
National higher education policies challenging universities' regional engagement activities

Los responsables de formular las políticas reconocen la importancia de las universidades para promover el desarrollo regional, la resiliencia y la innovación. Las políticas nacionales sobre enseñanza superior encuadran las universidades como impulsoras del desarrollo económico regional y nacional basado en la innovación. No obstante, y a pesar de estas iniciativas, las universidades se enfrentan al reto de las políticas nacionales de enseñanza superior, que socavan sus actividades de desarrollo regional. Las políticas nacionales sobre enseñanza e investigación tienen el potencial de tener prioridad y obstaculizar la realización de la tercera misión de la universidad. En este artículo presentamos una visión general de las formas en que las políticas nacionales pueden llegar a limitar el alcance de la participación de las universidades en el desarrollo regional. En este sentido, identificamos tres tipos de políticas: políticas de enseñanza, de investigación y administrativas. Con el fin de proporcionar una comprensión empírica, analizamos las tensiones entre la lógica de las políticas y los roles en el ámbito regional de las universidades en un único sistema de enseñanza superior, para lo cual presentamos el caso práctico de Noruega donde las universidades son percibidas como actores importantes para la cohesión de las comunidades en las zonas rurales más remotas. Concluimos con una serie de propuestas sobre los efectos de las políticas nacionales en la participación regional, identificando las áreas en las que se hace imprescindible seguir investigando.

Politikak formulatzeko ardua dutenek garapena, erresilientzia eta berrikuntza bultzatzeko unibertsitateek daukaten garrantzia aitortzen dute. Goi mailako irakaskuntzari buruzko politika nazionalak berrikuntzan oinarritutako garapen ekonomikoaren –eskualdekoa edo maila nazionalakoa– bultzatzaile gisa kokatzen dituzte unibertsitateak. Hala ere, eta ekimen horiek aurrera eraman arren, unibertsitateek beraien eskualde garapen ekintzak ahultzen dituzten goi-mailako irakaskuntza arloko politika nazionalen erronkari aurre egin behar diote. Goi mailako irakaskuntzari eta ikerketari buruzko politika nazionalak lehenatasuna izateko eta unibertsitatearen hirugarren xedearen burutzea oztopatzeko ahalmena dute. Artikulu honetan eskualde garapenean unibertsitateek duten parte-hartzea mugatzeko politika nazionalak izan ditzaketen modu desberdinen ikuspegi orokorra aurkezten dugu. Horrela, hiru politika mota identifikatzen ditugu: irakaskuntza politikak, ikerketa politikak eta politika administratiboak. Empirikoki ondo ulertarazteko helburuarekin, jarraian politiken logika eta goi-mailako irakaskuntza sistema bakar batean eskualde mailako unibertsitateen rolen artean diren tentsioak aztertzen ditugu. Norvegiako kasu praktikoa aurkezten dugu. Bertan, unibertsitateak nekazaritza zonalde urrunetako komunitateen kohesiorako agente garrantzitsutzat jotzen dira. Txostenaren bukaeran eskualde-mailako parte-hartzean politika nazionalak dituzten ondorioei buruzko proposamen batzuk ematen dira. Horrez gain, ikertzen jarraitu beharreko eremu batzuk identifikatzen dira.

Policy-makers increasingly acknowledge universities as important actors to foster regional development, resilience and innovation. National higher education policies frame universities as drivers of innovation-based national and regional economic development and innovation. Nevertheless, despite these efforts, universities face the challenge of national higher education policies undermining their regional development activities. National policies in teaching and research have the potential to take precedence and crowd out the delivery of the third mission. In this paper, we present an overview of the ways in which national policies can have the potential of limiting the scope of universities to engage in regional development. We identify three kinds of policies in this respect: teaching policies, research policies and administrative policies. To provide empirical insights, we subsequently explore the tensions between the policy logics and the universities' regional roles in a single higher education system. The case study is Norway where universities are perceived as important actors to hold communities together in more remote rural areas. We conclude our paper by a series of propositions for the effects of national policies on regional engagement and to identify areas where further research is needed.

Paul Benneworth
University of Twente

Nadine Zeeman
Technical University Dortmund

Rómulo Pinheiro
University of Agder

James Karlsen
University of Agder

Table of contents

1. Introduction
2. Third mission: regional engagement, mission overload and crowding out
3. Crowding out and higher education policies
4. Tensions between policy logics and universities' regional roles: Norway
5. Discussion and reflections on effective third mission policy

Bibliographic references

Palabras clave: actividades de implicación, resiliencia, exceso de propósitos, Noruega, desarrollo regional, tercera misión, universidades.

Keywords: Engagement activities, resilience, mission overload, Norway, regional development, third mission, universities.

JEL codes: I23, O18, O31

Fecha de Recepción: 16/03/2017 / Fecha de Aceptación: 01/06/2017

1. INTRODUCTION

The last two decades have seen a substantial expansion of the ways universities engage with industry and society to stimulate economic development and drive societal impact. Universities are perceived as important actors in helping to address and to counter the challenges that local communities and societies at large are facing. Their teaching, research and knowledge transfer actions contribute to people who are highly educated, who are highly skilled and have new and/or innovative ideas (B-HERT, 2006, p. 3; Benneworth, De Boer & Jongbloed, 2015, p. 281; Pinheiro, Langa & Pausits, 2015, p. 227, 234; Veugelers & Del Rey, 2014, p. 10). Both policy-makers and universities become increasingly interested in understanding how higher education supports regional development and innovation. Much emphasis is

placed on university knowledge transfer activities (inter alia Perkmann *et al.*, 2013), and particularly the link with societal development, something often referred to as the ‘third mission’ (Laredo, 2007).

In this paper we focus on one particular dimension of the third mission, and one often understood as being particularly important, the impact that universities have on their surrounding regions (OECD, 2007; Arbo & Benneworth, 2007). This is something that within Europe has been promoted by the European Commission’s modernisation agenda, where policy-makers acknowledged the importance of opening up universities to a wider group of societal stakeholders. This agenda foresees an important role for universities in terms of regional development and collaboration with regional stakeholders (European Commission, 2013, p. 1; Pausits, 2015; Jaeger & Kopper, 2013, p. 1). This increasing policy attention is also visible in national higher education policies that have framed universities as drivers of innovation-based national and regional economic development and innovation. These policies have often focus on collaborative activities, whether with regional partners or indeed collaborations between universities (Charles, 2006, p. 122; Martin, 2012, p. 555).

But modernisation has not focused exclusively upon the regional mission; at the heart of modernisation lies a belief in encouraging universities to pursue a limited number of strategic missions, and incentivizing them financially to do so, based upon towards (external) evaluation, accountability and managerial capabilities (Broucker, De Wit & Leisyte, 2011, p. 24 -25; Leisyte & Kizniene, 2006, p. 377-378). We see for example with the rise of the ideal of the «world class university» (Salmi, 2009) that governments are seeking to stimulate their universities to pursue research excellence as a strategic goal (Cremonini, Benneworth, Dauncey & Westerheijden, 2013). Concerns with teaching quality and access to higher education see universities being pressured to streamline their teaching approaches to minimise dropout and study times. And there is a recognition that imposing multiple missions upon universities brings at the same time the risk of strategically overloading them (De Boer *et al.*, 2007), where two «strategic» missions clash leading to a crowding out of one or more of the less important missions. And this is the risk that we perceive for understanding the third mission: reducing it to third mission specific policies risks overlooking crowding out effects, where national policies in teaching and research take precedence over, and work against, the delivery of the third mission.

We can see that national higher education policies can potentially work to crowd out regional development effects. Higher education policies can for example be driven by national subject provision and a demand for courses that do not match with the needs of region to develop. When it comes to research, national policies tend to be directed by national research councils that limit research programmes addressing the needs of regions (Chatterton & Goddard, 2000, p. 491). We contend that there is indeed a case to answer that we need understand better the ways that third mission activities are crowded out –or not– by other kinds of higher education

policies. In this paper we ask the research question of «what potential do national higher education policies have to crowd out third mission activities?». We firstly develop a conceptual framework analysing the ways in which teaching and research policies may undermine regional engagement activities. We then explore the ways that these tensions play out in a single higher education system that has long had a strong concern for universities' regional impacts, namely Norway, where universities are seen as a vital fibre holding together communities in more remote rural areas. Finally, we develop a series of propositions for the effects of national policies on regional engagement, and identify the most important research questions that remain to be answered.

2. THIRD MISSION: REGIONAL ENGAGEMENT, MISSION OVERLOAD AND CROWDING OUT

2.1. The rise of the third mission

The rise of regional engagement as a policy concern has been driven by three main groups of actors, namely policy makers, universities and their wider stakeholder communities. In terms of policy makers, a critical role has been played by multi-lateral organisations (McCann & Artiles-Ortega, 2013), most notably the OECD and the European Commission. What these bodies have done –in the absence of any specific national competence– is to create a corpus of best practice examples and encouraging international learning networks (OECD, 2004, p. 28; Foray *et al.*, 2012; Goddard, Robertson, & Vallance, 2012). The effect has been to stimulate interests in national governments in policies to stimulate university regional development, and particularly using universities' connections in wider knowledge and innovation networks as a way to cross-fertilise local actors and stimulate constructive spill overs and positive externalities (Bathelt, Malmberg & Maskell, 2004). Policy responses about higher education have put emphasis on collaborations between universities and industry, on the transfer of university technologies and innovations (Marmolejo & Puukka, 2006; Puukka, 2015, p. 4).

The second and third actors that have driven these activities are universities themselves and their wider stakeholder groups including their most immediate beneficiaries, such as firms, public sector organisations and civil society groups. With international and national policy interest in encouraging regional innovation coalitions, universities have become seen by other regional partners as key players in these coalitions, both as sources of knowledge but also in playing a more strategic regional role, and even acting as part of a collective regional leadership (Benneworth, Pinheiro & Karlsen, 2017). Universities have to develop new policies and structures to allow their core activities, the teaching and research, to interact better with and create benefits for regional partners. At the same time, universities have also benefited from the inflow of resources that this regional engagement brings,

and have often been able to develop new lines of rigorous fundamental research based on their regionally relevant engagement activities (Anderton, 2016). This has seen the emergence of a set of standard repertoires for regional engagement by universities, ranging from relations with industry in the form of contracts, creating university spinoff companies, stimulating Ph.D. transfer to industry or developing science shops to bring student knowledge to SMEs and voluntary groups (Dornbusch, Kroll, & Schricke, 2012; Laredo, 2007, p. 446; Schulze & Hufnagl, 2012).

2.2. Third mission activities in practice

If one takes a third mission perspective, it is common to make a distinction between the core and peripheral missions. The more traditional core missions of universities are teaching (once exclusively the university core mission) focused around the management and transmission of knowledge (Pinheiro, Langa & Pausits, 2015, p. 234), and research through doctoral education and academic research (Clancy & Dill, 2009, p.6). The third mission is a fuzzier concept (Krčmářová, 2011, p. 319) but all definitions have in common activities between universities and external partners (such as firms) to generate and apply new knowledge (European Commission, 2008). In this paper we are specifically concerned with the regional mission as a specific example of the third mission, in part because of increased policy attention for this topic (e.g. OECD, 2007). But at the same time, there is also much evidence that suggests that for very good reasons relating to knowledge spill over that regions are one kind of naturally proximate community with whom universities are readily aligned (Braam *et al.*, 2017).

When one considers university regional engagement, there are several universities' behaviours directed towards creating societal impact and economic development around two main areas where they create spill-over effects thereby benefiting regional partners. Firstly are those activities aimed at regional growth and innovation where universities produce new knowledge and that stimulates job creation and hence Gross Domestic Product (Veugelers & Del Rey, 2014, p. 3; Trippl, Sinozic & Lawton Smith, 2015, p. 1725). Secondly, are those social and cultural contributions, not only directed towards regional enterprises but more to the public in general, with university staff and students enriching the cultural life of their host region (Strauf & Scherer, 2007; Serbanica, 2012, p. 46; Trippl *et al.*, 2015, p. 1728-1729). But these various benefits come out of both core activities (teaching and research) as well as more specific activities focused on knowledge transfer and service (Benneworth, Charles, Conway, Hodgson & Humphrey, 2009).

Universities may involve regional partners in their knowledge creation activities in various ways. This may be through collaborative research where university and external partner work together to design a research plan and to execute the research, potentially resulting in co-publications or co-patenting (Serbanica, 2012, p. 47). Stakeholders may approach universities for help in solving particular problems,

where universities experiment practically around their existing knowledge to find specific solutions, effectively operating as consultants. In terms of teaching, universities may seek to involve external partners as teachers on courses to improve educational quality and employability, or offer assistance with lifelong learning to develop workforce skills levels to address the needs of regional firms. This can also be delivered through secondments, placements and internships by staff and students into regional organisations, and vice versa (DG Regional Policy, 2011, p. 2, 10, 26).

Universities may specifically promote knowledge transfer by staff and students to regional businesses to increase their productivity and performance, as well as to other private and public organisations. Universities may also be active in transferring knowledge into the public realm, promoting public understanding through open days, media appearances, newspaper articles and visits into schools. Finally, universities may also promote services that have a beneficial regional effect, such as opening up their infrastructure to local communities to allow them to access education, health or sports services. Universities may also play strategic regional leadership roles, helping with the development in Europe of smart specialisation strategies, in assisting with regional innovation platforms, and assisting policy-makers with the development of better, more informed regional strategies, policies and plans (Benneworth *et al.*, 2009).

2.3. NPM and mission drift and the potential of mission overload

We can thus detect different types of university activities that are focused on engagement with their surrounding communities, but at the same time these activities take place within a context of new public management (NPM), where universities are expected to behave strategically around a planned rationale expressed in multi-annual strategic plans. This implies that universities choose their actions on the basis of carefully considered objectives, underpinned by extensive analysis of strategic options that are determined by the resources at hand and the available opportunities. But the extent to which this is fully rational is always bounded by practical constraints including time limitations, incomplete and/or incorrect information and complex situations, and there can be a gap between their strategic plans and what is delivered because in practice universities lack the needed resources to implement and coordinate the objectives set out in their strategic plans. These pressures force universities towards developing strategic plans that include broadly formulated objectives and that miss a clear direction, with all activities undertaken being regarded as not necessarily as strategically important (Klemenčič, 2016 p. 7).

These demands placed on universities may exceed universities' capacities to respond, what Enders & De Boer (2009) have referred to as «mission overload». This mission overload is manifested in situations where universities are normatively expected to engage in many activities and to respond to the growing demands a diversified group of stakeholders (Enders & De Boer, 2009, p. 166; Jongbloed, Enders &

Salerno, 2008, p. 318; Kitagawa, Barrioluengo & Uyarra, 2016, p. 2; Marek, 2012, p. 186). This is visible in the way that universities develop strategies for the third mission; because national policy-makers have not reduced their expectations towards teaching and research, universities state in their strategies many strategic missions simultaneously, to be excellent in teaching and research, and at the same time to deliver regionally valuable outcomes.

We do not deny that there are circumstances under which universities may build a virtuous cycle in which globally excellent teaching and research also manages to be locally relevant and stimulate regional growth (Benneworth P. and Pinheiro R. 2017). But at the same time, given the strategic disappointments noted above related to vague missions and a lack of strategic focus, we might expect that there are situations where there is a vicious cycle that pressures to deliver excellent teaching and research work against the university capacities to deliver regional contributions. In a situation of mission overload, what we might expect universities to do will bear limited resemblance to their institutional strategies, but instead represent a more opportunistic response to deliver those goals that are implicitly the most important (Klemenčič, 2016 p. 7).

2.4. Responses to mission overload: systemic crowding out

And it is here we see the problems for the third mission, in those cases where universities make a set of strategic claims about the third mission, but in practice are driven towards a focus on the core mission. This arises because of tensions regarding the strategic goals set for teaching, research and regional engagement, requiring what Ambos *et al.* (2008) refer to as a kind of ambidexterity but which can often be assumed to be trivial rather than raising fundamental problems for universities (Bozeman *et al.*, 2013). They struggle to meet their strategic objectives for their missions and become more or less forced to either modify and to «downsize» their strategic visions and goals or they need to focus on a limited number of their missions. Where universities are forced to set aside some of their functions in order to be able to manage their other functions properly, this can be conceptualised as a kind of systemic crowding out (Benneworth, De Boer & Jongbloed, 2015, p. 281; Pinheiro, Benneworth & Jones, 2015, p.10). One way that these tensions can come to the fore is in the ways that external stakeholders put particular pressure upon universities to deliver particular strategic missions in ways that reduce their opportunities to pursue other missions (Jongbloed *et al.*, 2007). The regional engagement activities of universities and their contribution to regional development are to a large degree determined by the national policy context (Boucher, Conway & Van Der Meer, 2003, p. 888, 891).

Or to put it more strongly, national higher education policies on teaching, research and administration have the potential to unintentionally crowd out universities' regional engagement activities. These policies inadvertently undermine regional engagement opportunities by creating difficulties for universities to both meet higher education policy makers' external requirements alongside regional partners' expecta-

tions. Despite that there may be policy makers at a national level that advocate third mission policies (e. g. agencies responsible for economic policies for regional development), there may be other policy makers (e. g. agencies within the Ministry of Education or Funding research agencies) implementing policies that restrict universities' capacities to engage regionally, and because those latter group are more important to universities than the former group, the emergent effect is a crowding out of the regional mission. When taken as a whole, teaching and learning, research and administrative measures are affecting constructive interactions between higher education and its community and pose serious challenges to universities' regional engagement (Chatterton & Goddard, 2000, p. 491).

3. CROWDING OUT AND HIGHER EDUCATION POLICIES

It is widely recognised in innovation studies that different policies can work together to affect the overall incentives and hence environment for innovation, what for example Cunningham *et al.* (2016) refer to as the policy mix (see also Flanagan *et al.*, 2011). Yet, the «policy mix» assumes a recipe approach, carefully selecting the right balance of policies, rather than the inadvertent effects of many policies (dis-)incentivising university regional engagement activities. We therefore propose to map out the range of ingredients which may form the policy mix, and empirically explore the kinds of problems this can give for innovation and engagement when they do not cohere effectively to give the «smart policy mixes» (OECD, 2010). For higher education policy there are three base «ingredients» that form the basis of this mix (besides explicitly university regional engagement policies), namely teaching, research and also administrative policies towards universities. We here identify three kinds of national policy that can demand strategic action from universities, putting pressure on universities to take certain kinds of activity but that might inadvertently limit their strategic scope for regional engagement. Any kind of teaching policy that encourages following national priority areas that do not necessarily fit with regional priorities risks making it hard for universities to support innovative regional labour markets. Research policies that undermine the value of regional research as being less important, or prioritise strategic sectors located in other regions can make it hard for universities to make their research assets available to regional partners. Finally, changes to more administrative policies can undermine regional engagement, particularly more market-driven policies which make universities more attentive to national, rather than regional, stakeholders. A summary of these policy areas is provided in Table 1 below, with further detail provided in the sections that follow.

3.1. Higher education teaching policies affecting regional engagement

In general, when it comes to national policy barriers to regional engagement, the main limitation to regional engagement activities is that higher education poli-

cies on teaching do not include a regional dimension (OECD, 2008; p. 22). There are four main kinds of policy fields that may potentially crowd out the strategic space that universities have for regional engagement, (a) national level subject provisions, (b) quality assurance mechanisms in teaching, (c) output based funding for teaching, and (d) excellence programmes for teaching.

120

Firstly are national subject provision frameworks for courses at the undergraduate and post graduate level governing the type of degree programmes offered and the educational fields based on employment prognoses by occupation. These prognoses may be informed by national supply and demand and influence national policy-making as a purposive steering mechanism for universities to create a system level management of strategic subject provision. The existence of nationally-driven subject provisions can undermine universities' capacities to respond to regional labour market needs and demands, particularly where regional needs do not mirror those wider national skills priority areas. This risks overlooking the human capital needs and demands of regional firms for improved regional economic development, with universities deciding not to develop locally relevant courses and programmes in deference to national subject provisions (Chatterton & Goddard, 2000, p. 491; De Weert, 2011, p. 7).

Secondly, teaching quality assurance mechanisms seek to determine needed skills and knowledge of graduates, by specifying within national frameworks the skills and knowledge that students are expected to have when they graduate. This purposive steering mechanism for quality assurance in teaching seeks to guarantee student progression, whilst national qualification frameworks target improving links between levels and types of qualifications and to support conditions for progression. In EU member states, these national qualification frameworks are increasingly informed by the European qualifications framework, and have become important instruments influencing national policies and reforms in education, training and employment (Karseth, 2008). Nevertheless, quality assurances mechanisms in teaching can create the risk of course homologation against national and/or international standards and reducing incentives for local innovation, particularly in response to regional innovation. Where universities have to choose between meeting the needs of external accreditation bodies and local partners, there may be strong practical pressures to favour the former rather than invest time in potentially short-lived complex working relationships with local and regional partners. The aggregate effect is to reduce the emphasis on the specificities of the regional labour market and reducing the local human capital benefits derived from the university (Cedefop, 2010, p.1.; Cedefop, 2013, p.10-11, 15; Chatterton & Goddard, 2000, p. 492; European Commission, 2016, p. 3).

The third policy concerns output based funding for teaching determined by student numbers and graduation rates sometimes differentiating on a disciplinary basis linked to national needs and demands, incentivising universities to recruit particular kinds of students. However this funding rarely has a specifically regional link to en-

courage regional recruitment, and as this has the effect of creating a competitive market to attract students, universities seek to attract the most straightforward students. These are typically students from higher socio-economic backgrounds with family members who have already completed higher education and who have had high academic achievement at secondary level (Shavit, Y. *et al.*, 2007). Conversely, the students which are least worth pursuing are those that require additional tuition and support, archetypically those from non-traditional backgrounds and with less academic profiles. Yet it is these students that typically can have the greatest regional benefit, because of their tendency to remain in their home regions after graduation, thereby boosting local capital formation. The aggregate effect can be for universities located in these regions to try to attract students with courses that enable them to work elsewhere. They lose interest to prepare students for employment in local and regional labour markets (Chatterton & Goddard, 2000, p. 491; OECD, 2007; OECD, 2008, p. 23-26).

The final policy field concerns various kinds of excellence programmes for teaching and learning (Cremonini *et al.*, 2013). With the emergence of the notion of world class universities, and the pursuit of high places in global university rankings, this has seen the emergence of policies that seek to steer by concentrating resources in a limited number of world-class universities (Hazelkorn, 2009). This development of excellence programmes to compete for resources runs the risk of steering all universities to an international model of higher education by following the principle of international excellence, potentially crowding out more regionally focused teaching activities as universities feel pressured to redirect their student profile towards international excellence and therefore recruit more internationally. Universities try to become international in reach and become less and less locally oriented, downplaying the role of local connections in delivering teaching and contributing to human capital formation (Chatterton & Goddard, 2000, p. 477; Hazelkorn, 2009, p. 3-4, 13-14, OECD, 2000, p. 101).

3.2. Higher education research policies affecting regional engagement

Higher education research policies in most OECD countries tend not to include a regional dimension (OECD, 2008; p. 22), whilst there are four policy approaches that might potentially crowd out regional engagement activities, (a) research concentration, (b) research selectivity, (c) STEM push and (d) research council programming.

Firstly, research-concentration policies are implemented to improve the quality of research and to enable universities to contribute to developing globally competitive innovation-based economies, and policy-makers have sought to steer universities by concentrating research funds within a relatively limited number of institutions undertaken research perceived as being «globally excellent». This development could disincentivise universities to conduct local research if local research is judged as less important than global research, if for example universities were to award those academics

publishing in international journals whilst disregarding and even denigrating publications of locally engaged researchers. This would discourage and downgrade those research activities –whether fundamental or applied– that responded to local utility and needs (Froumin & Lisytukin, 2015, p. 254; Puukka, 2015, p. 8).

Secondly, policies on research selectivity, directing research funding to fewer institutions in the hope of building critical mass and consolidating proven success and research track record, sometimes referred to as the Matthew Principle (after Merton, 1968). This policy seeks to drive research quality efficiency by spending money in groups where it is likely to achieve the greatest impact, as measured through bibliometrics or peer review exercises. This can have the effect of creating a vertical differentiation between universities, those research leaders focused on globally excellent research with the resources and infrastructure to undertake top research, and those with far less research capacity. Research infrastructure investments become made at those institutions with the least incentive to for regional engagement, it and not necessarily in those places with the greatest to potentially benefit from that. There is a parallel risk of groups at the cusp in prioritizing internationally important questions, neglecting regional and local questions. Finally, resources for knowledge transfer are invested in building links with leading companies that can contribute positively to research excellence rather than in supporting weaker companies to improve their performance (Puukka, 2015, p.7; OECD, 2000, p. 16).

The third policy field concerns the prioritisation of research, for example around the fields of science, technology, engineering and mathematics (STEM) in the hope of stimulating a knock-on effect in high-tech technology manufacturing and service industries to raise long term economic competitiveness. Policies direct public resources, and in many cases also seek to attract parallel private resources, to a restricted set of disciplinary areas seen as having the greatest potential to drive industrial development. The net effect of this can be to crowd out public and private investments in other areas, and in those regions which do not have strong clusters of those privileged industries, there may be blind spots in national coverage that arise in these prioritisation exercises (such as the Dutch Top Sector policy or Ireland's research prioritisation exercise). At the same time, by making accessing research resources harder in other disciplines, it may have the effect of discouraging academic partnerships in these areas and thereby risk undermining social sciences, humanities and arts researchers working with local partners, despite the potential that their research might have to stimulate regional innovation processes (Chatterton & Goddard, 2000, p. 492; OECD, 2008, p. 24, 59).

Finally, and related to but distinct from research prioritisation is research council programming related to the nationally driven research councils agendas (e.g. the Netherlands, Austria, Norway and Switzerland). Where research councils seek to encourage universities to work with societal partners, and programmatize around particular sectors, this incentivises universities not to look to how they can benefit

regional partners, but how they can access the funding by meeting the requirements of the nation. Certainly, where research councils demand that participants make substantive financial contributions to research projects, then this can make it impossible for universities to find suitable partners regionally. Universities are incentivised to find external partners above all else, potentially creating situations where universities are doing research that could be relevant to regional partners but a formal partner outside the region is chosen simply because they have the wherewithal to make a co-investment. If universities choose to invest in research disciplines and fields with a recognised high national potential, this pushes them to work with external partners and thereby ignore the needs and priorities (Chatterton & Goddard, 2000, p. 492; Lepori, Van den Besselaar, Dinges, Potì, Reale, Slipersæter, Thèves & Van der Meulen, 2007, p. 374; OECD, 2000, p. 55, 101).

3.3. Higher education administrative policies affecting regional engagement

Apart from higher education policies on teaching and research activities, administrative policies also have the potential to inadvertently affect the regional engagement activities by universities. We identified three administrative policy fields that have led to reforms in higher education that potentially crowd out regional engagement activities, (a) structural reforms in higher education, (b) the rise of new managerialism, and (c) the introduction of «efficiency thinking» as a result of the marketization of higher education.

The first policy field involves structural reforms in response to pressures on higher education (HE) systems from the competitive pressure introduced by globalisation for students and research resources. Governments have sought to support universities in adapting to this competition, but without undermining the markets believed to improve efficiency outcomes. There have been a number of governments that have attempted to improve the overall efficiency of their higher education system by encouraging mergers between universities (De Boer *et al.*, 2016). Using instruments such as legislative reforms and capital investments, governments purposively steer universities towards merger which is seen as beneficial in creating critical mass. But mergers can pose a risk to universities' capacities to address regional needs, losing sight of ensuring local access to higher education and to meet the regional economy's needs. Mission conflict can emerge between attracting international students in core locations and supporting students in peripheral locations, leading to a neglect of higher education access and provision in these places (Bennetot Pruvot, Claeys-Kulik & Estermann, 2013, p. 12, 52; Charles, 2016, p. 7; Pruvot, Estermann & Mason, 2015, p. 5).

The second policy field that we identified concerns policies on new managerialism. National governments have encouraged universities to adopt discourses of management and managerial techniques that can be found in the private sector. The introduction of discourses of management in the private sector should be introduced in higher education to increase efficiency, effectiveness and excellence because of declin-

ing public funding. Elements of new managerialism in organisations include *inter alia* acquiring financial targets, monitoring employee performance and external accountability. The declining of public funding has created a purposive steering mechanism for universities to adopt these principles in their management structure. Universities in e.g. Sweden, the UK and the Netherlands have introduced performance measurements and assessments of the quality of teaching and research. The introduction of these principles runs the risk that universities have less capacity to respond to regional engagement needs. With these activities, managers are becoming more important in the institution and there is a risk that they do not have the expertise to understand and translate scientific knowledge for firms and industry in the region. When universities face mission overload, they choose to develop and invest in these management structures to replace the declining public funding from governments and to be able to cope with rising student numbers and increasing complex organisation (Deem, 1998, p. 49; Deem, 2001, p. 8-11; Deem & Brehony, 2005, p. 220; Koryakina, Sarrico & Teixeira, 2015, p. 325; Teelken, 2012, p. 279).

The third policy field are policies attempting to produce efficiency within higher education driven by marketisation. These policies seek to strengthen student choice, liberalise higher education markets and thereby increase the quality of services provided by universities. These policies are intended to stimulate universities to pay more attention to students' needs and demands, and to invest in innovation in their teaching and research activities. The introduction of marketization in higher education has led universities to be increasingly driven in their thinking by the financial consequences of their decisions, and at its most extreme leads to what McGettigan has identified as the risk that universities are heavily leveraged financial institutions seeking to primarily satisfy their creditors (McGettigan, 2013). This can be a risk for regional engagement activities as there is a tendency for engagement activities to be brought back to those that are seen as being financially and commercially viable. This has a tendency to lead to commercialisation and entrepreneurial activity, and an increasing focus on the private benefits for the university, rather than the greater benefits for the region. Because regional partners may be weak or lack resources to pay for commercial access to universities, this increased financialisation can lead to a de facto of regional groups from accessing the university (Benneworth, 2013, p. 11; Humphrey, 2013, p. 104; Jongbloed, 2003, p. 113, 128).

4. TENSIONS BETWEEN POLICY LOGICS AND UNIVERSITIES' REGIONAL ROLES: NORWAY

In Table 1 we propose a set of tensions that may emerge from the ways that «core» higher education policies impact upon third mission policies and the outcomes produced. To provide more empirical insight into our conceptual typology, we therefore present a short summary case study of a country that has experienced both pressures simultaneously, for a strongly centralised drive to improve teaching and research qual-

ity in higher education, as well as to improve the contributions that higher education makes to its regions. Norway has since the late 1990s sought to make more strategic use of its knowledge assets and in particular from growing investments in knowledge activities subsidised by income from hydrocarbon production. This has manifested itself in a conditional expansion of the system, with increases in funding accompanied by an increasingly instrumentalised regulation of the ways that higher education institutions use those additional resources to create societal benefits. At the same time, Norway has taken a number of steps to guarantee the regional distribution of impacts and stimulate regional engagement, both by increasing the numbers of state-funded providers but also by creating a research fund to specifically fund collaborative regional research. Norway provides therefore an ideal laboratory to explore tentatively the way these tensions may play out in practice as an antecedent to using the typology to understand these tensions in a broader comparative perspective.

In 2016, a total of 269 thousand students enrolled in HE, a 30% rise since 2006 (NSD-DBH 2017), 85% of whom attended a public institution. Despite this growth in student numbers, the system has been experiencing a period of consolidation, through mergers, from 33 to 21 state run Higher Education Institutions (HEIs). More than half of all enrolments are based at the eight public universities, with the remaining split amongst university colleges, specialised university institutions (e.g. design, logistics, music, sports) and several private providers; the latter with 15% of total enrolments. According to the current legal framework, HEIs in Norway are mandated to provide a contribution to society («formidling»), but this task has not been defined in concrete terms and thus is subject to interpretation by the institutions themselves. In Norway, policy efforts geared towards promoting the third mission of universities are rather scarce. When it comes to the regional role, this function is, for the most part, undertaken by HEIs (mostly university colleges) located in peripheral areas, geographically speaking (Pinheiro *et al.*, 2017 forthcoming). Recent policy instruments have largely been devised with the main of making the domestic HE system more efficient, effective and responsive, and to foster research excellence. Despite the policy rhetoric that HEIs, universities included, should provide a positive contribution to the socio-economic development of their surrounding regions, the current situation is characterized by an absence of proper incentives.

4.1. Higher education and research policy

There are a range of Norwegian policy areas that have constrained HEIs regional roles and functions to engage in the region and contribute to regional development. Firstly, funding systems have since 2003 placed a much stronger emphasis on output and performance measures, epitomized by the renowned publication points scheme. Secondly, there has been an introduction of a more strategic approach to leadership with appointed senior managers, increasing tendencies to focus on the most important missions. Thirdly alongside the growth of higher education there has been an in-

Table 1. **A SUMMARY OF THE WAYS IN WHICH CORE MISSION POLICIES CAN RESTRICT UNIVERSITY STRATEGIC CAPACITY TO ENGAGE REGIONALLY**

Core mission	Policy field	Purposive steering mechanism	Risks to capacity of universities to be able to respond	Potential university overload
Teaching	National level subject provisions	Allows system level management of strategic subject provision	Risk of mismatch between universities with profiles and regional labour market	Universities choose not to develop courses of local relevance because of difficulties in fitting with the national subject provisions
	Quality assurance mechanisms in teaching	National/ international frameworks guarantee student progression	Risk of course homologation against national/ international standards	Easier to meet the needs of international recognising bodies than setting up complex working relationships with local partners
	Output based funding for teaching	Incentivising universities to recruit students	Loss of oversight of need to build up human capital in less successful regions	Universities in peripheral regions seek to attract students with courses useful to work elsewhere, not for local labour market
	Excellence programmes for teaching	Concentrating resources in limited set of world-class institutions	Risks of steering all institutions to internalise model of HE following international excellence	Pressure on universities to reorient their student profile towards international excellence and downplay role of local connections
Research	Research concentration	Incentivise research excellence by concentrating with best	If judgement standard sees local research as less than global, can disincentivize local research	Universities choose to reward academics publishing in international publications over locally engaged researchers.
	Research selectivity	Incentivise research by increasing quality thresholds	Risk of homologation against internationally important questions over local demand	Universities choose to invest strategic resources in building linkages with other researchers and partners globally not regionally

.../...

.../...

Core mission	Policy field	Purposive steering mechanism	Risks to capacity of universities to be able to respond	Potential university overload
Research	STEM push	Invest in future industrial technological potential	Assumes that regional partners need is new technologies; ignores regional SSH	Universities invest strategically in building up STEM base and cross-subsidise from SSH, reducing SSH relevance
	Research council programming	Invest scarce national resources in limited high potential fields	National interest not necessarily calculated as a collection of regional interests	Universities choose to invest in fields of national high potential with little local potential relevance, thereby ignoring partners.
Administrative	Mergers	Improving efficiency of the system	Risk of losing sight of ensuring local access	Universities choose to attract lucrative students and disregard students in deprived regions
	Rise of managerialism	Invest in efficiency and effectiveness	Risk of loss of expertise to understand and translate scientific knowledge for needs in the region	Universities invest in management structures to cope with decline, without responding to local needs
	Marketization	Create cost-benefit analysis to be able to compete	Risk that all universities want to become entrepreneurial and enterprising	Universities engage in commercial activities rather than widening access for groups with a low socioeconomic status

Source: Own elaboration.

creasing merger of HEIs at the same time as pressure to conform to standards which perceive excellence as more valuable than engagement. This has also been exacerbated by the fourth tendency, the imposition of a one-size-fits-all perspective of higher education on institutions that have extremely diverse backgrounds, particular former university colleges with long traditions of regional engagement. The final issue is that there has been an internalisation in policy discourses of a particular notion of world-class excellence, which prioritizes scientific publications, competitive research funding (e.g. EU) and rankings, and does not take into account the interplay between local engagement and (the quality of) core activities.

4.1.1. *Funding mechanism*

The 2003 quality reform altered the funding system of HEIs. The system entails a basic component (about 55% of university budgets), an educational component (21% of allocations) and a research component, which is split into two parts –a strategic part (about 14%) and a result-based distribution amounting to around 10%. A bibliometric system has been implemented focusing on publication points; calculated on the basis of the number of co-authors and the profile/level of the publication outlet in question. Academics are incentivized to report any outreach type of activities, such as popular publications or media/seminar appearances, but these are seen as less prestigious by the academic establishment and count little in terms of points (and thus financial incentives to HEIs). As for teaching, both universities and students are rewarded by producing degrees and credit points. Yet, the current funding system provides no incentives whatsoever to any type of engagement-related activity linked to teaching (e.g. internships, involvement of external actors in the class room, etc.). Changes to the funding system were enacted in 2017, with the aim of strengthening the performance component. The bibliometric formula was adjusted so that all disciplinary areas count equally, and to prevent misuse of performance data by individual academics. New indicators for the completion of studies, including PhD level, have been devised. A new EU-indicator spanning teaching and research has also been included, with the aim of further stimulating international efforts. Finally, the government has introduced a new metric (*«bidrags- og oppdragsfinansiert aktivitet»*, BOA) to promote third stream funding and strategic collaborations with external actors, industry included.

4.1.2. *Changes in leadership structures*

Since the late 1990s, and aligned with the New Public Management (NPM) movement, the government has enacted a series of structural changes aimed at professionalizing HEIs' managerial structures. Decision making has been centralized upwards, from the institute to the faculty and central administration levels. Leaders are increasingly appointed rather than elected by their academic peers. The current system is characterized by increasing hybridity, with HEIs having the freedom to adopt the model that best suits them. That being said, the Minister of Education and Research has publicly expressed his preferences for a model based on appointed leaders with

strong representation from external stakeholders. The prevalence of a «logic of managerialism» (Berg & Pinheiro, 2016) has meant that academic leaders have paid strong attention to issues pertaining to the bottom-line and revenue generation activities; student recruitment, publications and external funding. Regional engagement has, for the most part, received scarce strategic attention, partly because it offers few financial benefits. As for external actors, their role is largely centred on accountability issues rather than engagement per se, but there are variations across HEIs.

4.1.3. *Institutional concentration*

Following recent developments in other Nordic countries (Pinheiro, Geschwind, & Aarveaara, 2016), domestic HEIs have been merging one another in the last decade or so. What started as a voluntary and bottom-up process has evolved into coercive pressures by the Ministry of Education and Research to merge against the rationale of creating stronger and more resilience institutions. This process, in turn, has had two unintended side-effects when it comes to regional engagement. First, and as a result of a fiercer national and international competitive environment, special attention has been paid to the development of world class research excellence at the expense of local relevance (Pinheiro, 2016). Second, mergers require considered resources and result in considerable internal transaction costs (Pinheiro, Aarevaara, Berg, Geschwind, & Torjesen, 2017); hence, more attention is then paid to internal (organizational development) rather than external (region) aspects. More often than not, previously engaged academics associated with former non-university HEIs are now pressurized to undertake research and attract external funding, instead of prioritizing their regional networks and projects; which are seen as counting little to the bottom-line and the overall competitive profile of the institution.

4.1.4. *From horizontal to vertical differentiation*

One of the (many) unintended side-effects of the strategy of concentration being pursued by the national authorities (above) pertains to a decline in horizontal differentiation and an increase in vertical differentiation. The former university colleges, many of them located in peripheral regions, have traditionally engaged with regional actors across the public and private sectors; much more so than their urban and university counterparts. They were largely teaching-only institutions and had a clear mandate of addressing the needs and expectations of regional stakeholders. However, as they merge and become part of much larger, comprehensive institutions (spread across multiple regional boundaries) with aspirations to become «world class», their local role is likely to dissipate. Not only is this likely to affect the scope of research activities (moving away from local and applied orientations), but it is also having an impact on the types of teaching programs being offered at the new institutions. As HEIs increasingly become globalized in nature, their programmatic focus shifts from being more centred on fulfilling the needs of the surrounding region (and its multiplicity of constituencies) towards that of addressing national and international labour market demands.

4.1.5. *Focus on world class excellence*

The government's long term strategic plan¹ (2015-2024) for HE and research is geared towards enabling world class research excellence in areas of relevance to the national economy (e.g. seas and oceans, public sector renewal), as well as global societal challenges like climate change. The government has stated that it will intensify its focus on research and higher education that has the potential to raise the number of world-class research groups in Norway. No mention is given to engagement linked to the regional role of universities. The strategy aims to concentrate resources (funds and people) in/around stronger and larger institutions, often located in large urban areas. It follows ongoing regional (Europe) and global policy developments focusing on world class excellence (Cremonini, Westerheijden, Benneworth & Dauncey, 2014; Ramirez, Byrkjeflot & Pinheiro, 2016), yet it pays little attention to the role played by (and future of) mid -and low- tier higher education institutions (e.g. as regards the importance attributed to relevance), most of which are located in peripheral or «thin» regions. It is unclear what role, if any, do smaller and more regionally-oriented HEIs, like the new universities of Agder, Stavanger and Nordland as well as the university college sector, will play. The general policy direction being pursued is that of fostering the erosion of the binary divide between university and university colleges towards a unitary system that is university-centered, yet less focused on local labor market needs and regional dynamics (the traditional mandate of the university college sector).

4.2. **Innovation policy**

The other set of policies that have the potential to impact on the regional engagement activities of Norwegian universities are those from innovation policy, an important field that is well-funded and which is currently dominated by the view that it is important to support entrepreneurs (Regjeringens gründerplan, 2015) and to support excellent research which can result in ideas for commercialization (NOU, 2016:3). In the former policy HEIs do not have a role to play and in the latter, it is taken for granted that investment in high quality research will result in innovations. This view implies a use of general policy tools to stimulate the establishment of new firms and restructuring of the industry and the economy (Fitjar, Isaksen, & Knudsen, 2016). It also implies a lack of understanding that regions differ and that regional contextual factors affect rates of innovation.

Despite this dominating view, there are some innovation policies that have an explicit role of HEIs as an instrument for innovation, and we highlight here four to provide an insight into the resultant tensions. Firstly there is a funding programme for Regional R&D and Innovation (VRI) organised within the regions themselves which stimulates collaborative research between universities and their users. Secondly, the Norwegian Clusters programme was inspired by the Basque Clusters pro-

¹ <https://www.regjeringen.no/en/dokumenter/meld.-st.-7-2014-2015/id2005541/sec1>

gramme and although intuitively would seem to have a regional dimension to it, is primarily concerned with supporting sectors of national interest. Thirdly, the Centres for Research-based Innovation policy supports university based research centers that are well-engaged with industry, and unsurprisingly this has tended to benefit those regions that have well-configured industrial users able to co-finance research at the expense of those regions arguably most in need of regional investments. Finally, attempts to stimulate technology transfer offices across Norwegian universities likewise suffered from this concentration effect where there were disproportionate benefits for those regions with strongest university-business co-operation.

4.2.1. Policy tools for regional innovation

The VRI programme is the primary support mechanism for research and innovation in Norway's regions by stimulating greater regional collaboration and interaction between trade and industry, R&D institutions and the government authorities, and to establish close ties to other national and international network and innovation mechanisms (e.g. the Arena program, Norwegian Centres of Expertise and the Regions of Knowledge initiative). Fundamental components of the VRI programme include; research activity, exchange of experience, learning, and cooperation across scientific, professional and administrative boundaries. All regions in Norway are mobilized in the programme. There have been three rounds of VRI programmes in the period 2007 to 2017. Due to regional differences, the programme has been organized differently in the participating regions.

In general, the programme has increased interaction between regional academics and firms, but the institutional effects are harder to trace. First, because of the limited resources connected to each of the funding instruments, the regions could use, and as a consequence, a limited number of academics within HEI have been contracted. Second, because not only have HEIs been contracted for research but also because non-profit research institutes and for-profit consultancy firms have been involved in the interaction. And third, the system of funding has stimulated contracting of research, not so much co-generation of research, between industry and HEIs. This implies that the effects on the third mission might be rather negligible.

The funding has however stimulated researchers working both in regional HEIs and regional research institutes to collaborate in research projects. The collaboration has, so far, resulted in more than 50 per reviewed publications only in the last VRI programme (VRI 3). For the individual researcher that has participated in the programme, VRI has been an important platform for research collaboration (networking) and for publishing one's research findings.

4.2.2. Norwegian Innovation Clusters

The Basque cluster programmes have been an important source of inspiration for the Norwegian cluster programmes. Norwegian Innovation Clusters is a government

supported cluster program. The program aims to trigger and enhance collaborative development activities in clusters. The clusters are organized in the different regions. The goal is to increase the cluster dynamics and attractiveness, the individual company's innovativeness and competitiveness. The programme is organized at three levels: *Arena*, which are immature clusters; *Norwegian Centres of Expertise*, which are mature clusters with a national position; and *Global Centres of Expertise*, which are mature clusters with a global position. The research undertaken in the programme is contract-based. The intensity of interaction and the numbers of research organizations (HEIs, non-profit research institutes and for-profit consultancy firms) increases with the levels of the programme. The contribution and engagement of HEIs varies between the different levels. The more mature the cluster, the more interaction between cluster firms and HEIs. However, this does not necessarily imply that regional HEIs have been involved in the interaction. It might be the case that national HEIs are more involved with the more mature clusters than regional HEIs.

4.2.3. *Centres for Research-based Innovation*

A total of 17 Centres for Research-based Innovation (SFI-III) were appointed by the Research Council Executive Board in November 2014. They started their activities during 2015 and are expected to operate until 2023. The aim is to build up and strengthen Norwegian research groups that work in close collaboration with partners from innovative industry and innovative public enterprises. The scheme is dependent on the presence of knowledge actors (who are required to co-sponsor activities), thus putting «thin» and «peripheral» regions (who lack such actors and resources, including local HEIs with low knowledge production and transmission capacity) at a disadvantage. A total of 35 centers have received funding as of today. The majority of the centers are hosted by the largest (sector-focus) national research institutes, the «old» universities, with only two being based at a current (Ålesund) and former (Agder) university college.

4.2.4. *Technology transfer offices*

In the mid-2000s, and following developments elsewhere regarding the attention paid to technology transfers and entrepreneurial behaviours amongst the population, the Norwegian government, through its main agencies (research council, Innovation Norway and SIVA/the industrial development and cooperation of Norway), initiated a program to stimulate regional innovation and entrepreneurship. A total of seven TTO-regions, either with a broad or narrow technology focus, have been established across the country (Balasingham, Hajanirina & Olsen, 2014). Of these, the bulk are located in the vicinity of «old» (research-intensive) universities, with only one in the proximity of a former university college, Stavanger; largely due to the importance of off-shore gas and oil clusters in the (Rogaland) region. The Norwegian government financially supported the establishment of technology transfer offices (TTOs) at public universities, with mixed results. The scheme was ill-devised and lacked both financial

punch and legitimacy and thus had limited results, particularly among smaller HEIs with limited research capacity, funding, and regional partners (e.g. no science parks in the region, etc.). For example, a 2016 evaluation focusing on the commercialisation of publicly funded research in Northern Norway concluded that all the (3) previously independent HEIs composing the recently established Nord University failed to establish a TTO unit and thus show limited progress in the commercialization of academic research (Nord 2016). Similar patterns are detected in other parts of the country. Spilling *et al.* (2015: 38) show evidence that the introduction of TTOs at Norwegian universities had only a slight moderate effect on the rate of entrepreneurial behaviour. Before the introduction of the TTO program (2000-2004) about 10 academic start-ups were established annually, increasing to 13 companies in the period 2005-2010. The same study also found a considerable decline (from 20 to 10%) on starts up firms established in direct cooperation with an industry partner.

5. DISCUSSION AND REFLECTIONS ON EFFECTIVE THIRD MISSION POLICY

In this paper, we asked the research question of «what potential do national higher education policies have to crowd out third mission activities?». We have been able to establish that there are three kinds of policy areas that potentially can reduce the scope that universities have to support their regions, conceptually distinguishing teaching, research and administrative policy areas. What the case of Norway demonstrates is that particular policy interventions may have elements of each of these four domains, although some are more clear-cut than others, and indeed some policy reforms may be associated with reducing the problems created by antecedent policy areas. The overarching message that emerges is that this crowding out emerges by compelling universities to make choices between competing options –between excellence and engagement– in ways that also dictate the choice for excellence. In imposing singular strategic visions on higher education, policy makers therefore compel the choice for excellence, and therefore reduce the possibilities and the freedoms that universities have to choose for regional engagement. This may also come through second order effects of imposing apparently straightforward metrics that nevertheless produce responses that undermine universities' regional engagement activities (Wouters *et al.*, 2015; Edwards & Roy, 2017).

Thus, we see that the massive expansion of higher education in the last two decades may have increased the geographical distribution of higher education but at the same time, it created a demand at the national level for a more strategic management of those investments. This led to three kinds of interventions, mergers, the emergence of particular kinds of ideal types of world-class universities, and the introduction of more strategic and instrumental management. The aggregate effect of these policies together was to stimulate the presence of universities located *in their regions* but at the same time reduced the potential for these universities to be *of their*

regions. Indeed, it was the risk of precisely that happening that led to the abandonment of plans to create in Australia a single National University for Regional Australia, another example more generally observed as one of the undesirable effects of merging regional campuses (see also Zeeman & Benneworth, 2016). And so we see here a risk that in the expansion of higher education to increase its spatial coverage that this risks creating institutions that are being disincentivised to engage with their regions.

This is not to say that these policy frameworks will prevent the universities from engaging nor should it be taken to suggest that we run the risk of creating a new generation of ivory tower institutions, but more widely spread across countries than previously. Universities as institutions are intimately intertwined into their societies, because they seek to create knowledge about reality, and that means engaging with that reality in their knowledge creation processes. Students must have real world examples to refine and deepen their understanding, researchers are the most obvious contacts for firms with interesting questions that may spark discoveries, and graduates or staff live in the places where they create beneficial activities. Indeed, Feldman & Desrochers trace out at length how one particular university was unable to stop its academics engaging locally and placing themselves at the start of a high-technology revolution (2003). Our argument is more that there is a policy mismatch here between universities whose diversity naturally creates societal benefits in their regional hinterlands and the policy desire for uniformity and excellence that stifles and suffocates that diversity with some of the slightly negative effects visible in Norway.

We therefore conclude with a plea to take this complexity and diversity more seriously within research and policy practice. There has been to date a tendency to focus on specific elements of the third mission, often related to particular policy instruments, or activities such as spin-off companies that account for a vanishing proportion of the contributions that universities make to their regions. At the same time, there has been an almost complete neglect of the aggregate incentive frameworks that universities face in stimulating regional engagement, and the ways that policies come together to shape those. This demands far more institutional-level research, studying the practices of engagement policy-making within their wider institutional context. This in turn can help to understand the conditions under which universities can start to take their regional missions more seriously and can use strategic frameworks to promote rather than neglect these regional missions.

Finally, there is a clear need for policy makers to come to terms of the reality of higher education, and that it is an anathema for policy, namely complexity and diversity. New public management was premised on a belief that if you provided simple incentives to complex organisations like universities, then they would find smarter ways to manage their complex resources than possible by central bureaucrats could. But what increasingly complex NPM structures have proved is that the inverse occurs, namely that university managers become increasingly adapt at chas-

ing simple incentives in straightforward ways. In Norway, for example, the publication points account for around 1.5% of the overall university budgets but they are arguably the preoccupation of strategic discussions at institutional, faculty and departmental levels. In the absence of simple reward mechanisms for regional behaviours, university managers have not prioritised these activities, leading to their neglect. Likewise, in countries that have incentivised particular kinds of engagement activities, such as England's Higher Education Innovation Fund, there have been suitably instrumental responses that deliver engagement in the letter, if not its spirit. Ensuring the delivery of the regional mission as a promoter and enabler of excellence and quality needs a new approach to strategic decision-making that encourages diversity and plurality, recognising these diverse efforts and acknowledging those that make the effort.

BIBLIOGRAPHIC REFERENCES

- AMBOS, T.C.; MÄKELÄ, K.; BIRKINSHAW, J; D'ESTE, P. (2008): «When does university research get commercialized? Creating ambidexterity in research institutions», *Journal of Management Studies*, Vol. 45, No. 8, pp.1424-1447.
- ANDERTON, D. (2016): Science in the city region: establishing Liverpool's life science ecology. *Regional Studies, Regional Science*, 3(1), 437-444.
- ARBO, P.; BENNEWORTH, P. (2007): Understanding the Regional Contribution of Higher Education Institutions: A Literature Review. OECD, Paris
- BALASINGHAM, J.; OLSEN, A.H.F. (2014): Technology Transfer Offices: Addressing Imperfections in Entrepreneurial Ecosystems: The Norwegian Context (Master's thesis, Institutt for industriell økonomi og teknologiledelse).
- BATHELT, H.; MALMBERG, A.; MASKELL, P. (2004): Clusters and knowledge: local buzz, global pipelines and the process of knowledge creation. *Progress in human geography*, 28(1), 31-56.
- BENNETOT PRUVOT, E.; CLAEYS-KULIK, A.; ESTERMANN T. (2015): Define project: Designing Strategies for Efficient Funding of Higher Education in Europe. Available online at http://www.eua.be/Libraries/publications-homepage-list/DEFINE_Thematic_Report_2_University_Mergers_in_Europe_final
- BENNEWORTH, P. (2013): University engagement with socially excluded communities. In *University engagement with socially excluded communities* (pp. 3-31). Springer Netherlands.
- BENNEWORTH, P.S.; CHARLES, D.R.; CONWAY, C.; HODGSON, C.; HUMPHREY, L. (2009): How the societal impact of universities can be improved both conceptually and practically. *Sharing Research Agendas on Knowledge Systems: Final Research Proceedings*, 46-49.
- BENNEWORTH, P.; DE BOER, H.; JONGBLOED, B. (2015): Between good intentions and urgent stakeholder pressures: institutionalizing the universities' third mission in the Swedish context. *European Journal of Higher Education*, 5 (3), 280-296.
- BENNEWORTH, P.; PINHEIRO, R. (2017): «Regional upgrading in the periphery: A view from the "rich" Northern European cousins». In *Regional Upgrading in Southern Europe: Spatial disparities and human capital*, 299-322. Edited by U. Fratesi and M. Fonseca. Berlin: Springer Verlag.
- BERG, L.; PINHEIRO, R. (2016): Handling different institutional logics in the public sector: Comparing management in Norwegian universities and hospitals. In R. PINHEIRO, F. RAMIREZ, K. VRABÆK, & L. GESCHWIND (Eds.), *Towards a comparative institutionalism: Forms, dynamics and logics across health care*

and higher education fields (pp. 145-168). Bingley: Emerald.

- BENNEWORTH, P.S.; PINHEIRO, R.; KARLSEN, J. (2017): «Strategic Agency and Institutional Change: Investigating the Role of Universities in Regional Innovation Systems (RISs)». *Regional Studies* 51 (2) pp. 235-248 doi: 10.1080/00343404.2016.1215599.
- B-HERT (2006): Universities' third mission: communities engagement. Available online at <http://www.bhert.com/publications/position-papers/B-HERTPositionPaper11.pdf>
- BOUCHER, G.; CONWAY, C.; VAN DER MEER, E. (2003): Tiers of engagement by universities in their region's development. *Regional studies*, 37(9), 887-897.
- BOZEMAN, B.; FAY, D.; SLADE, C.P. (2013): Research collaboration in universities and academic entrepreneurship: the-state-of-the-art, *The Journal of Technology Transfer* 38(1), 1-67.
- BRAAM, A.M.; HARDEMAN, S.; KISELIVA, T.; VAN ELK, R. (2017): De regionale impacten van universiteiten; een literatuuroverzicht, The Hague: Centraal Planbureau. Available online at: https://www.cpb.nl/sites/default/files/omnidownload/CPB-Achtergronddocument-4apr2017-De-regionale-impact-van-universiteiten-een-literatuuroverzicht_1.pdf (Accessed 9th April 2017)
- BROUCKER, B.; DE WIT, K.; LEISYTE, L. (2015): An evaluation of new public management in higher education. Same rationale, different Implementation. In: EAIR 37th Annual Forum 2015 «From here to there: Positioning higher education institutions», 30-08-2015 - 02-09-2015, Krems, Austria.
- CEDEFOP (2010): The development of national qualifications frameworks in Europe. Available online at www.cedefop.europa.eu/files/6108_en.pdf
- (2013): Global national qualifications framework inventory. Available online at <http://www.cedefop.europa.eu/en/publications-and-resources/publications/2211>
- CHARLES, D. (2006): Universities as key knowledge infrastructures in regional innovation systems, *Innovation: The European Journal of Social Science Research*, 19:1, 117-130, DOI: 10.1080/13511610600608013
- (2016): The rural university campus and support for rural innovation. *Journal of Science and Public Policy*, pp. 1-11. DOI 10.1093/scipol/scw017. Available online at <http://spp.oxfordjournals.org/content/early/2016/04/22/scipol.scw017.abstract>
- CHATTERTON, P.; GODDARD, J. (2000): The response of higher education institutions to regional needs. *European Journal of Education*, 35(4), 475-496.
- CLANCY, P.; DILL, D.D. (2009): The Research Mission of the University: An Introduction. In *The Research Mission of the University Policy Reforms and Institutional Response* (pp. 3-17). Sense Publishers.
- CREMONINI, L.; BENNEWORTH, P.; DAUNCEY, H.; WESTERHEIJDEN, D.F. (2013): Reconciling Republican 'Egalite' and Global Excellence Values in French Higher Education. In: J.C. SHIN & B.M. KEHM (Eds.), *Institutionalization of World-Class University in Global Competition*. The changing academy, 6 (6). Springer, Dordrecht, 99 - 123. ISBN 9789400749740
- CREMONINI, L.; WESTERHEIJDEN, D.F.; BENNEWORTH, P.; DAUNCEY, H. (2014): «In the Shadow of Celebrity? World-Class University Policies and Public Value in Higher Education». *Higher Education Policy*, 27(3), 341-361.
- CUNNINGHAM, P.; EDLER, J.; FLANAGAN, K.; LARÉDO, P. (2016): The innovation policy mix. In: EDLER et al. (Eds.), *Handbook of Innovation Policy Impact*, Cheltenham: Edward Elgar.
- DE BOER, H.; FILE, J.; HUISMAN, J.; SEEBER, M.; VUKASOVIC, M.; WESTERHEIJDEN, D.F. (2016): Policy Analysis of Structural Reforms in Higher Education: Processes and Outcomes. Springer.
- DE BOER, H.F.; ENDERS, J.; SCHIMANK, U. (2007): On the way towards new public management? The governance of university systems in England, the Netherlands, Austria, and Germany. In D. JANSEN (ED.), *New forms of governance in research organizations – Disciplinary approaches, interfaces and integration*. Dordrecht: Springer.
- DEEM, R. (1998): «New managerialism' and higher education: The management of performances and cultures in universities in the United Kingdom», *International Studies in Sociology of Education*, 8:1, 47-70, DOI: 10.1080/0962021980020014
- (2001): Globalisation, New Managerialism, Academic Capitalism and Entrepreneurialism in Universities: Is the local dimension still important?, *Comparative Education*, 37:1, 7-20, DOI: 10.1080/03050060020020408

- DEEM, R.; BREHONY, K.J. (2005): Management as ideology: the case of 'new managerialism' in higher education. *Oxford Review of Education*, 31:2, 217-235, DOI: 10.1080/03054980500117827
- DE WEERT, E. (2011): Perspectives on Higher Education and the labour market: Review of international policy developments. Available online at <https://www.utwente.nl/bms/cheps/publications/Publications%202011/C11EW158%20Final%20version%20Thema%20onderwijs%20-%20arbeidsmarkt.pdf>
- DG REGIONAL POLICY (2011): Connecting Universities to Regional Growth: A Practical Guide. Available online at http://ec.europa.eu/regional_policy/sources/docgener/presenta/universities2011/universities2011_en.pdf
- DORNBUSCH, F.; KROLL, H.; SCHRICKE, E. (2012): Multiple dimensions of regionally-oriented university involvement: How motivation and opportunity prompt German researchers to engage in different ways (No. R6/2012). Working papers firms and region.
- EDWARDS, M.A.; ROY, S. (2017): Academic Research in the 21st Century: Maintaining Scientific Integrity in a Climate of Perverse Incentives and Hypercompetition. *Environmental Engineering Science*, 34(1), 51–61. <http://doi.org/10.1089/ees.2016.0223>
- ENDERS, J.; DE BOER, H. (2009): The mission impossible of the European university: Institutional confusion and institutional diversity. In *European integration and the governance of higher education and research* (pp. 159-178). Springer Netherlands.
- ESTERMANN, T.; PRUVOT, E.B.; CLAEYS-KULIK, A.L. (2013): Designing strategies for efficient funding of higher education in Europe. DE-FINE interim report. Brussels.
- EUROPEAN COMMISSION (2008): Needs and constraints analysis of the three dimensions of third mission activities. European indicators and ranking methodology for University Third Mission E3M. Available online at <http://e3mproject.eu/Three-dim-third-mission-act.pdf>
- (2013): Summary and key outcomes-Peer Learning Activity «The Regional Knowledge Triangle: linking higher education, research and innovation in support of regional development». Available online at http://ec.europa.eu/dgs/education_culture/repository/education/policy/strategic-framework/expert-groups/documents/report-regional-knowledge-triangle_en.pdf
- (2016): Roadmap: A new Skills Agenda for Europe. Available online at http://ec.europa.eu/smart-regulation/roadmaps/docs/2016_empl_005_skills_initiative_en.pdf
- FELDMAN M.; DESROCHERS, P. (2003): Research Universities and Local Economic Development: Lessons from the History of the Johns Hopkins University, *Industry & Innovation* 10, 5-24.
- FITJAR, R.D.; ISAKSEN, A.; KNUDSEN, J.P. (2016): Ti kapitler til en fremtidsrettet innovasjonspolitik In R. D. FITJAR, A. ISAKSEN, & J. P. KNUDSEN (EDS.), *Politikk for innovative regioner* (pp. 13-29). oslo: Cappelen Damm Akademisk
- FLANAGAN, K.; UYARRA, E.; LARANJA, M. (2011): Reconceptualising the “policy mix” for innovation. *Research Policy*, 40: 702-713.
- FORAY, D.; GODDARD, J.; GOENAGA BELDARRAIN, X.; LANDABASO, M.; MCCANN, P.; MORGAN, K.; NAUWELAERS, C.; ORTEGA-ARGLÉS, R. (2012): «Guide to Research and Innovation Strategies for Smart Specialisation Strategies». Sevilla: JRC. Available online at http://ec.europa.eu/regional_policy/sources/docgener/presenta/smart_specialisation/smart_ris3_2012.pdf
- FOUMIN, I.; LISYUTKIN, M. (2015): Excellence-driven policies and initiatives in the context of Bologna process: Rationale, design, implementation and outcomes. In *The European Higher Education Area* (pp. 249-265). Springer International Publishing.
- GODDARD, J.; ROBERTSON, D.; VALLANCE, P. (2012): Universities, Technology and Innovation Centres and regional development: the case of the North-East of England. *Cambridge Journal of Economics*, 36(3), 609-627.
- HAZELKORN, E. (2009): Rankings and the battle for world-class excellence. *Higher education management and Policy*, 21(1), 1-22.
- HICKS, D.; WOUTERS, P.; WALTMAN, L.; DE RIJCKE, S.; RAFOLS, I. (2015): The Leiden Manifesto for research metrics. *Nature*, 520(7548), 429.
- HUMPHREY, L. (2013): University–Community Engagement. In *University engagement with socially excluded communities* (pp. 103-124). Springer Netherlands
- JAEGER, A.; KOPPER, J. (2013): Measuring the Regional “Third-Mission-Potential” of Different Types of HEIs. Niederrhine Institute for Re-

gional and Structural Research (NIERS). Hochschule Niederrhein-University of Applied Sciences. Mönchengladbach, Germany.

- JONGBLOED, B. (2003): Marketisation in higher education, Clark's triangle and the essential ingredients of markets. *Higher education quarterly*, 57(2), 110-135
- JONGBLOED, B.; ENDERS, J.; SALERNO, C. (2008): Higher education and its communities: Interconnections, interdependencies and a research agenda. *Higher education*, 56(3), 303-324.
- KARSETH, B. (2008): «Qualifications frameworks for the European Higher Education Area: a new instrumentalism or 'Much Ado about Nothing'?» *Learning and Teaching* 1 (2):77-101. doi: 10.3167/latiss.2008.010205.
- KITAGAWA, F.; BARRIOLUENGO, M.S.; UYARRA, E. (2016): Third mission as institutional strategies: Between isomorphic forces and heterogeneous pathways. *Science and Public Policy*, scw015.
- KLEMENČIČ, M. (2016): The Role of Institutional Research in Positioning Universities. In *Positioning Higher Education Institutions* (pp. 3-18). Sense Publishers.
- KORYAKINA, T.; SARRICO, C.S.; TEIXEIRA, P.N. (2015): Third mission activities: university managers' perceptions on existing barriers, *European Journal of Higher Education*, 5:3, 316-330, DOI: 10.1080/21568235.2015. 1044544
- KRČMÁŘOVÁ, J. (2011): The third mission of higher education institutions: conceptual framework and application in the Czech Republic. *European Journal of Higher Education*, 1(4), 315-331.
- LAREDO, P. (2007): Revisiting the third mission of universities: toward a renewed categorization of university activities?. *Higher education policy*, 20(4), 441-456.
- LEISYTE, L.; KIZNIENE, D. (2006): New Public Management in Lithuania's Higher Education. *Higher Education Policy*, 19(3), 377-396.
- LEPORI, B.; VAN DEN BESSELAAR, P.; DINGES, M.; POTÌ, B.; REALE, E.; SLIPERSÆTER, S.; THÈVES, J.; VAN DER MEULEN, B. (2007): Comparing the evolution of national research policies: what patterns of change?. *Science and Public Policy*, 34(6), 372-388
- MAREK, K. (2012): Knowledge production in European universities: States, markets, and academic entrepreneurialism (Vol. 3). Peter Lang.
- MARMOLEJO, F.; PUUKKA, J. (2006): Supporting the contribution of higher education to regional development: lessons learned from an OECD review of 14 regions throughout 12 countries. Available online at <http://portal.unesco.org/education/en/files/51664/11634949875MarmolejoPuukka-EN.pdf/MarmolejoPuukka-EN.pdf>
- MARTIN, B.R. (2012): Are universities and university research under threat? Towards an evolutionary model of university speciation. *Cambridge Journal of Economics*, bes006.
- MCCANN, P.; ORTEGA-ARGILES, R. (2013): Modern regional innovation policy. *Cambridge journal of regions economy and society*, 6(2), 187-216. DOI: 10.1093/cjres/rst007
- MCGETTIGAN, A. (2013): The great university gamble: money, markets and the future of higher education, Bristol: Pluto Press.
- MERTON, R. (1968): The Matthew effect in science, *Science*, 159, pp. 56-63.
- NOU (2016:3): Ved et vendepunkt: Fra ressursøkonomi til kunnskapsøkonomi. Produktivitetskomisjonens andre rapport.
- OECD (2000): The Response of Higher Education Institutions to Regional Needs, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/9789264180550-en>
- (2004): Science and innovation policy: Key Challenges and Opportunities. Available online at <http://www.oecd.org/science/inno/23706075.pdf>
- (2007): Regional Engagement: The Future for Higher Education? Available online at <https://www.oecd.org/edu/imhe/38364548.pdf>
- (2008): Higher Education Management and Policy, Volume 20 Issue 2: Higher Education and Regional Development, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/hemp-v20-2-en>
- (2010): The innovation strategy: getting a head start on tomorrow: Paris: Organisation for Economic Co-Operation & Development.
- PAUSITS, A. (2015): The knowledge society and diversification of higher education: From the social contract to the mission of universities. In *The European Higher Education Area* (pp. 267-284). Springer International Publishing.
- PERKMANN, M.; TARTARI, V.; MCKELVEY, M.; AUTIO, E.; BROSTRÖM, A.; D'ESTE, P.; FINI, R.; GEUNA, A.; GRIMALDI, R.; HUGHES, A.; KRABEL, S. (2013): Academic engagement and commercialisation: A review of the literature on university-industry relations. *Research policy*, 42(2), 423-442.

- PINHEIRO, R. (2016): Assessing change in higher education from the perspective of excellence versus relevance In N. CLOETE, GOEDEGEBUURE, J., GORNITZKA, Å, JUNGLUT, J., AND STENSAKER, B. (ED.), *Pathways through higher education research: A festschrift in honour of Peter Maassen* (pp. 37-40). Oslo: University of Oslo.
- PINHEIRO, R.; AAREVAARA, T.; BERG, E.; GESCHWIND, L.; TORJESEN, D.O. (2017): Strategic mergers in the public sector: comparing universities and hospitals. In S. TARBA, R. COOPER, & C. SARALA (EDS.), *Mergers and Acquisitions In Practice*, Routledge (pp. 44-68). New York: Routledge. Forthcoming.
- PINHEIRO, R.; BENNEWORTH, P.; JONES, G.A. (2015): Beyond the Obvious: Tensions and Volitions Surrounding the Contributions of Universities to Regional Development and Innovation I. In: LUIS M. CARMO FARINHA & JOAO J.M. FERREIRA & HELEN LAWTON SMITH & SHARMISTHA BAGCHI-SEN (EDS.), *Handbook of Research on Global Competitive Advantage through Innovation and Entrepreneurship*. IGI Global, 150 - 172. ISBN 9781466683488
- PINHEIRO, R.; GESCHWIND, L.; AARREVAARA, T. (EDS.). (2016): *Mergers in Higher Education: The experiences from Northern Europe*. Dordrecht: Springer.
- PINHEIRO, R.; LANGA, P.V.; PAUSITS, A. (2015): One and two equals three? The third mission of higher education institutions. *European Journal of Higher Education*, 5(3), 233-249.
- PRUVOT, E.B.; ESTERMANN, T.; MASON, P. (2015): DEFINE thematic report: University mergers in Europe. Brussels: European University Association.
- PUUKKA, J. (2015): Higher Education Institutions and Regional Engagement: what, why and how? Available online at http://www.regio-co-neixement.catedra.urv.cat/media/upload/domain_697/arxiu/carpeta%20sense%20nom/Final%20paper%20Puuka_FV.pdf
- PUUKKA, J.; MARMOLEJO, F. (2008): Higher education institutions and regional mission: Lessons learnt from the OECD review project. *Higher Education Policy*, 21(2), 217-244.
- RAMÍREZ, F.; BYRKJEFLOT, H.; PINHEIRO, R. (2016): «Higher education and health organizational fields in the age of “world class” and “best practices”», in R. PINHEIRO, L. GESCHWIND, F. RAMÍREZ, AND K. VRANGBÆK, (EDS.), *Towards a comparative institutionalism: Forms, dynamics and logics across health care and higher education fields*. Bingley Emerald, pp. 35-57.
- REGJERINGENS GRÜNDERPLAN (2015): Gode ideer - fremtidens arbeidsplasser. Available online at https://www.regjeringen.no/content/assets/05f1305cb2a94a379ff48c2f2c60d688/grunderplan_2015.pdf
- RUTTEN, R.; BOEKEMA, F.; KUYPERS, E. (2003a): «HEIs, regions and the knowledge based economy» in R. RUTTEN, F. BOEKEMA, & E. KUYPERS, (EDS) *Economic Geography of Higher Education: Knowledge, Infrastructure and Learning Regions*, London: Routledge
- SALMI, J. (2009): The challenge of establishing world-class universities. World Bank Publications.
- SCHULZE, N.; HUFNAGL, M. (2012): Regional engagement of German Higher Education Institutions: coincidence or governance?. *Regional Insights*, 3(2), 18-20.
- SERBANICA, C. (2012): Best Practices in Universities' Regional Engagement. *Towards Smart Specialisation*. *European Journal of Interdisciplinary Studies*, 4(2), 45.
- SHAVIT, Y.; ARUM, R.; GAMORAN, A. (2007): *Stratification in Higher Education: A Comparative Study*. Stanford, CA: Stanford University Press.
- STRAUF, S.; SCHERER, R. (2007): Universities and their contribution to regional development. Available online at <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.564.4695&rep=rep1&type=pdf>
- TEELKEN, C. (2012): Compliance or pragmatism: how do academics deal with managerialism in higher education? A comparative study in three countries, *Studies in Higher Education*, 37:3, 271-290, DOI: 10.1080/03075079.2010.511171
- TRIPPL, M.; SINOZIC, T.; LAWTON SMITH, H. (2015): The role of universities in regional development: conceptual models and policy institutions in the UK, Sweden and Austria. *European Planning Studies*, 23(9), 1722-1740.
- VEUGELERS, R.; DEL REY, E. (2014): The contribution of universities to innovation, (regional) growth and employment. Available online at www.eenee.de/dms/EENEE/Analytical_Reports/EENEE_AR18.pdf
- ZEEMAN, N.; BENNEWORTH, P. (2016): Globalisation, mergers and 'inadvertent multi-campus universities': reflections from Wales. *Tertiary education and management*. ISSN 1358-3883