes and support institution-building (Aranguren, Larrea, & Wilson, 2009; Gunasekara, 2006). Aveiro's university developed a partnership with the intermunicipal agency based on two territorial development programmes from 2007 to 2020. This reflected the university's explicitly regional mission, the collaborative policy environment and the agency of key individuals motivated to develop a partnership. Collaboration encountered hurdles around contrasting institutional logics, excluding other partners, and fragmented responsibility. Positive outcomes relied on actors' shared goals and long-term commitment, along with effective process management by senior managers in both institutions.

Radinger-Peer (2019, in this issue) contends that more understanding is needed of how university strategic capacity to support organic collaborations builds up over time through regional deliberative forums between universities and other partners. Universities' involvement in these regional deliberation activities reflect universities' own institutional histories, their regional context, and the wider higher education systems within which they operate. She operationalizes those three factors via a case study using a Q-sorting method to identify the most decisive factors for shaping effective regional policy learning by universities. A case study of Kaiserslautern in Germany identifies two contrasting narratives of regional engagement present in the three cases: first, as a collective economic activity to create commercial benefits responding to market needs; and second, by individuals engaged in often less formal, non-transactional engagement with wider social and cultural purposes. The former is more visible to strategic policy-makers and is often associated with policy interventions, whilst the latter often remains at the individual level not influencing university strategies. This nuances Cinar's (2019, in this issue) idea of mismatch, highlighting the potential for regional partners in collective learning forums to signal those organic activities they find valuable as a way of assisting university leaders to better support and complement engagement activities.

CONCLUSIONS

The 10 papers making up this special issue highlight the wide variety of ways in which universities can contribute to regional development: through graduate employment, university–industry collaboration, contributions to policy-making and impacts on the regional innovation system. The various mechanisms highlighted underline that regional engagement should not be seen as an isolated mission, but as being intertwined with the research and teaching activities of the university. Even internationalization is not necessarily at odds with regional engagement, as

academics' international networks can potentially provide regional actors with access to global knowledge flows.

However, all papers also highlight tensions that limit the regional engagement of universities and may undermine universities' rationale to engage regionally. While universities can potentially contribute to skill upgrading in the local labour force, the demand for graduates does not always keep up and may result in mismatches between graduates' skills and the requirements of their jobs. The growing supply of doctoral candidates may create particular challenges as the labour markets surrounding most universities have little experience hiring doctoral graduates. Likewise, although engaged and bridging academics can play important roles in reaching out to local stakeholders to create university–industry collaboration, this role is often highly reliant on individuals with particular motivations to engage. The same goes for the engagement of universities in regional policy-making, which often also depends heavily on engaged individuals at the university.

And it is precisely the different interests of universities, firms and regional governments, and the different institutional logics in which the three types of actors find themselves, that create challenges which universities must manage in reaching out to firms as well as policy-makers. Such challenges may discourage academics from regional engagement activities, and there is a need to embed individual engagement within broader systemic and institutional architectures. Yet, the relationship between local context, university strategy and specific actions is often difficult for universities to negotiate.

This special issue provides a variety of insights into how universities – from both the management side and the perspective of individual academics – and regional stakeholders can negotiate these tensions, drawing on experiences from universities in a variety of regional contexts around Europe. However, most importantly, it highlights the fact that that university–regional engagement is not something that should be taken for granted, whether from a scientific perspective in conceptualizing regional innovation processes or from a policy process in assuming that triple helix partnerships or smart specialization processes are easily realized. It is here that we see the most promising future research agendas, in further deepening our understanding of these barriers and tensions. This is necessary to articulate more systematically the conditions under which universities can most effectively be harnessed in practical ways to deliver smart, social and sustainable regional development.

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