



European
Commission

JRC SCIENTIFIC AND POLICY REPORTS

Universities and Smart Specialisation

S3 Policy Brief Series
No. 03/2013

Louise Kempton, John Goddard,
John Edwards, Fatime Barbara Hegyi
and Susana Elena-Pérez

2013



Report EUR 26343 EN

Joint
Research
Centre

European Commission
Joint Research Centre
Institute for Prospective Technological Studies

Contact information
Address: Edificio Expo. c/ Inca Garcilaso, 3. E-41092 Seville (Spain)
E-mail: jrc-ipts-secretariat@ec.europa.eu
Tel.: +34 954488318
Fax: +34 954488300

<http://ipts.jrc.ec.europa.eu>
<http://www.jrc.ec.europa.eu>

Legal Notice

Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use which might be made of this publication.

Europe Direct is a service to help you find answers to your questions about the European Union
Freephone number (*): 00 800 6 7 8 9 10 11

(*) Certain mobile telephone operators do not allow access to 00 800 numbers or these calls may be billed.

A great deal of additional information on the European Union is available on the Internet.
It can be accessed through the Europa server <http://europa.eu/>.

JRC85508

EUR 26343 EN

ISBN 978-92-79-34717-7 (pdf)

ISSN 1831-9424 (online)

doi:10.2791/52851

Luxembourg: Publications Office of the European Union, 2013

© European Union, 2013

Reproduction is authorised provided the source is acknowledged.

Printed in Spain



Universities and Smart Specialisation

Louise Kempton*, John Goddard*, John Edwards^{**a}, Fatime Barbara Hegyi^{**a}
and Susana Elena-Pérez^{**a}

* Centre for Urban and Regional Development Studies,
Newcastle University (United Kingdom)

**European Commission, JRC-IPTS, Seville (Spain)

S3 Policy Brief Series n° 03/2013 – November 2013

S3 Platform, JRC-IPTS

Abstract

This S3 Platform Policy Brief analyses the potential role of universities in the development and implementation of Smart Specialisation Strategies (RIS3). These strategies are a central part of the new Cohesion Policy framework, being an 'ex-ante conditionality' designed to ensure effective spending of the large amount of EU funds that will be available for research and innovation. Universities are often crucial institutions in regional innovation systems, especially in those with an absence of a dynamic, research led private sector, and there is rich history of academic and policy analysis in this area. However, with the new smart specialisation agenda, which differs in emphasis and design from previous regional innovation policies, universities have a potentially pivotal role to play in its delivery. Yet there are a number of challenges and obstacles which must be considered, in addition to the numerous opportunities. This Policy Brief makes concrete suggestions on how universities can be integrated into S3 to deliver their desired economic and social outcomes.

^a The views expressed are purely those of the author and may not in any circumstances be regarded as stating an official position of the European Commission.

1. Introduction

Within the new Cohesion Policy framework, smart specialisation has been proposed as an ex-ante conditionality: Every Member State and region will need to have a national or regional Smart Specialisation Strategy (S3)¹ in place before they can receive financial support from the European Regional Development Fund (ERDF) for their planned research and innovation measures. Moreover, the European Commission encourages Member States and regions to harness all EU and national funding sources, and consider legislative/policy framework measures in the pursuit of smart specialisation.

A total of €330 billion is proposed for the Cohesion Policy during 2014-2020, the substantial proportion of which will be directed towards less developed regions. Funding for research and innovation activities is likely to double compared to the previous period 2007-2013. The capacity of the relevant regional actors to absorb these funds and direct them to productive research and innovation activities for the region will be a key issue and challenge, and it therefore follows that the role of universities' direct engagement in the design and implementation of S3 will be crucial for their goals to be achieved.

Universities have often been absent from or had a minimal role in national and regional innovation strategies. Furthermore the dominant paradigm has been one of a technology push, which has largely ignored the potential contribution of the Arts, Humanities and Social Sciences to regional development and innovation. Even the terminology and infrastructure of innovation has shown a strong bias towards an assumption of a scientific or technological basis (e.g. many universities have 'technology transfer offices').

However it is clear that universities have a potentially pivotal role to play in the social and economic development of their regions. They are a critical 'asset' of the region; even more so in less favoured regions where the private sector may be weak or relatively small, and has low levels of research and development activity. Evidence shows that the successful mobilisation of the resources of a university can have a disproportionately positive effect on regional economies and achievement of comprehensive regional strategies. Universities can therefore play a key role by contributing to the design and implementation of S3 in a local learning and capacity building process.

2. Background to 'Smart Specialisation'

Smart specialisation will be a key underpinning concept governing European Structural and Investment Funds for research and innovation in the 2014-2020 programming period. It is defined by the European Commission's Smart Specialisation Platform (hosted by the Joint Research Centre's Institute for Prospective Technological Studies in Seville) as "a strategic approach to economic development through targeted support to Research and Innovation"².

The concept was first introduced by Foray and Van Ark in 2007, in a policy brief prepared for the Knowledge for Growth Expert Group (Foray and Van Ark, 2007), an independent advisory group to the European Commissioner for Research and Innovation. While Foray and Van Ark were primarily concerned with developing strategies aimed at addressing the transatlantic gap in R&D investment, the "Barca Report" (Barca, 2009) looked at the territorial dimensions of Cohesion Policy, making a

¹ Smart Specialisation Strategies (S3) are also sometimes referred to as Research and Innovation Strategies for Smart Specialisation (RIS3).

² See S3 Platform website: <http://s3platform.jrc.ec.europa.eu>

number of recommendations for the post 2013 programmes, including the need to focus on fewer priorities and for better coordination of place-based policies across the Commission. This facilitated the transition of Smart Specialisation from a wholly sectoral concept to one that is also applicable to regional policy (McCann and Ortega-Argilés, 2011).

In 2009 Foray et al. developed their concept further in another policy brief (Foray et al, 2009). In this they introduced the notion of the 'entrepreneurial process of discovery', a 'bottom up' learning process aimed at identifying 'domains' for future specialism that build on a region's existing assets. Rather than the 'top down' public authority led process for developing previous regional innovation strategies which is heavily critiqued in the emerging literature on smart specialisation, the role of public authorities should be to create the right conditions for and support the entrepreneurial process of discovery.

Europe 2020, the European Commission's ten year strategy for growth launched in 2010, reflects the findings of Foray, Barca and their collaborators by setting out a streamlined set of objectives focusing on 'smart, sustainable and inclusive growth' (European Commission, 2010a). Innovation Union is one of the three flagship initiatives for 'smart' growth (European Commission, 2010b). Its publication in 2010 saw the adoption of 'smart specialisation' as a key element of a Europe wide approach to promoting innovation and growth over the next decade.

Innovation Union sets out a self-assessment tool for national and regional research and innovation systems. Taking a 'smart specialisation' approach to innovation is one of the ten conditions for well performing places. Furthermore it is proposed as an ex-ante conditionality for the use of European Regional Development Funds in the 2014-2020 programming period, meaning the approach is likely to be adopted across Europe in the coming years.

Adopting the principles of smart specialisation will not be straight forward. The method in its purist form proposes a new and more leading involvement of different actors in the entrepreneurial discovery process. It demands a level of global awareness and partnerships beyond regional boundaries. It also introduces the concepts of embeddedness and relatedness across functional economic areas. It calls for evidenced identification of competitive advantages around which inputs of regional stakeholders and resources can be concentrated. Furthermore, it asks for measures to strengthen regional innovation systems in order to maximise knowledge flows and spread the benefits of innovation throughout the entire regional economy.

As already noted, universities have long been seen as important actors in regional innovation systems, and the emerging literature on smart specialisation reinforces and even amplifies this role. However there are some key underpinning principles that make smart specialisation distinctive from previous iterations of regional innovation strategy development, and it will be necessary to understand the implications of these for the actors in the process, including universities.

3. The potential role and contribution of universities to S3

There is increasing prominence given to role of universities beyond 'just' core functions of teaching and research by national, regional and local governments as well as supra-national bodies such as the European Commission and the OECD. This widened role has been highlighted in the agenda adopted by the Commission in September 2011 for the modernisation of Europe's higher education systems (European Commission 2011a) and has been promoted by the OECD in its Reviews of Higher Education in Regional and City Development which began in 2005. These are the OECD's vehicle to "mobilise higher education for economic, social and cultural development of cities and

regions... analyse how the higher education system impacts upon regional and local development...[and] facilitate stronger collaborative work and capacity building” (OECD 2007, p.23).

This trend is likely to continue as the on-going global economic crisis is putting governments under enormous pressure to respond to the challenges of public and private debt at the same time as competition is intensifying. Meanwhile, local communities and taxpayers facing difficult economic situations are questioning the ‘value’ of universities, especially where the benefits may appear less obvious, for example in regions with high unemployment. Public funding for higher education is therefore coming under increasing scrutiny, resulting in a growing requirement for universities to demonstrate their value, contribution and benefit to society and the economy.

In response, universities are rethinking their role and responsibilities, and engaging in learning and co-production of knowledge beyond the campus walls, resulting in discoveries which are useful beyond the academic community and that directly benefit the public. There is a growing recognition between universities and local/regional leaders of the potential for mutually beneficial relationships, and the active role of universities in terms of their contribution to local and regional development and innovation has gained a new salience in the context of smart specialisation as a future focus for European regional policy.

According to McCann and Ortega-Argilés, smart specialisation envisages that,

“the identification of the knowledge intensive areas for potential growth and development are related to the role of certain classes of players (researchers, suppliers, manufacturers and service providers, entrepreneurs, users) and the public research and industry / science links. The players are regarded as being the agents who use the knowledge acquisition facilities and resources (human capital, ideas, academic and research collaborations) to scan the available local economic and market opportunities, to identify technological and market niches for exploitation, and thereby act as the catalyst for driving the emerging transformation of the economy” (McCann and Ortgega-Argiles, 2011, p3).

This interaction between science and economic actors at different geographical scales is a key issue where universities clearly have an important role to play. Below is a non-exhaustive list of the contributions universities could make.

Examples of roles/contributions of universities to S3

- Universities can play a key role in defining a regional S3 by contributing to a rigorous **assessment of the region’s knowledge** assets, capabilities and competencies, including those embedded in the university’s own departments as well as local businesses.
- Universities can contribute to the regional entrepreneurial discovery process by bringing **global awareness and partnerships** across regional borders into the frame through evidenced based identification of competitive advantage around which regional strategies and resources can be concentrated.
- Universities can provide **specialist research expertise** and links to national and international networks of knowledge, becoming critical agents in the entrepreneurial discovery process and establishing whether a region has the assets needed to specialise in particular areas.
- Through their **teaching programmes** (including Continuing Professional Development and Lifelong Learning as well as under and post graduate courses) universities can enhance the

skills and competencies of staff working in the field of economic development through training, consultancy services and supply of graduates, thus improving the capacity of the region to deliver S3.

- On the demand side, while a region might possess a strong university or universities there might be limited absorptive capacity in local enterprises, especially SMEs or the branches of multinational companies with no local in-house R&D. Universities can contribute to **capacity building on the demand side** through new business formation, student enterprise, and graduate placements as well as encouraging staff to actively engage with local businesses.
- In terms of **institutional leadership and governance**, particularly in regions where local government is fragmented and unable to act beyond its own immediate boundaries, universities as key anchor institutions can play an important role in building the social relations which underpin the regional innovation system for the formulation and indeed, implementation of S3.
- Furthermore, in meeting major societal challenges that have both global and local dimensions, such as how to move towards a low carbon economy or to meet the needs and realise the opportunities of an ageing population, universities can contribute to **local knowledge creation** and its translation into innovative products and public and private services. In addressing such challenges universities can engage the creative arts and social sciences as well as technical and natural scientists.

4. Issues and challenges

Successful partnerships depend on both universities and regional authorities understanding each other's drivers. Too often partnerships fail because university managers do not understand the challenges of regional development and regional authorities do not understand the core mission of universities and the constraints within which they work. However, once mutual understanding is reached it is possible to put in place structures and procedures which overcome the barriers to collaboration. It is important to note that while there are some universal mechanisms that can be adopted across the whole of the EU in this area, what is actually effective is highly contingent on regional and national circumstances, including the region's industrial structure and governance, and how universities are funded and regulated within their national higher education system.

It is therefore critical from the outset of the S3 development process to recognise that there may be a series of complex barriers to overcome, both internal to the universities and in the wider enabling environment. If public authorities and the key regional partners understand the principles, practices and barriers and how to overcome them, the potential for maximising the contribution of universities will be very high. Achieving this is a long term objective and will require a staged approach moving from simple projects to more integrated collaborative programmes.

The OECD reviews of higher education institutions and regional development have revealed a number of barriers to engagement between universities and their cities/regions in terms of their contribution to innovation (OECD, 2007; Goddard and Pukka, 2008). This provides a useful framework focused around four inter-related headings where there are underlying tensions between regional and academic drivers and can be viewed through a smart specialisation lens.

Multi-level governance

One of the potentially greatest challenges is that higher education policy in many countries lacks an explicit territorial dimension. Academics and their universities are rewarded on the basis of the scientific excellence of their research and where they collaborate with business there are strong incentives for this to be with leading companies in the field regardless of their location. While university technology transfer offices are dedicated to the commercialisation of research, including spin outs, they are generally not tasked to explicitly contribute to local economic development, where the outcomes such as job generation may be outside the remit of higher education. The consequence is that the national and international rankings of universities are by and large correlated with the hierarchy of locations (in other words, the ‘best’ universities tend to be found in the most dynamic cities and regions).

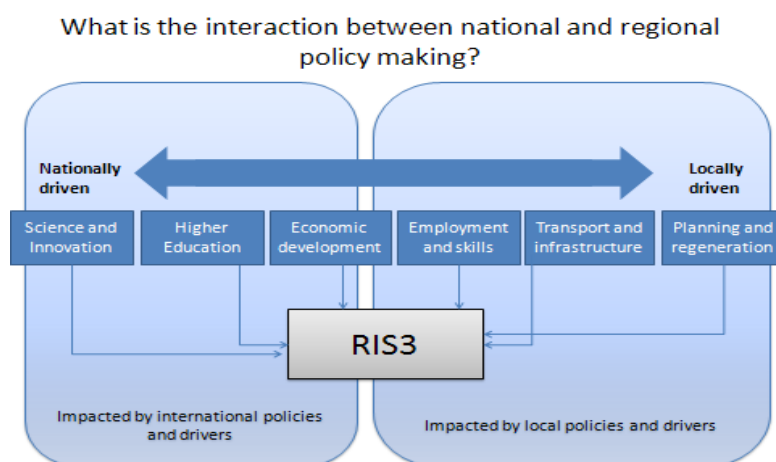
In addition, there may be a lack of coordination between policies that impact on S3 at a national level as they fall into the remits of a range of government departments, each of which may tend to jealously guard their ‘territory’ and resource allocations. There may even be explicit conflicts between policy areas, making it difficult to ‘join up’ or coordinate an approach to S3. For example, the department responsible for higher education

will most likely (and at the urging of the leaders of the most elite universities) promote a national ‘excellence’ agenda and preserve the institutional autonomy of universities. At the same time, the department with responsibility for territorial development will want to address economic disparities in certain regions by incentivising and encouraging universities (and other institutions) to act locally, which may be perceived as “telling them what to do” (particularly if it is a condition of funding).

As well as lack of coordination horizontally across the different but related policy areas, there can also be a lack of coherence vertically; in other words, between the different levels of education (especially between higher education and further/vocational secondary education). If clear progression pathways aren’t created between the different education systems then it becomes difficult for universities to meet the skills and human capital needs within their regional economies. For example, if local industry needs engineers trained to masters degree level to grow their businesses, it is not sufficient for the university to offer a new programme if the pipeline of potential students with the appropriate qualifications does not exist or is too narrow.

Local Capacity and Governance

On the local demand side, while an area might possess a strong university or universities there may be limited absorptive capacity in local enterprises, especially SMEs and the branches of multinational companies with no local in-house R&D. This can result in an ‘innovation paradox’ – the results of investments in increasing the supply of research and innovation in the region leak out

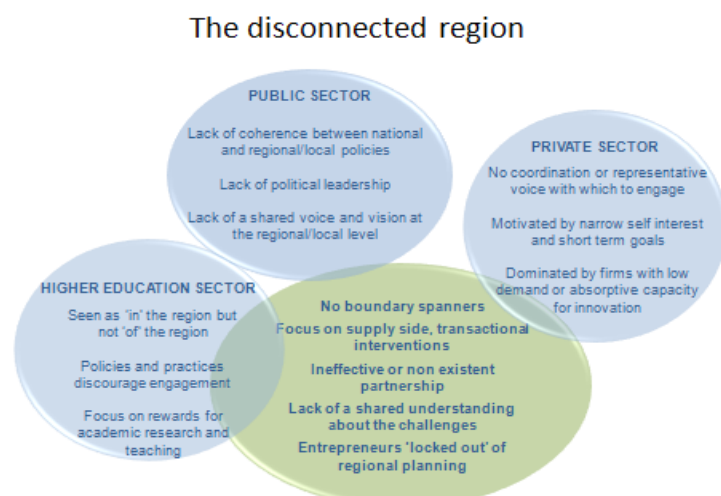


Source: The authors

to other places where absorptive capacity is higher, thus creating even bigger gaps between innovation 'rich' and 'poor' areas.

The connection between the academic profile of universities and the sectoral structure of their regions will have serious consequences for their desire and ability to work together. In some regions, universities will have been established in direct response to the industrial needs of the surrounding territory. However this may have reflected an industrial heritage that is no longer relevant to the region (e.g. ship building, mining, heavy engineering). In other cases universities might see themselves as players in a national or even international marketplace, and design their 'offer' around responding to market demands for skills and research rather than any connection with the regions in which they are located.

On the other hand, universities may have been proactive in changing their areas of focus and specialism to better meet the needs of 21st century students and businesses, but find themselves in a region where the private sector has not made the same adjustments. Businesses that are 'locked in' to old structures and ways of working will be less inclined to engage with universities, especially as they see the universities increasingly focus on 'new' sectors and technologies. In such circumstances the bundling together of demand for university services will be challenging.



Source: European Commission (2011b)

On the governance side, local governments may be weak or fragmented and unable to act beyond their immediate boundaries. There may be a lack of collective leadership which constrains the ability of the public sector to articulate the needs of the wider region, mobilise other regional actors to formulate effective strategies or influence decision making at a national level. Powers to act might be limited, and furthermore there may be a lack of coherence or coordination between national 'top down' and local 'bottom up' policies and initiatives.

European Funding

ERDF and ESF funds are significant and important for many universities, particularly in less developed regions. But funding has often been directed at 'transactional', output driven projects rather than 'transformational', results driven programmes. In addition, for universities to access structural and investment funds, they are confronted with a demanding and burdensome framework of administrative processes and rules that are difficult to navigate and meet, and are often incompatible with their own internal systems and processes as well as the requirements of 'traditional' funders of academic research. Universities are familiar with and organised to meet the requirements of national and international competitions for research grants. In comparison European structural and investment funds can be seen as a high risk proposition due to an

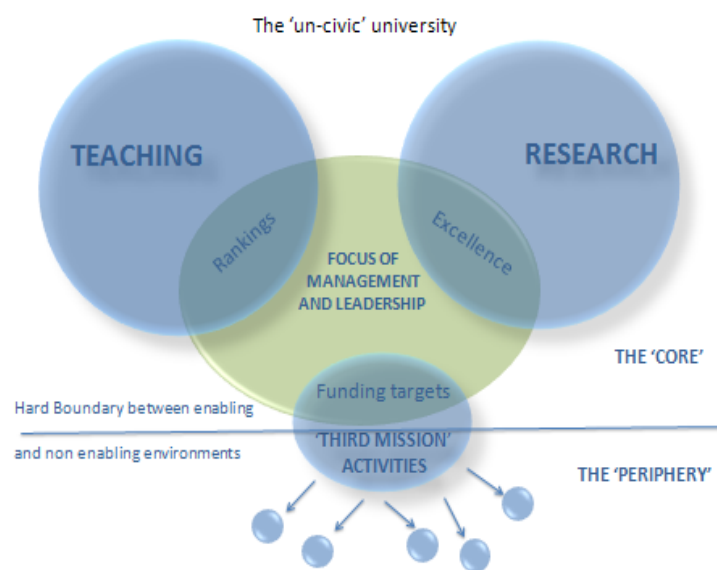
emphasis on outputs and results (e.g. job creation) that are not linked to the core mission of universities; moreover intervention rates are considerably lower than ‘traditional’ sources of research funding such as the Framework Programmes (to be called Horizon 2020 from 2014). Funding for research through these programmes can be more attractive as it (currently) has an intervention rate of up to 75%, with some activities even eligible for 100% funding. In addition the application process is more in tune with academic practices such as peer review.

University Leadership and Management

Universities are often highly autonomous institutions which are independent from local or even national authorities when it comes to setting strategic direction and deciding on specific activities to become involved with. This may be both a blessing and a curse for regions who want to engage with their universities in the development and implementation of S3.

On the one hand, there may be universities that are highly motivated to get involved in promoting regional growth, who have resources (finance, staff, physical assets etc.) that can be unlocked and have specialisms that are not only aligned to the needs of the region but also have a national and international profile that can be important in creating external connections for business in the region and support the ‘entrepreneurial discovery’ process.

However while there has been a growing trend in recent years for universities to engage more with their regions in delivering initiatives aimed at social and economic growth (e.g. growing participation among universities in ERDF/ESF funded activities), incentives for academic staff still tend to be dominated by those that contribute to meeting academic and/or teaching excellence targets. In this case staff may only be willing to get involved in regional programmes where there is a direct benefit for their academic portfolio and profile.



Source: The authors

Universities – and especially research intensive universities – tend to be ‘loosely coupled’ institutions. In other words, there is no strong central management working to achieve a defined corporate vision and strategy and the academic autonomy of staff is jealously guarded. Therefore the university will be both reluctant and possibly unable to align research and teaching activities specifically to meet regional demands or needs.

While at an institutional level the university may not be committed to sharing or reorienting its resources and expertise to help build regional innovation and specialisation, there may still be ‘grass roots’ engagement by individual academics or research groups. However, without a more

institutional (and institutionalised) relationship these activities will tend to be ad-hoc and struggle to capture the potential for transformational results that a more joined up approach would bring.

5. Responding to the challenges

Universities and entrepreneurial discovery – a more broadly defined role?

Entrepreneurial discovery can be defined as a “collective strategy formation process focused on the identification of science and technology areas with distinctive market potential in the region” (Goddard et al, 2012). The intention is that this process is ‘bottom up’ in nature, arising from collaborations and discussions within the region, mobilising a broad range of participants and actors including universities. In fact it can be argued that universities in many cases are already well established entrepreneurial actors in their local and regional economies through activities such as research commercialisation, enterprise formation and spin outs.

However it is important that this role is not too narrowly defined and that policy makers and universities themselves recognise the broader role they can play in providing expertise and intelligence in domains such as regional development, education, business etc. The potential for universities to play a more ‘developmental’ role (Gunasekara, 2006) in shaping and supporting regional institutions, supporting the creation of networks and other capacity building activities should also be recognised and valued, particularly in ‘institutionally thin’ regions.

While this developmental role may have a less direct link to a process of ‘entrepreneurial discovery’, it will help to build the regional institutional capacity upon which a successful S3 will depend. Therefore policy makers must consider this broader, more supportive role alongside the potential ‘generative’ role that universities can play, and universities need to be willing to ‘step up to the plate’ and take on a wider, developmental role that might not directly contribute to traditional research and teaching success measures.

Therefore we can look at the capacities needed in a region to successfully design and implement S3 and ask (a) what should be the role of universities in building these capacities and (b) what are some of the practical activities that could support these roles?

Capacities needed for design and implementation of S3

Generative	When linked to economic development ‘entrepreneurial discovery’ is not just an individual endeavour or confined to the private sector. In some regions (esp. those with small/weak private sectors) universities/research organisations may need to play a more prominent role. These tend to be plugged into national/international networks and may be better placed to make judgements on the relative strength of regional activities.
Absorptive	Incorporating the demand side perspective from civil society. It is essential that demand-side perspectives are given prominence, otherwise the S3 exercise runs the risk of being captured by public sector lobbies (including research interests not linked to regional potential). This is of greater concern in the Less Developed Regions where enterprise associations and other demand-side bodies tend to be weaker. Less Favoured Regions may have strong universities that can generate world class knowledge, but the universities also need to build capacity in SMEs to

	absorb and apply this knowledge.
Collaborative	Boundary spanners help to overcome the sectoral and disciplinary silos that reproduce old habits and routines, locking regional economies into their traditional paths of development. Boundary spanning skills tend to emerge from activities that straddle sectors, disciplines and professions and they are invariably fashioned in action learning environments where there is a high degree of novelty associated with the activity. Within the boundary spanning skill set it is possible to distinguish between horizontal and vertical boundary spanning perspectives, the former attuned to inter-organisational relationships within the region, the latter oriented to relationships between the region and its national and international interlocutors.
Leadership	S3 requires evidence based choices and related risks. Hence the importance of robust governance structures. These structures should ensure inclusive, open prioritisation and avoid capture by vested public sector and industrial interests. The S3 discovery process must therefore foster wide stakeholder involvement within the region (lateral) and across levels of public (central + local/regional and private sector governance (e.g. MNCs) (vertical).

Ways universities can support building and enhancing these capacities

Generative

The role in contributing to generative capacity must not be limited only to the technical research specialisms in the regions' universities for several reasons; university specialisms may not map onto regional areas of strengths; universities in other regions might be producing better quality research in a specific area; and aligning research too closely with the existing industrial profile of the region could lead to 'lock-in' syndrome and an inability to respond to future challenges or opportunities.

The region should also consider the research strengths of universities in terms of the humanities and social sciences – for example, business process, service (including public service) design, regional development and education.

As well as providing the region with their own generated research, universities are important nodes of connectivity to universities and researchers in other places through their networks and collaborations. Therefore the region should not only focus on universities in isolation, but also consider the potential linkages they can facilitate nationally and internationally.

As part of these national and international networks, universities may be well positioned to support the region in undertaking an objective assessment of their relative and absolute strengths in generating research in specific areas, thus strengthening the evidence base upon which key decisions will be made.

Absorptive

Ensuring that regional businesses have the necessary capacity to absorb and understand the relevance of university research is a critical stage in the process of implementing S3, and where this capacity is lacking, it will need to be built. Otherwise the best research will leak out of the region to places where absorptive capacity is sufficient, thus creating the 'innovation paradox' effect of strong regions becoming even stronger while the weaker regions fall further behind.

Some of the mechanisms that universities can deploy in the capacity building process include (but are not limited to): Ensuring that business and cluster organisations are represented in the regional partnership, establishing neutral places and events for personal contact/networking between university researchers and businesses, sharing resources and equipment to facilitate knowledge exchange, perhaps in the form of a 'market place' linking knowledge supply and demand and regional need.

Unlike RTD organisations, universities through teaching can build capacity on the demand side – by attracting, training and retaining the skilled people that will create demand in the future through new business formation, student enterprise, graduate placements etc. – establishing the social relations which underpin the regional innovation system .

Collaborative

The university can be seen as a relatively neutral actor in regional collaborations. As actors in (usually) a national higher education system they can remain detached from local political tensions, and without facing the same commercial pressures of private sector firms, they can avoid being accused of being motivated solely by self-interest.

But universities need to ensure that partners can 'reach in' as well as staff being supported and encouraged to 'reach out'. 'Reach in' can be promoted by providing access to existing university and regional infrastructure (e.g. laboratories) on a commercial basis and using their own funds and resources to establish special purpose vehicles (e.g. intermediate organisation for co-production of knowledge).

In terms of 'reach out' universities need to actively develop (and reward) 'boundary spanners' – people who can work across the boundaries of academia, business and civil society – and equip them with the skills (e.g. problem solving, communications, internal and external networking, project management , financial management, persuasion, team building) that they will need.

Leadership

The university can contribute to the development of leadership capacity in the region by supporting the development of a 'place based' approach to regional leadership and the creation of a shared vision rooted in the uniqueness of the place.

The university can play a specific role in supporting the development of a regional learning partnership by creating a sustainable learning organisation (perhaps with a physical presence) bridging all three partners which can work together to develop a portfolio of university products endorsed by the partnership e.g. industrial PhDs; student internships; lifelong learning; and 'silver academy', contributing to the development of on-going leadership capacity in the region.

An adaptive learning process to involve universities in the identification of indicators and in the monitoring mechanisms of RIS3

Establishing a system of monitoring is one of the core elements of the development of smart specialisation strategies (European Commission, 2012). The system must reflect and must be able to monitor both the strategy and the diverse components of the action plan, including funding instruments. The aim of the monitoring system include verifying the planned activities and delivering the desired results by evaluating and re-evaluating progress, to ensure the strategy is heading towards the chosen direction and with the anticipated pace.

Besides defining the right indicators, it is crucial to find the most suitable actor(s) at the right level to elaborate and then later to carry out the monitoring activity guided by those responsible for the implementation and revision of the strategy in public authorities.

Besides setting achievable goals to measure progress, the monitoring system has to support a continuous process of policy learning and policy shaping and most of all, adaptation. This requires capabilities to be built and integrated into the system of regional governance.

Universities may have the capability not only to participate in the identification of the indicators and the design of an effective monitoring system to measure progress, but may also have a role in the shaping and adaptation of the strategy itself. Furthermore, universities' involvement in the monitoring and evaluation mechanisms can result in increased engagement and understanding of regional development issues.

6. Conclusions and recommendations

Smart specialisation ascribes a key role to universities as actors in their local innovation ecosystems, connecting global and local knowledge domains, and arguably gives them far more prominence than has been the case in previous structural funding programmes. There is a compelling case therefore for universities to play a pivotal role in the design and implementation of regional S3, and in a much more broadly defined role than just generators of technological research and other 'upstream' activities.

The diversity of a university's research base in conjunction with the opportunity arising from public funding to explore risky forms of research should be seen as the distinctive value of universities in regional innovation systems, as this can rarely be emulated in the private sector. This type of 'slack' can add to the long term adaptability of a regional economy that prevents 'lock in' to ageing technologies and a failure to support on-going innovation.

Working together with the public sector, business and other social partners could provide exiting opportunities for universities to broaden their role locally and contribute not only to their 'engagement' mission, but also enhance the impact of their teaching and research, something governments and funding bodies are increasingly looking for.

However policy makers nationally and locally as well as universities themselves should appreciate just how challenging this task will be, and success will be elusive unless steps are taken to ensure that there is sufficient capacity and motivation locally for effective partnerships to be built that can address these challenges. In this context, it is recommended that policy makers at EU, national and regional / local level consider what they can do to effectively harness the power of universities for regional innovation and growth.

At **EU level**, the European Commission with support from other institutions could:

- Encourage Member States to consider the role of universities in regional and national innovation systems when drafting smart specialisation strategies.
- Provide guidance to Members States on how the ESIF operational programmes can work in synergy with Horizon 2020, the EU's new research funding programme.

- Analyse how universities are being involved in smart specialisation, including sharing experiences of university-regional engagement across Europe as part of a capacity building process.

At **national** level, policy makers could:

- Seek complementarities between EU and national funding programmes, including those targeted at research and regional development, ensuring that there is a common approach to harnessing the potential of universities while adapting it to national and regional circumstances.
- Analyse how legislation, multi-level governance and other structural factors affect the capabilities of universities to contribute to S3.
- Consider using technical assistance funding from the ESIF to build capacity in the regions for partnerships with universities and advise universities on engagement issues.

At **regional** level, policy makers could:

- Conduct a stock taking exercise to map the specialisms of local universities with the economic priorities of the region as a first step in building an S3 partnership.
- Survey the existing relationships between the university as well as individual academics and other regional actors to 'nourish' the partnership.
- Understand the specific obstacles and challenges that are preventing a greater level of engagement between local universities and the region.

The task of converting the capabilities of Europe's universities into economic and social benefits justifies and requires government intervention across departments and between geographical levels. Governments and universities need to understand each other before action can be taken, but such collaborative partnerships are possible and already exist across Europe. Such processes and results should be built and promoted more widely with the new impetus provided by smart specialisation.

References

- Barca, F (2009), *An Agenda for a Reformed Cohesion Policy: A place-based approach to meeting European Union challenges and expectations*, Independent Report prepared at the request of Danuta Hübner, Commissioner for Regional Policy, European Commission, April 2009.
- European Commission (2010a), *Europe 2020. A strategy for smart, sustainable and inclusive growth*, COM(2010) 2020 final, CEC, Brussels.
- European Commission (2010b), *Innovation Union Europe 2020 Flagship Initiative*, COM (2010) 546 final, CEC, Brussels.
- European Commission (2011a) *Supporting growth and jobs – an agenda for modernisation of Europe’s higher education system*, (COM (2011) (567), CEC, Brussels.
- European Commission (2011b), *Connecting Universities to Regional Growth*, CEC, Brussels.
- European Commission (2012), *Guide to Research and Innovation Strategies for Smart Specialisation (RIS3)*, CEC, Brussels.
- Foray and Van Ark (2007), “Smart specialisation in a truly integrated research area is the key to attracting more R&D to Europe”, Knowledge Economists Policy Brief, no. 7.
- Foray, D., David, P., and Hall, B. (2009), “Smart Specialisation – The Concept”, Knowledge Economists Policy Brief, no. 9.
- Goddard, J., Kempton, L. and Vallance, P. (2013) “Universities and Smart Specialisation: challenges, tensions, and opportunities for the innovation strategies of European regions”, *Ekonomiaz* 83.
- Goddard, J., Vallance, P., Kempton L., (2012), “The Civic University: Connecting the Global and the Local”, in A. Olechnicka, R. Capello, G. Gorzelak (Eds), *Universities, Cities and Regions Loci for Knowledge and Innovation Creation*, Routledge: London.
- Goddard, J. and Vallance, P. (2013), *The University and the City*, Routledge: London.
- Gunasekara, C. (2006), “Universities and associative regional governance: Australian evidence in non-core metropolitan regions”, *Regional Studies*, 40: 727-741.
- McCann, P. and Ortega-Argilés, R. (2011), “Smart specialisation, regional growth and applications to EU cohesion policy”, Economic Geography Working Paper 2011: Faculty of Spatial Sciences, University of Groningen.
- OECD (2007), *Higher Education and Regions: Globally Competitive, Locally Engaged*, OECD, Paris.

European Commission

EUR 26343 – Joint Research Centre – Institute for Prospective Technological Studies

Title: Universities and Smart Specialisation

Authors: Louise Kempton, John Goddard, John Edwards, Fatime Barbara Hegyi and Susana Elena-Pérez

Luxembourg: Publications Office of the European Union

2013- 14 pp. – 21.0 x 29.7 cm

EUR – Scientific and Technical Research series – ISSN 1831-9424 (online)

ISBN 978-92-79-34717-7 (PDF)

doi:10.2791/52851

Abstract

This S3 Platform Policy Brief analyses the potential role of universities in the development and implementation of Smart Specialisation Strategies (S3). These strategies are a central part of the new Cohesion Policy framework, being an 'ex-ante conditionality' designed to ensure effective spending of the large amount of EU funds that will be available for research and innovation. Universities are often crucial institutions in regional innovation systems, especially in those with an absence of a dynamic, research led private sector, and there is rich history of academic and policy analysis in this area. However, with the new smart specialisation agenda, which differs in emphasis and design from previous regional innovation policies, universities have a potentially pivotal role to play in its delivery. Yet there are a number of challenges and obstacles which must be considered, in addition to the numerous opportunities. This Policy Brief makes concrete suggestions on how universities can be integrated into S3 to deliver their desired economic and social outcomes.

As the Commission's in-house science service, the Joint Research Centre's mission is to provide EU policies with independent, evidence-based scientific and technical support throughout the whole policy cycle.

Working in close cooperation with policy Directorates-General, the JRC addresses key societal challenges while stimulating innovation through developing new standards, methods and tools, and sharing and transferring its know-how to the Member States and international community.

Key policy areas include: environment and climate change; energy and transport; agriculture and food security; health and consumer protection; information society and digital agenda; safety and security including nuclear; all supported through a cross-cutting and multi-disciplinary approach.

