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Innovation as a regional development driver: Necessary shift or policy misdirection?

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EXECUTIVE SUMMARY

The paper discusses a number of topics related to innovation support as a component of regional policy. It reviews the evolution of the understanding of innovation and of its role as a growth factor. It discusses the increasing prominence gained by innovation support as part of the regional policy packages of 12 countries, and the main programmes and schemes implemented to foster innovation within these. It summarises the conclusions and recommendations of a selection of evaluations about such programmes and schemes, and the extent to which the recommendations formulated in the evaluations led to concrete policy changes. In particular, through a mixed methodology, resting on a literature review, the examination of evaluation reports and on country research (desk-research and interviews), the paper provides insights on the following themes:

- first, the type of instruments for innovation that are included in the regional development policies of selected European countries and the relative weight of innovation in the regional policy packages;
- second, the evaluation evidence that is available on regional innovation programmes and schemes;
- and lastly, to what extent evaluation evidence has been used to improve policy.

Evolving understandings of innovation

There are many definitions of innovation. Definitions range from very generic to very specific and vary in terms of what is considered as innovation, the sources of innovation, and who is involved in the innovation process. Definitional choices or implicit assumptions have tangible policy implications. They inform the choice of target beneficiaries, the types of support provided, and project selection criteria. Innovation is largely recognised as a key factor for productivity and growth. Increasingly, it is being recognised as a key factor for regional development too.

The understanding of innovation has evolved over time from ‘linear models’, which saw innovation as resulting from a succession of steps, to a model of ‘open innovation’. The open innovation model sees innovation as dispersed across different actors in an innovation ‘ecosystem’ where actors interact continuously and proactively, to generate new ideas and turn them into innovation. Open innovation posits that the processes driving innovation are context-specific, i.e. that they may differ according to the actors who drive them and the contexts in which they take place.

Open innovation is informing the regional innovation policies of many European countries. The policy implications of this are:

- first, a transition from direct aids for RTDI investments to more systemic support aimed at nurturing a context conducive to innovation;
- second, the emergence of a regional/local dimension in innovation policies;
- third, and related, the strengthening of innovation support within regional development policies;
- fourth, the pursuit of synergies between the two sets of policies (where both policies are in place); and,

- lastly, an obfuscation of the boundaries between the two sets of policy (again, where both are in place).

Innovation as a key component of regional policy

EU policy developments, namely changes in State aids and Cohesion policy rules, have led to more emphasis on innovation as part of regional policy. However, the innovation performance of selected European countries and regions of this study varies considerably. Some are among the top performers, others amongst the lowest. This performance appears to be correlated with the levels of institutional capacity.

The highest expenditure for innovation, as part of the Cohesion policy packages of selected European countries of this study, can be found in the countries and regions with the lowest innovation and institutional performance. This raises questions about the realism of expenditure forecasts. In these same countries, innovation support through the Cohesion policy package is often the main funding stream for innovation support. Given the lack of significant additional domestic funding and wider-ranging reforms, this raises questions about the suitability of the focus of innovation to address economic disparities.

Many of the countries of this study faced a number of challenges in the preparation of Smart Specialisation Strategies, some of which are still pending approval. Some countries, notably France, Germany, the Netherlands and the United Kingdom, have chosen not to have national Smart Specialisation Strategies.

The relative importance of regional policy, innovation policy and of innovation as a priority theme within regional policy vary across the countries of this study, reflecting levels of relative economic disadvantage (and thus eligibility to Cohesion policy) and domestic policy traditions and preferences. Countries with sizeable regional policies tend to include innovation as a crucial feature of these, while countries which do not have sizeable regional policies can both implement innovation policy in a manner that is a-spatial (Finland, United Kingdom) or, on the contrary, pursue innovation as an engine for national growth in a territorially-declined fashion (the Netherlands).

Overall, even in countries where there is little emphasis on innovation as part of regional policy (or little emphasis on regional policy per se), 'place' is becoming a more important part of sectoral innovation policies, in the form of an emphasis placed on comparative advantage of regions and localities.

Innovation-related programmes and schemes

The regional policy packages of the selected countries of this study comprise a variety of types of innovation-related instruments. These include incentives for RTDI activities, support for innovative start-ups, incentives/tax deductions, support for networking and cooperation between actors, support for clusters and competitiveness poles, and funding of Innovation Platforms and 'ecosystems'.

Longer-term trends in innovation support within regional policy include an increase in funding and a shift from a firm-centred to a system-centred approach. A more recent trend relates to the abandonment of the territorial exclusivity of measures: Regional innovation schemes funded under regional policy tend to be available throughout the national territory. This is generating tensions about

these measures' performance vis-à-vis the goals of regional policy, as opposed to their sectoral objectives.

Evaluation as a policy tool

Countries of this study have undertaken a number of recent evaluations on the innovation-related programmes and schemes comprised in their regional policy packages. Evaluations have been carried out for a variety of aims: from comprehensive policy appraisal, to supporting decisions over policy termination; from testing existing instruments, to establishing effects; from reappraising measures against changed institutional contexts, to testing 'bold' choices made by the administrations.

In various countries, evaluation is embedded in the policy process and in the lifecycle of innovation-related programmes and schemes. There is evidence that evaluation conclusions and recommendations are followed-up, although: (i) in some cases it is difficult to pin down the full extent of this; (ii) some evaluations have mainly accountability and stock-taking functions; and, (iii) policy decisions can be taken irrespective of evaluation findings (e.g. linked to financial cuts).

Useful evidence for policymakers may also come from sources other than evaluation, for example experts auditions, commissioned reviews, audits and governmental reviews. Examples of these types of sources are the Witty Review in the UK, the Regional Science and Innovation Audits also in the UK, the Dutch Business Monitor, and a recent French Court of Auditors Report.

Conclusions and questions for discussion

European strategic frameworks and rules relating to Cohesion policy, the Europe 2020 strategy and State aids compliance, and an evolution in the understanding of innovation have led to an increased focus in the regional policies of the selected countries of this study on R&D and innovation, and to more systematic efforts to exploit the synergies between regional policy and innovation policy (where both apply).

Somewhat paradoxically, the above developments have meant that the countries and regions that invest more in innovation as part of their regional policy packages are also those with the lowest innovation and institutional performance, which raises questions about these countries' ability to spend the amounts earmarked for innovation.

The types of programmes and schemes on offer under the regional policy packages have evolved from firms-based to systemic. They have also lost territorial exclusivity. To an extent this is blurring the boundaries between the pursuit of competitiveness goals and that of regional policy goals, and raising questions about performance.

Current theories see innovation as context-specific and place-bound. As a result, regions and countries are encouraged to pursue 'smart specialisation' in fields in which they, based on their unique combination of assets, can excel. Yet, at the same time, they are asked to pursue growth through innovation following a model of growth that relies on high levels of R&D expenditure, and on an effective innovation system characterised by high public expenditure in R&D and systematic knowledge exchange between universities and firms. This model does not suit all EU countries in the same way.

The literature on innovation highlights that 'identifying appropriate policy frameworks for promoting innovation and entrepreneurship requires a deep understanding of the innovation process'.[1] The present study has shown that in a number of European countries covered as part of this study, evaluation is integral to the policy process and embedded in the lifecycle of programmes and schemes. While pinning down the full extent of the impact of evaluation activities on policy is not possible – due, for example, to the unofficial communications that can occur between evaluators and policymakers, and to the political nature of policy decisions – the report has provided evidence that evaluation has an impact on policymaking.

[1] McCann (2015), *Op. Cit.,* p. 127

1. INTRODUCTION

Previous paper by EPRC discussed the evidence about the impact of regional policy support for firms.[2] It reviewed the various types of regional aids for business support, the approaches used to evaluate them and the main conclusions about their effectiveness and impacts. This paper develops the theme of the use of evidence in policymaking further, shifting the attention from (i) business support generally intended to the innovation-specific dimension of regional policy and (ii) from the types of evaluations utilised to appraise impact and effectiveness to the degree to which evaluation recommendations inform policy formulation, design and implementation. More specifically, the aim of the present paper is to provide insights on the following themes:

- first, the type of instruments for innovation that are included in the regional development policies of selected European countries, both co-funded by the ESIF and not, and the relative weight of innovation in the regional policy packages;

- second, the evaluation evidence that is available on regional innovation programmes and schemes, and what it tells us about the relevance and usefulness of innovation support as a focus of regional development;

- and lastly, to what extent evaluation evidence has been used to improve policy and whether it has played a role in supporting the consolidation of new trends in innovation support within regional policy.

To do so the paper reviews a sample of the main innovation-related instruments which are found in the regional policies of selected European countries and the related evaluation studies. The paper concludes with some issues for discussion related to: the understandings of innovation in the selected European countries; the validity of the approach; and, the role of evaluation and how it can be improved.

The paper rests on a literature review, the examination of evaluation reports and on country research (desk-research and interviews). It is structured as follows: after this introduction, Section 2 provides a review of the literature on innovation, including a review of definitions of innovation and reflection on its relationship with growth. Section 3 discusses the role of innovation support within the regional policy packages of selected European countries. This section includes a review of the types of programmes and schemes that are in use and a discussion of the differences between countries with regard to the salience attached to innovation policy as a sectoral policy and to innovation as a priority for regional policy. Section 4 provides a review of a selection of recent evaluations of regional innovation schemes, with a description of the programmes/schemes evaluated, a summary of conclusions and recommendations and, where applicable, a discussion of the uptake of evaluators' recommendations. Nine evaluations from seven European countries are reviewed in this Section. Additional types of evidence, beyond evaluation, notably government reviews and audits, are discussed in Section 5, and some conclusions and questions for discussion are presented in Section 6.

[2] Ferry M (2015) 'Impact evaluation of regional policy business support: what is the evidence?', EoRPA Paper 15/6, European Policies Research Centre, Glasgow.

2. DEFINING INNOVATION AND ITS RELATIONSHIP WITH GROWTH

KEY FINDINGS

There are **many definitions of innovation**. Definitions range from very generic to very specific and vary in terms of the scope of what is considered as innovation, the sources of innovation, and who is involved in the innovation process.

Definitional choices or implicit assumptions have tangible policy implications. They inform the choice of target beneficiaries, the types of support provided, and project selection criteria.

Innovation is largely recognised as a **key factor for productivity and growth**. Increasingly, it is being recognised as a key factor for regional development too.

The **understanding of innovation has evolved over time from linear models**, which saw innovation as resulting from a succession of steps, **to a model of 'open innovation'**.

The open innovation model sees innovation as dispersed across different actors in an innovation **'ecosystem'** where actors interact continuously and proactively, to generate new ideas and turn them into innovation.

Open innovation posits that the **processes driving innovation are context-specific**, i.e. that they may differ according to the actors who drive them and the contexts in which they take place.

Open innovation is informing the regional innovation policies of many countries covered by this study. There are policy implications from this:

- first, a **transition from direct aids** for RTDI investments **to more systemic support** aimed at nurturing a context conducive to innovation;
- second, the emergence of a **regional/local dimension in innovation policies**;
- third, and related, the **strengthening of innovation support within regional development policies**;
- fourth, the **pursuit of synergies** between the two sets of policies; and,
- lastly, an **obfuscation of the boundaries** between the two.

There are many definitions of innovation both in the literature and in policy documents. These range from very generic and comprehensive – like 'innovation is anything new that changes the society adopting it'[3] - to designations that confine the scope of innovation but include societal and institutional change, to more specific definitions that relate more narrowly to the production of tradeable goods and services. Some definitions provide only a description of what innovation is, focusing on the content of the innovation introduced; others include also who is responsible for the innovation and

[3] Madelin R and Ringrose D (ed) (2016) *Opportunity Now: Europe's mission to innovate,* European Commission, The Publications Office of the European Union: Luxembourg.

how it is achieved. For instance Grillo and Nanetti, in their recent book, provide a definition of innovation which specifies who is involved in the process and the intended end-result. They define innovation as the:

> 'change that is provided by the converging actions of a plurality of institutional and socio-economic actors; that aims to produce diffused sustainable economic and social improvements; that is connected to technology, or codified research, or organizational changes; and that produces the relocation of resources from incumbents to innovators'.[4]

The diversity of definition is not simply an abstract issue. It has policy implications too. For example, policymakers' views on the level of novelty involved in innovation – i.e. whether a change has to be genuinely new or just new to the specific context - informs the scope of the activities funded to support innovation (what is eligible for support), and the design and application of selection criteria (how/which projects are selected).

To complicate matters further, policymakers may have implicit views about what they think of as innovation, and such implicit understandings can have an impact on the concrete application of innovation support (and in ways that may not easily be discernible). For example, with regard to the *sources* of innovation, i.e. whether innovation n relates exclusively to technological change or it goes beyond this, differences in the interpretation amongst policymakers can be tangible: in **Germany**, for example, civil servants tend to apply a strict definition of innovation (as something genuinely new to the world, and based on new product or process technologies), while in the **UK** the understanding of innovation is wider-ranging and includes the introduction of ideas, organisational changes, shifts in working practices that are simply new to the specific context or firm. Again, the targeting of instruments, and their ability to match the aspirations and potentials of firms, can be affected by these varying interpretations.

In this paper, the focus is on innovation principally intended as the application of new knowledge by a firm or group of firms for a use that is directed to the market or that is relevant economically in other ways[5]. This new knowledge can be new to the firm, but may have been successfully piloted or it may even be consolidated practice somewhere else. A key element of this understanding is that it does not focus on new scientific discoveries and R&D activities per se. The adopted definition also excludes wider institutional innovation - e.g. the innovation in the context of public administration. The focus is rather on innovation intended as resulting in:

> 'the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations'.[6]

While the definition is broad in relation to the range of types of innovation, it is circumscribed to innovation as is ultimately applicable to the productive sector and by the requisite of 'implementation'.[7]

[4] Grillo F and Nanetti R Y (2016) *Innovation, Democracy and Efficiency. Exploring the Innovation Puzzle within the European Union's Regional Development Policies*, Palgrave Macmillan: Houndmills, Baskingstoke.

[5] OECD and Eurostat (2005) *Oslo Manual. Guidelines f or Collecting and Interpreting Innovation Data,* 2005 Edition, Zecchini S (2016) *La politica italiana per l'innovazione. Criticità e confronti,* Biblioteca di Impresa e Lavoro.

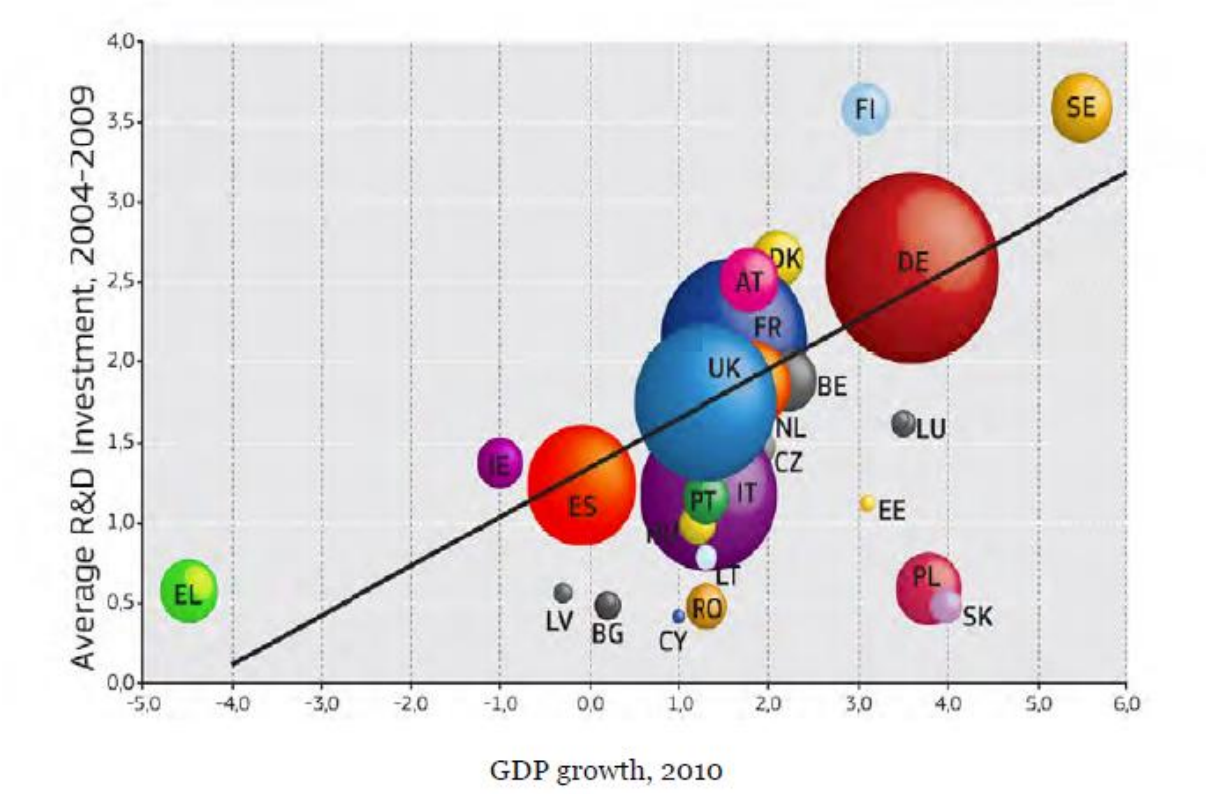
[6] OECD and Eurostat 2005, 46, italics in the original.

[7] Zecchini S (2016) *Op. Cit.*

An innovation is thus intended as such only if it is utilised with a view of improving a firm's or a production system's economic performance – e.g. because it has resulted in the alteration of production or management processes, or because it has led to the introduction in the market of a new product (OECD and Eurostat 2005).[8]

This is a rather standard definition, provided by the so-called Oslo Manual which was produced by the OECD and Eurostat a decade ago. It reflects a widely-accepted understanding of innovation and sets the framework for the internationally agreed standards currently utilised for the construction of surveys, including Eurostat's EU Community Innovation Survey.[9] Intended in this way, innovation is largely recognised today – in keeping with a considerable body of empirical evidence - as a key factor for productivity and growth (Figure 1).[10]

Figure 1: Innovation as a driver for growth



Madelin R and Ringrose D (ed) (2016) *Opportunity Now: Europe's mission to innovate,* European Commission, The Publications Office of the European Union: Luxembourg, p. 57.

[8] OECD and Eurostat (2005) *Oslo Manual. Guidelines for Collecting and Interpreting Innovation Data,* 2005 Edition.

[9] Together with the so called 'Frascati Manual' (produced by the OECD in 2002); see McCann P (2015) *The Regional and Urban Policy of the European Union. Cohesion, Results-Orientation and Smart Specialisation*, Edward Elgar: Cheltenham, p. 136.

[10] Albeit it is not unanimously viewed as the main factor or indeed a necessary requisite for growth. For a review of the empirical evidence available on the growth effect of innovation see McCann P (2015) *Op. Cit*., Section 5.3, pp. 133-139. On dissenting views about the centrality of innovation for growth, see Kitson M (2005) 'The American Economic Model and European Economic Policy', *Regional Studies*, 39(7), 987-1001. The author notes that 'the impact of innovation on growth is uncertain, complex, and … it takes a long time' and raises issue with the fact that while growth is delivered primarily by/in technology using sectors, innovation policies tend to focus on technology-producing sectors.

Increasingly in the last two decades, and in parallel with the evolution of literatures that have tended to emphasise the linkages between innovation and place, innovation has also become a recognised key factor for regional development and the catching-up of lagging regions.[11] As noted by Asheim, Lawton Smith and Oughton, since the mid-1990s, a 'revival' of Marshallian theories has led to an exponential growth of studies on the interrelated themes of clusters (Porter), industrial districts (Becattini), innovative milieux (Crevoisier, Camagni); territorial innovation (Moulaert and Sekia); and national and, subsequently regional, innovation systems (Lundvall, Nelson, Cooke).[12] These literatures all share a common core and have tended to emphasise the crucial role of knowledge in the production of innovation, and the importance of the interaction of local actors, both private and public, in the creation and the transfer of knowledge, and of the context in which firms operate. It is now widely accepted, for example, that contextual factors like macroeconomic stability, skilled human resources, clear and easy-to-comply-with tax and administrative rules facilitate the adoption of innovation.[13] This is because the production and transfer of knowledge are considered to be mediated by a range of place-bound factors. These include the available social capital (e.g. levels of trusts and propensity to collaborate), the quality and skills of human resources (and, related, the efficiency of education and training systems), the available science base (and thus the role of universities), as well as the public policy measures put in place to support innovation and knowledge transfer. They also include the regulatory framework that facilitates or constrains the activities of producers and users of knowledge, and their interactions (for example 'bankruptcy laws that do not overly penalise failure' or 'well defined property rights and judicial efficiency').[14]

The evolution in the above literatures has been linked to changes in the understanding of the innovation process. Partly due to the availability of more and finer grained empirical evidence and partly linked to the appreciation that innovation itself has changed as a result of globalisation and of the advancements realised in the information technologies, models of innovation have evolved from linear and centred on the firm as the locus of innovation, to systemic and inclusive of wider societal cohorts.[15] Table 1 below provides a summary of this evolution and of the characteristics of the different models of the innovation process.

[11] Vieira E, Neira I and Vázquez E (2011) 'Productivity and Innovation Economy: Comparative Analysis of European NUTS II, 1995-2004', *Regional Studies*, 45 (9), 1269-1286.

[12] Asheim B T, Lawton Smith H and Oughton C (2011) 'Regional Innovation Systems: Theory, Empirics and Policy', *Regional Studies*, 45 (7), 875-891.

[13] McCann P (2015) *The Regional and Urban Policy of the European Union. Cohesion, Results-Orientation and Smart Specialisation*, Edward Elgar: Cheltenham, p. 147.

[14] Asheim B T, Lawton Smith H and Oughton C (2011) 'Regional Innovation Systems: Theory, Empirics and Policy', *Regional Studies*, 45 (7), 875-891. Andrews D and Criscuolo C (2013) 'Knowledge based capital, innovation and resource allocation', *Economics Department Working Papers No. 1046 ECO/WKP(2013)38),* OECD: Paris.

[15] McCann P (2015) *The Regional and Urban Policy of the European Union. Cohesion, Results-Orientation and Smart Specialisation*, Edward Elgar: Cheltenham, p. 135, 140.

Table 1: Evolution of the understanding of innovation as a process

Models of the innovation process	Characteristics
Linear models (first and second generation)	Innovation viewed as a succession of discrete steps: a. *technology push* model: (i) basic research produces new knowledge → (ii) new products are designed based on new knowledge → (iii) manufacturing of new products → (iv) marketing and commercialisation of new products b. *market pull* model: (i) users' needs drive as first step (then same as above)
Coupling models (third generation)	Linear but with more *interactions and feedback loops.* Like linear models view innovation as a process internal to the firm, however, they introduce more interaction between the research, production and commercialisation functions.
Interactive models (fourth generation)	Introduce *external interactions* with: knowledge suppliers and customers
Network models (fifth generation)	Acknowledge the wider context and the need for ongoing interaction with external actors: not only customers, suppliers, and knowledge suppliers, but also competitors to build selective, strategic alliances.
Open innovation models (sixth generation – last 20 years)	Innovation is seen as dispersed across many different types of actors in a 'innovation ecosystem', namely (Figure 2, below): • firms (all sizes) → commercialise innovation • universities, research centres (public and private), RTOs (research and technology organisations) → produce knowledge and train human resources • venture capital, research-funding bodies and other financial institutions → fund R&D • government actors → through policy, regulation, adoption of standards affects the innovation envir6onment • stakeholders / wider groups representing civil society → contribute to generation and circulation of ideas. These actors are supposed to interact continuously and proactively in a 'Entrepreneurial discovery process' which is necessary to bring new ideas to the fore and to market.

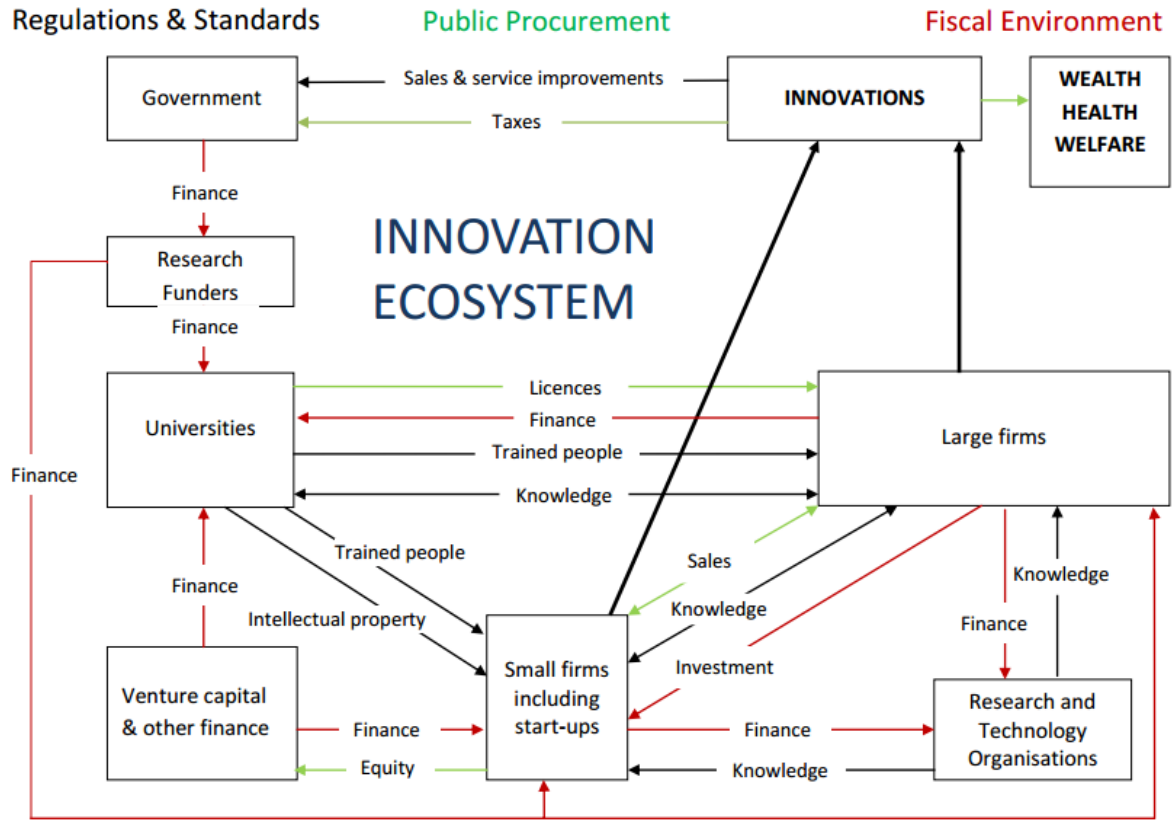
Source: table elaborated based on Reillion (2016) 'Understanding innovation', EPRS – European Parliamentary Research Service, Briefing February 2016, http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/573968/EPRS_BRI(2016)573968_EN.pdf, pp. 3-4 and Madelin R and Ringrose D (2016) p. 71.

The current paradigm, open innovation, considers innovation as an open process that takes place in 'innovation ecosystems', 'in which companies, public research institutions, financial institutions and government bodies interact through the exchange of skills, knowledge and ideas'[16] (Figure 2). In this context, interactions between different actors, including firms that compete with each other, are viewed as beneficial to the emergence and exploitation of new ideas, in acknowledgement that the sources of innovation can be the most varied and that 'the linkages or transmission effects between

[16] Reillion V (2016) 'Understanding innovation', EPRS – European Parliamentary Research Service, Briefing February 2016, http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/573968/EPRS_BRI(2016)573968_EN.pdf, p. 1 (accessed 23 August 2016). For example, see Brown R, Gregson G and Mason C (2016) 'Post-Mortem of Regional Innovation Policy Failure: Scotland's Intermediate Technology Initiative (ITI)', Regional Studies, 50 (7), 1260-1272.

firms and between sectors, rather than just activities within firms or sectors' are fundamental to ensure that innovation spreads and that it translates in economic growth.[17]

Figure 2: Innovation ecosystem – a visual representation



Source: Georghiou L. (2013) *Improving the framework conditions for R&D. Opening up to an ERA of Innovation*, Brussels 22-23 June 2015, http://ec.europa.eu/research/conferences/2015/era-of-innovation/pdf/luke_georghiou.pdf#view=fit&pagemode=none (accessed 23 August 2016).

This concept of 'innovation ecosystems' informs the innovation policies of a number of countries and regions, including some of the programmes reviewed later in this report, such as the second generation of Competitiveness Poles in **France**, the recently suppressed OSKE scheme in **Finland** and the entire framework of support for innovation implemented in Lombardy in **Italy**, which revolves around a recently launched Open Innovation digital Platform.[18]

A corollary of the standpoint according to which innovation processes are open and operate in ecosystems is that the processes driving innovation may by definition be different according to the contexts in which they take place and the actors that participate in the innovation system.[19] This is a

[17] McCann P (2015) *The Regional and Urban Policy of the European Union. Cohesion, Results-Orientation and Smart Specialisation*, Edward Elgar: Cheltenham, p. 137.

[18] Edryn, technopolis and Bearing Point (2012) Etude portant sur l'évaluation des pôles de compétitivité. Rapport global, 15 June 2012, http://competitivite.gouv.fr/documents/commun/Politique_des_poles/2eme_phase_2009-2011/evaluation/rapport-evaluation-2012-%20complet.pdf .

[19] Iammarino S and McCann P (2006) 'The Structure and Evolution of Industrial Clusters: Transactions, Technology and Knowledge Spillovers', *Research Policy*, 35, 1018-1036; McCann P (2015) *The Regional and Urban Policy of the European Union. Cohesion, Results-Orientation and Smart Specialisation*, Edward Elgar: Cheltenham, p. 123.

place-sensitive interpretation of innovation and one that has led to the emergence of regions, rather than the individual firm, as the 'locus for innovation processes'.[20]

This understanding of innovation, and the empirical evidence that has supported it, have had an impact on policy, generating a transition from innovation support in the form of direct aids to firms (especially large firms), for RTDI investments, to more systemic measures aimed at nurturing a context that is considered conducive to innovation, including via better integration with sectoral policies, improved synergies with territorial policies, and regulatory reform. Related, policies have taken on board the empirical evidence that has shown that firms that operate in international markets are more innovation-prone than firms operating predominantly in the domestic market, that firms involved in collaborations with other firms and research entities are more likely to innovate, and that public funding is a strong incentive for businesses to invest in innovation.[21] They have done so by supporting the internationalisation of firms, increasing the provision for soft measures aimed at fostering networking and cooperation, and introducing different forms of public finance, including financial instruments that provide leverage to public funding and finance riskier investments or investments whose economic returns may only become visible in the longer term.

Further policy implications of the above summarised theoretical developments have been threefold:

- There has been the emergence of a regional/local dimension in innovation policies, for '[a] modern view of growth … suggests that the exploitation of local distinctiveness and enhancing the advantages associated with local differentiation should very much be a central tenet not only of regional policies, but in particular those focussed on enhancing innovation and entrepreneurship'.[22]
- There has been a strengthening of innovation support as a component of regional development policies (discussed in Section 3 below).
- More systematic efforts are being made to exploit the synergies between the two sets of policies. This is done in two ways: First, by pulling financial resources from both innovation policy and regional policy to fund the same programmes, schemes or projects (e.g. in France, under the Competitiveness Poles); and, second, through strategic alignment. To a significant extent, this is blurring the boundaries between the two sets of policies, but it is also contributing to deliver increased financial leverage and territorial impact of public funding.

[20] Asheim B T, Lawton Smith H and Oughton C (2011) 'Regional Innovation Systems: Theory, Empirics and Policy', *Regional Studies*, 45 (7), 888.

[21] Ibidem, p.137-138.

[22] McCann P (2015) *The Regional and Urban Policy of the European Union. Cohesion, Results-Orientation and Smart Specialisation*, Edward Elgar: Cheltenham, p. 125.

3. INNOVATION SUPPORT WITHIN REGIONAL POLICY: INCREASED SALIENCE WITHIN UNCERTAIN BOUNDARIES

KEY FINDINGS

EU policy developments, namely changes in State aids and Cohesion policy rules have led to **more emphasis on innovation as part of regional policy**.

The **innovation performance of countries and regions covered by this study varies** considerably. Some are among the top performers, others amongst the lowest.

This **performance appears to be correlated with the levels of institutional capacity**.

The **highest expenditure for innovation,** as part of the Cohesion policy packages of countries of this study, can be found **in the countries and regions with the lowest innovation and institutional performance**. This raises questions about the realism of expenditure forecasts.

In these same countries, innovation support through the Cohesion policy package is often the main funding stream for innovation support. Given the lack of significant additional domestic funding and wider-ranging reforms, this raises **questions about the suitability of the focus of innovation as a way to address (rather than reinforce) economic disparities.**

Countries faced a number of **challenges in the preparation of Smart Specialisation Strategies**. Some are still pending approval. Some countries have chosen not to have national Smart Specialisation Strategies.

The **relative importance of regional policy, innovation policy and of innovation as a priority theme within regional policy vary across the countries of this study**.

The regional policy packages of the countries of this study comprise **a variety of types of innovation-related instruments.** These include incentives for R&D activities, support for innovative start-ups, incentives/tax deductions, support for networking and cooperation between actors, support for clusters and competitiveness poles, and funding of Innovation Platforms and ecosystems.

Longer-term trends in innovation support within regional policy include **an increase in funding and a shift from a firm-centred to a system-centred approach.**

A more **recent trend relates to the abandonment of the territorial exclusivity of measures.** Regional innovation schemes funded under regional policy tend to be available throughout the national territory. **This is generating tensions** about these measures' performance vis-à-vis the goals of regional policy, as opposed to their sectoral objectives.

Policy developments at EU level have been a strong factor for the increased focus on innovation in the regional development policies of EU member states. On the regulatory side, less stringent State aid rules for projects that involve RTDI (e.g. GBER rules on innovation clusters) have made it easier for policymakers to implement schemes in this field. On the policy side, the stronger emphasis on innovation placed within Cohesion policy programmes, through the strategic alignment with the Lisbon agenda first and the Europe 2020 strategy more recently, has entailed a more significant

concentration of the policy effort on this theme. A core element of this strategy is the assumption that the EU should fill the productivity gap with the US[23] which, in turn, derives from a specific US-inspired economic policy approach that sees growth as the main objective of economic policy, and innovation as a central factor driving productivity (and thus growth) upwards.[24]

In countries where domestic regional policies coincide with or are fully subsumed under EU Cohesion policy, this enhanced focus of innovation within Cohesion policy is meaning that regional development policy as such is more centred on innovation. In other cases, innovation would likely be a strong component of the policy package irrespective of EU guidelines, and indeed there are expectations in some countries that the emphasis on innovation within regional development policies will increase even further in future (for example in Germany where discussions on post 2020 domestic regional policy are already ongoing).[25] The next two sections will review the policy developments related to innovation within Cohesion policy and within the domestic policies of countries of this study, and the main schemes implemented to foster innovation within regional development policy.

3.1 EU Cohesion policy

Within EU Cohesion policy, the impetus for a renewed emphasis on innovation as a key tool for regional development is being pursued through the double track of thematic concentration and conditionality associated with the approval of Smart Specialisation Strategies (S3).

3.1.1 Thematic concentration

Thematic concentration in the 2014-20 programming period is based on structuring the ESIF intervention according to 11 Thematic Objectives (TOs) and setting minimum thresholds of programme expenditure under the ERDF and ESF funds that must be allocated to these (varying by category of region).[26] For the ERDF, the fund that is mainly devoted to the support of innovation and the competitiveness of firms, national level resource allocations have to be concentrated on the first four Thematic Objectives of the Community Strategic Guidelines - 1 ('strengthening research, technological development and innovation'); 2 ('enhancing access to, and use and quality of, ICT'); 3 ('enhancing the competitiveness of SMEs'); and 4 ('supporting the shift towards a low-carbon economy in all sectors') - for at least 80 % in more developed regions, 60 % in transition regions and 50 % in less developed regions.[27] Thus, the emphasis placed on innovation, through the anticipated focus on Thematic Objectives 1 and 3 in particular, is significant.

Table 2 below illustrates the allocations in the countries of this study relating to Thematic Objectives 1 and 3, expressed both as a percentage of total ESIF allocations and as a percentage of total ERDF funding.

[23] Kitson M (2005) *Op. Cit.;* McCann (2015) Op. Cit., p. 171.

[24] Kitson M (2005) *Op. Cit.,* p. 988.

[25] Untiedt G et al. (2016) *Op. Cit*.

[26] As well as minimum thresholds of spending for ESF and urban development.

[27] Further, the allocation of resources to Thematic Objective 4 ('Supporting the shift towards a low-carbon economy in all sectors') needs to be at least 20%, 15% and 12% in more, transition and less developed regions respectively. European Commission (2015) *European Structural and Investment Funds 2014-2020: Official texts and commentaries*, November 2015, http://ec.europa.eu/regional_policy/sources/docgener/guides/blue_book/blueguide_en.pdf .

The table shows that:

- the **Netherlands**, **Germany** and, to a lesser extent, **Poland** present the highest concentration of funding on TO1 - in excess of 20, 15 and 11 percent of total ESIF allocations respectively (which, in the Netherlands, accounts for more than 65 percent of the total ERDF allocation);
- **Portugal** and **Italy** present the highest concentrations with regard to Thematic Objective 3, with **France**, **Finland** and **Austria** also presenting values above the 10 countries' average for this Thematic Objective.
- Considering both Thematic Objectives 1 and 3 together, the top relative financial allocations can be found in Portugal (32.54%), the Netherlands (31.26%), Germany (29.97%), Italy and Finland (almost 28%).

Table 2: Share of PAs planned expenditure on Thematic Objectives 1 and 3 – ESI Funds

	TO1 % EU Funds	TO3 % EU Funds	TO1+TO3 % EU Funds	TO1 ERDF % (of ERDF total)	TO3 ERDF % (of ERDF total)	TO1+TO3 ERDF % (of ERDF total)
Austria	4.8	16.3	21.0	37.0	31.9	68.9
Finland	10.6	17.2	27.7	40.1	32.7	72.8
France	7.0	17.9	24.8	18.3	19.1	37.4
Germany	15.2	14.8	30.0	35.5	21.9	57.4
Italy	9.0	18.8	27.8	16.2	17.3	33.5
Netherlands	20.6	10.7	31.3	65.5	0.0	65.5
Poland	11.7	11.0	22.8	24.7	14.0	38.6
Portugal	9.1	23.5	32.5	21.6	41.9	63.5
Sweden	9.3	13.9	23.2	27.6	31.3	59.0
United Kingdom	9.8	14.9	24.6	23.9	34.6	58.5
Mean	***10.7***	***15.9***	***26.6***	***31.1***	***24.5***	***55.5***

Source: Elaboration from Partnership Agreement summaries data, available from http://ec.europa.eu/contracts_grants/agreements/index_en.htm . Blue cells highlight value above the mean.

Shifting the focus from percentage allocations to the actual amounts mobilised is more illustrative of the actual entity of the policy effort. This varies not only by country but also by region, partly mirroring the overall amount of financial resources available to regions as a result of their eligibility status.

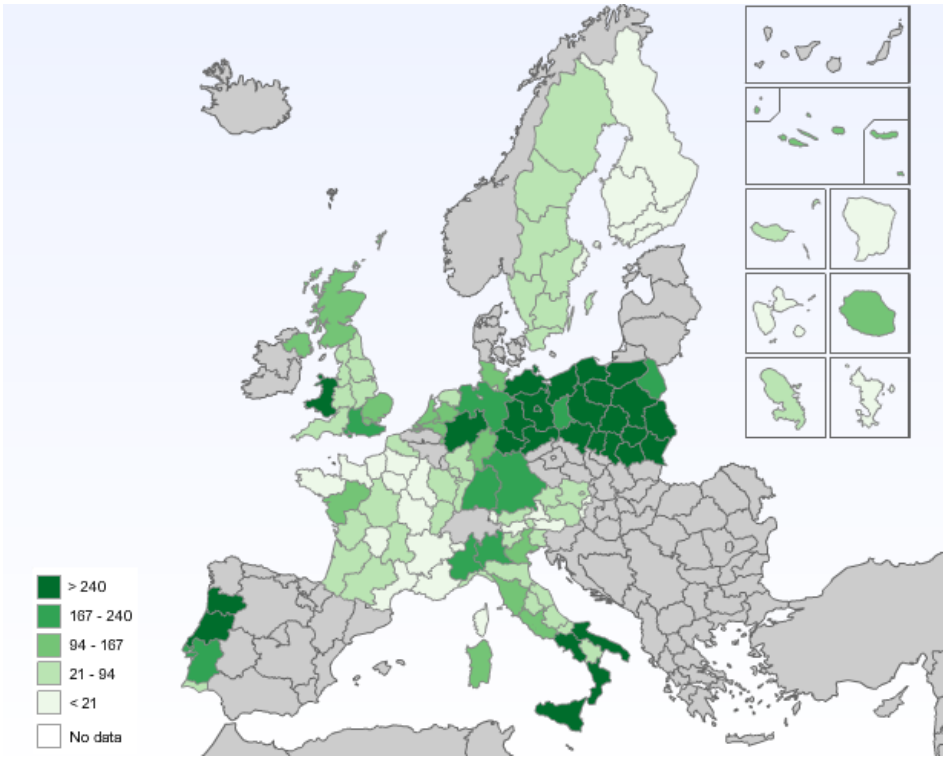
As can be seen from Table 3below, the highest absolute financial allocations to TO1 can be found in **Poland** (€7.5 million), **Germany** (over €4 million) and **Italy** (c. €3.65 million) and, at the regional levels, in the regions of: Norte and Centro of **Portugal**; Slaskie, Mazowieckie, Malopolskie and Lodzkie in **Poland**; and Campania, Sicily and Apulia in **Italy** – all of which, except for Mazowieckie, are less developed regions. A visual representation of this planned expenditure is provided in Figure 3.

Table 3: ESIF expenditure on Thematic Objectives 1 - country and top 10 regions values (€ mill) – and regional Quality of Government (QoG) ranking (199 regions)

Financial allocation total (€) – Per country (ranking)		Financial allocation total (€) – Top ten regions		Regional QoG ranking
Poland	7,556	Norte (PT)	1,158	125th
Germany	4,030	Slaskie (PL)	1,026	177th
Italy	3,646	Sachsen (DE)	831	23rd
Portugal	2,376	Mazowieckie (PL)	829	170th
United Kingdom	1,580	Malopolskie (PL)	817	156th
France	848	Campania (IT)	758	197th
Netherlands	424	Sicilia (IT)	679	190th
Sweden	284	sdCentro (PT)	643	111th
Austria	249	Lodzkie (PL)	629	151th
Finland	19	Puglia (IT)	604	189th
Countries of the study Total TO1			21,011	
EU28 Total TO1			36,898	

Source: European Commission http://s3platform.jrc.ec.europa.eu/esif-viewer (data downloaded 22 August 2016). Note: regional data includes not only the ROPs but also shares of national OPs and transnational cooperation programmes (estimated by the source); and Charron, N, Dijkstra L and Lapuente V (2014) 'Regional Governance Matters: Quality of Government within European Union Member States', *Regional Studies*, 48(1): 68-90.

Figure 3: ESIF allocated to TO1 in the countries of the study, NUTS II level



Source: Elaboration from European Commission http://s3platform.jrc.ec.europa.eu/esif-viewer (data downloaded 22 August 2016).

A summative overview of the planned expenditure in the countries of this study for TOs 1 and 3 combined is presented in Table 4 and Figure 4. Even when considered in absolute terms, as a

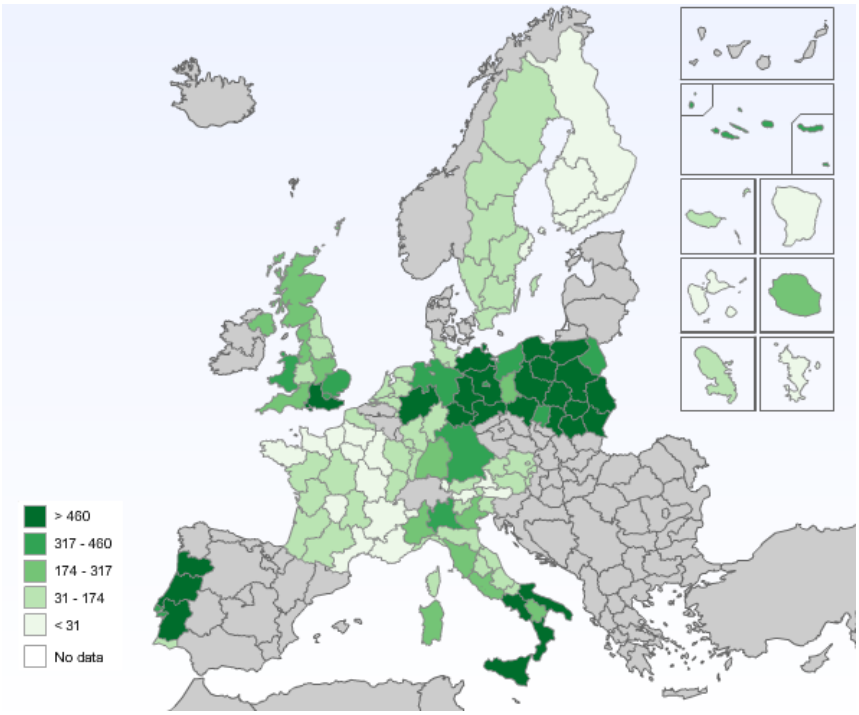
proportion of the total EU28 ESIF allocation (all TOs), the financial resources devoted to these two themes by **Poland** (especially), **Italy**, **Germany** and **Portugal** appear sizeable.

Table 4: ESIF expenditure on Thematic Objectives 1 and 3 - country and top 10 regions values (€) – and regional Quality of Government (QoG) ranking (199 regions)

Financial allocation total (€) – Per country		% EU28 (all) TOs total	Financial allocation total (€) – Top ten regions		Regional QoG ranking
Poland	12,242	6.66	Norte (PT)	2,431	125th
Italy	6,902	3.75	Slaskie (PL)	1,610	177th
Germany	6,391	3.48	Centro (PT)	1,468	111th
Portugal	5,447	2.96	Sicilia (IT)	1,375	190th
United Kingdom	3,167	1.72	Puglia (IT)	1,321	189th
France	1,457	0.79	Malopolskie (PL)	1,260	156th
Sweden	590	0.32	Campania (IT)	1,248	197th
Netherlands	429	0.23	Mazowieckie (PL)	1,239	170th
Austria	421	0.23	Sachsen (DE)	1,182	23rd
Finland	38	0.02	Lubelskie (PL)	1,079	159th
Countries of the study Total TO1 and TO3				37,083	
EU28 Total TO1 and TO3				61,596	
EU 28 Total all TOs				183,812	

Source: European Commission http://s3platform.jrc.ec.europa.eu/esif-viewer (data downloaded 22 August 2016) and Charron, N, Dijkstra L and Lapuente V (2014) 'Regional Governance Matters: Quality of Government within European Union Member States', *Regional Studies*, 48(1): 68-90. Note: regional financial data includes not only the ROPs but also shares of national OPs and transnational cooperation programmes (estimated by the source).

Figure 4: ESIF allocated to TOs 1 and 3 in the countries covered by the study, NUTS II level



Source: Elaboration from European Commission http://s3platform.jrc.ec.europa.eu/esif-viewer (data downloaded 22 August 2016).

While the allocation figures reflect the intended focus of regional policy on innovation, and match the low innovation performance of recipient regions, questions can be raised about their realism, particularly with regard to the less developed regions of **Poland**, **Italy** and **Portugal** where the absorption capacity of local actors may not be adequate. The linkage between innovation capacity and the wider institutional capacity of regions is an issue that has been raised in the literature, for example by Rodriguez-Pose and Crescenzi (2008) and Iammarino (2005).[28] As can be seen from Table 5 to follow, Poland, Portugal and Italy are amongst the worst performers in Europe according to the European Innovation Scoreboard (EIS), featuring respectively in 29th, 23rd and 22nd place in the EIS ranking of 36 countries.[29] At the same time, these same countries also rank poorly in relation to their institutional capacities, as proxied by the Quality of Government index developed by the Quality of Government Institute at the University of Gothenburg. In relation to this index, Italy and Poland feature 25th and 24th in the ranking of 27 EU countries, whilst the correlation is somewhat more tenuous for Portugal, which ranks in a more respectable 14th position.[30] A similar observation can raised with regards to the regions of these three countries that present the highest concentration of financial allocations on Thematic Objectives 1 and 3. As can be seen in Table 3 and Table 4, not only do these regions display a low innovation performance, but they also place poorly in terms of overall institutional capacity (last columns of Table 3 and Table 4).[31]

[28] Rodríguez-Pose A and Crescenzi R (2008) 'Research and Development, Spillovers, Innovation Systems, and the Genesis of Regional Growth in Europe', *Regional Studies*, 42(1),51-67; and Iammarino S. (2005) 'An evolutionary integrated view of regional systems of innovation: concepts, measures and historical perspectives', *European Planning Studies*, 13, 497–519.

[29] European Commission (2016) *European Innovation Scoreboard 2016*. The European Innovation Scoreboard is produced every year by the European Commission and provides an analysis of the innovation performance of the 28 EU member states, Norway, Switzerland, five neighbour countries (Former Yugoslav Republic of Macedonia, Serbia, Ukraine, Turkey and Iceland) and Israel. It classifies countries through an 'innovation index' that takes into account a series of indicators, according to the following dimensions: human resources; research systems, finance and support; firms' investments; linkages and entrepreneurship; intellectual assets; innovators and economic effects. It can be downloaded, together with the related databases, from this address: https://ec.europa.eu/growth/industry/innovation/facts-figures/scoreboards_en (last accessed 26 August 2016).

[30] Quality of Government Institute (2010) *Measuring the quality of government and subnational variation'*, Report for the European Commission Directorate-General Regional Policy, Directorate Policy Development, December 2010, p. 14 available from http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/2010_government_1.pdf; and Charron N, Dijkstra L and Lapuente V (2014) 'Regional Governance Matters: Quality of Government within European Union Member States', *Regional Studies*, 48(1): 68-90. The index covers four aspects of government: control of corruption, rule of law, government effectiveness and voice and accountability (Charron et al. 2014, *Op. Cit.*, p. 71). For more detail on the index, see Appendix A in Charron et al. (2014) *Op. Cit.*.

[31] European Commission (2016) *Regional Innovation Scoreboard*, https://ec.europa.eu/growth/industry/innovation/facts-figures/regional_en (last accessed 26 August 2016); and and Charron, N, Dijkstra L and Lapuente V (2014) *Op. Cit.*.

Table 5: Country and regional classification according to the European and Regional Innovation Scoreboards, rating, ranking and relative distribution of regions across categories; and national Quality of Government ranking (EU27) and within country variation

Country	Country rating and ranking (2016 EIS ranking based on 2015 data and 36 countries)	Innovator leaders regions	Strong innovators regions	Moderate innovators regions	Modest innovators regions	Quality of government – Country ranking	Within Country QoG variation
		Number (%)	Number (%)	Number (%)	Number (%)	(2008)	(2008)
Austria	Strong innovator (10)	0	3 (100)	0	0	6th	Low
Finland	Innovation leader (4)	1 (20)	4 (80)	0	0	3rd	NA
France	Strong Innovator (11)	1 (11)	5 (56)	3 (33)	0	10th	Moderate
Germany	Innovation Leader (5)	19 (49)	19 (49)	1 (3)	0	7th	Moderate
Italy	Moderate Innovator (22)	0	2 (10)	18 (86)	1 (5)	25th	High
Netherlands	Innovation Leader (6)	2 (17)	10 (83)	0	0	4th	Low
Poland	Moderate Innovator (29)	0	0	9 (56)	7 (44)	24th	Low
Portugal	Moderate Innovator (23)	0	0	5 (71)	2 (29)	14th	High
Sweden	Innovation Leader (2)	5 (63)	3 (38)	0	0	2nd	Low
United Kingdom	Strong Innovator (9)	4 (33)	8 (67)	0	0	8th	Moderate
Norway	Moderate Innovator (17)	0	2 (29)	5 (71)	0	NA	NA
Switzerland	Innovation Leader (1)	NA	NA	NA	NA	NA	NA

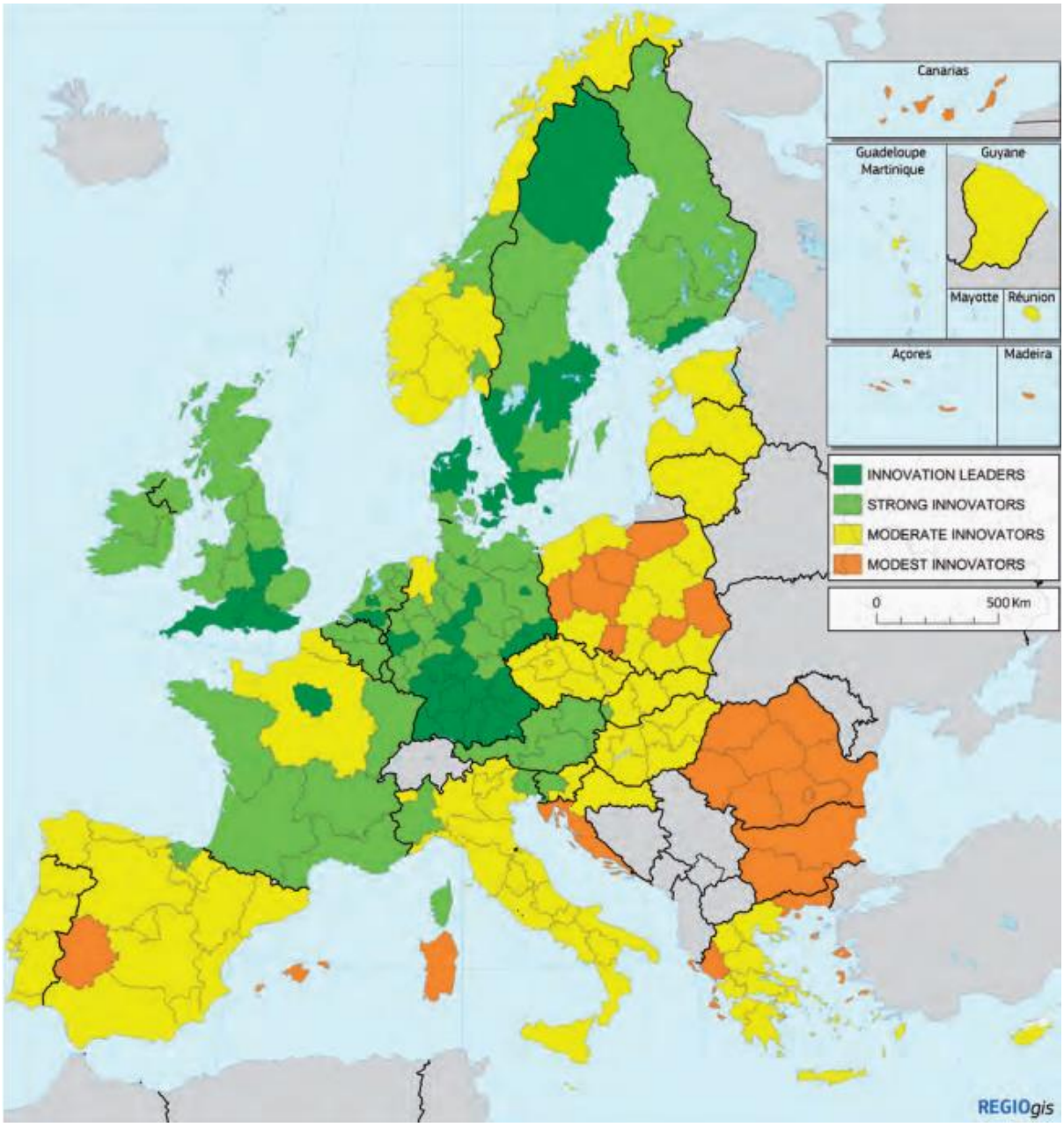
Sources: (i) European Commission (2016) *European Innovation Scoreboard 2016 Main Report* and database, and European Commission (2016) *Regional Innovation Scoreboard* Main Report (p. 17). Percentage values may not add up due to rounding; (ii) Quality of Government Institute (2010) *Measuring the quality of government and subnational variation'*, Report for the European Commission Directorate-General Regional Policy, Directorate Policy Development, December 2010, p. 14 available from http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/2010_government_1.pdf and Charron, N, Dijkstra L and Lapuente V (2014) 'Regional Governance Matters: Quality of Government within European Union Member States', *Regional Studies*, 48(1): 68-90.

More fundamentally, questions can be raised about the adequacy of the model of development pursued by the Europe 2020 strategy – and thus under the regional policies of EU countries - for Europe's lagging regions and member states. As noted, the assumption underlying the current emphasis on innovation derives from a specific view that sees productivity-induced growth as the main objective of economic policy. This view is informed by the US model of growth, according to which innovation plays a central role in driving productivity upwards.[32] The American model, however, relies on high levels of R&D expenditure, and on an effective innovation system characterised by high public expenditure in R&D and systematic knowledge exchange between universities and firms.[33] Not all European member states are equally close to this US-based ideal. In particular, the countries covered by the study that are characterised by the most significant relative economic disadvantage are also those that are farther away from this model (as evidenced by the low innovation performance). They are also those in which the support for innovation, albeit strategically important, is financially more limited and generally confined to the funding provided by Cohesion policy programmes. Concerns can therefore be raised about the extent to which the strong regional policy emphasis on innovation – when not matched by additional domestic spending on innovation policy and wider reforms to foster the innovation system (e.g. Higher Education reforms), may end up reinforcing, rather than resolving, the economic gap between less and more developed European regions and countries.

[32] Kitson M (2005) *Op. Cit.,* p. 988.

[33] Kitson M (2005) *Op. Cit.;* Hall P and Soskice D (2001) *Varieties of capitalism. The institutional Foundations of Comparative Advantage,* OUP.

Figure 5: Regional innovation performance across the EU



Source: European Commission (2016) *Regional Innovation Scoreboard Main Report*, p. 4.

3.1.2 Conditionality

In parallel with the financial strengthening of innovation support though the thematic concentration required by the new regulatory framework, a second factor that has contributed to raising the profile of innovation within Cohesion policy – and thus within the domestic regional policies of EU member states - has been the introduction of ex ante conditionality linked to the requirement of approval of Smart Specialisation Strategies (S3) as a strategic basis for the programmes. The new CPR introduced a number of ex ante conditionalities (EACs)[34] which in practice are lists of requirements,

[34] Defined as 'concrete and precisely pre-defined critical factor[s], which [are] a prerequisite for and ha[ve] a direct and genuine link to, and direct impact on, the effective and efficient achievement of a specific objective for an investment priority or a Union priority' (art. 2(33) CPR).

applicable to the three Structural and Cohesion Funds,[35] that programme or national authorities have to fulfil. They are linked to either the 11 TOs of the Common Strategic Framework ('thematic' EACs) or wider, horizontal issues, such as compliance with State aids, public procurement or non-discrimination laws and principles ('general' EACs).

The introduction of such conditionalities emerged from a process of reflection on the strengths and weaknesses of implementing Cohesion policy in previous programming periods,[36] part of which related to the lack of prioritisation between measures, based on a clear theory of change.[37] For example, a recent study for the European Commission on the long-term achievements of Cohesion policy programmes found that business support measures were less effective than they could have been due to a lack of systemic approach, and that innovation support all too often relied on public sector R&D activities that were not geared according to the needs of firms.[38]

In many ways, the introduction of the requirement to establish Smart Specialisation Strategies as a basis for the design of Cohesion policy programmes was intended to address these shortcomings. Smart Specialisation provides a logic and a process for the prioritisation of policy support. It entails a participated and inclusive reflection on the strengths and weaknesses of each region that is in line with the results-orientation envisaged in the last round of Cohesion policy reform:[39] '[M]uch of the smart specialisation-related policy prioritisation (…) depends on an explicit awareness of what is intended to be achieved by any particular policy intervention (… which) is also always intrinsically tied up with the questions regarding what exactly is intention of the policy and how is the achievement of the intended objectives envisaged to take place'.[40]

S3 have two key tenets. They are the 'entrepreneurial discovery process' and the territorial approach, whereby, through a process of dialogue with local stakeholder groups, the policymaker uncovers 'what a country or region does best in terms of R&D and innovation'.[41] The process of designing and implementing Smart Specialisation Strategies relies on a 'bi-directional, iterative dynamic', in which: (i) public measures are taken to identify and reinforce the entrepreneurial discovery process; (ii) outcomes are assessed in order to keep public intervention relevant; (iii) support is continued for the most promising projects, so that they can 'grow and become solid drivers for regional economic growth'.[42]

Advocates of the approach emphasise how Smart Specialisation is about 'succeeding in making each EU region find a suitable role for itself within the global economy', which may well mean specialising

[35] The EAFRD and EMFF also have ex ante conditionalities. These are listed in the Funds' regulations and not in the CPR.

[36] Bachtler J and Ferry M (2015) 'Conditionalities and the performance of European Structural Funds: a principal-agent analysis of control mechanisms in European Union Cohesion Policy', *Regional Studies*, 49 (8), 1258-1273.

[37] Bachtler J, Begg I, Charles D and Polverari L (2016) *EU Cohesion Policy in Practice, What Does It Achieve?* Rowman & Littlefield International: London.

[38] Bachtler J, Begg I, Charles D and Polverari L (2016) *Op. Cit.*, Chapter 6.

[39] McCann P and Ortega-Argilés R (2016) 'Smart Specialisation in the reformed EU Cohesion policy' in Piattoni S and Polverari L *Handbook on Cohesion Policy in the EU,* Edward Elgar: Cheltenham, pp. 359-368; McCann P (2015) *Op. Cit.,* p. 170.

[40] McCann P and Ortega-Argilés R (2016) *Op. Cit*.

[41] Foray D and David P A (2011) *Smart specialization. From academic idea to political instrument, the surprising career of a concent and the difficulties involved in its implementation*, p. 7.

[42] Foray D and David P A (2011) *Op. Cit.*,pp.11-15.

in traditional sectors.[43] Not all regions have the ability and potential to develop high-tech industries, but by specialising in those areas that are most promising given the available local assets, they can become competitive. Early rounds of regional innovation strategies, for example in the UK at the time of the English Regional Development Agencies, had been characterised by all regions seeking to establish high-technology clusters and centres of excellence, irrespective of their real potential to do so, which resulted in harmful competition for funding and in the risk of creating 'cathedrals in the desert'.[44] Smart Specialisation, on the contrary, promotes the linkages between a region's knowledge-intensive and more traditional sectors, and the exploitation of transmission effects between high-technology and medium/low-technology activities as a way through which also regions specialised in more traditional sectors can achieve competitiveness.[45]

There are currently no comprehensive overviews of the state of play with the approval and implementation, except for the knowledge that 'more than 120 national or regional smart specialisation strategies have been submitted to the European Commission and a total of €66 billion is allocated directly in 2014-20 to implement smart specialisation strategies'.[46] For the countries of this study, an attempt to establish the state of play, based on a bottom-up reconnaissance from the information available online, is provided in Table 6. The table shows that in **Poland**, **France** and **Italy** a number of regional S3 strategies are still pending approval by the Commission. Despite the support put in place by the European Commission, with the Smart Specialisation Platform, and by national administrations in some cases,[47] the procedure of formulating these strategies has not been straightforward in all cases.[48]

Designing smart specialisation strategies can be challenging for regions that lacked experience of entrepreneurial discovery or participated strategy setting:

- Overcoming the more traditional compliance and bureaucratic logic of old-style policymaking for a results-centred logic, focused on prioritisation and outcomes, is not natural in contexts of low social capital and trust, and there is an apparent paradox in focusing regional policy for structurally weak regions on themes – R&D and innovation – where they are traditionally deficient.[49]
- Linking up different territorial levels in a coherent design and implementation framework has not always been straightforward either. Drawing a national strategy has been problematic in federal or devolved countries with long-standing innovation policy traditions. In **Austria**, for example, challenges arose from reaching an agreement amongst the Länder about using the existing national-level strategy instead of developing a new strategy based on submissions by the Länder, and there were difficulties to adapt the pre-existing national innovation strategy to the requirements of the S3 guidelines (which meant that the approval by the Commission of

[43] Grillo F and Nanetti R (2016) *Op. Cit.*, p. 17.

[44] Kitson M (2005) 'The American Economic Model and European Economic Policy', *Regional Studies*, 39(7), 987-1001.

[45] Grillo F and Nanetti R (2016) *Op. Cit.*, p. 17.

[46] Madelin R and Ringrose D, *Op. Cit.*, p. 72.

[47] Notably the Smart Specialisation Platform located in Seville (http://s3platform.jrc.ec.europa.eu/) , which currently counts 169 registered EU regions and 18 registered EU member states, plus 2 and 8 registered non-EU countries and regions respectively, and similar platforms in some cases at the national levels, e.g. in the United Kingdom the English Smart Specialisation Hub (http://smartspecialisationhub.org/).

[48] See McCann P and Ortega Argiles R (2016) *Op. Cit*..

[49] *Ibidem*.

the Strategy was protracted). **France**, **Germany**, the **Netherlands** and the **United Kingdom** decided not to develop a national Smart Specialisation Strategy altogether.

- As raised by Grillo and Nanetti (2016) it is also perhaps ambitious to expect public administrations to have 'the entire skill set to embrace an approach to regional innovation strategies that would take into consideration the impact of changes in the world economy'. In their six case studies, realised across Spain and the UK, the authors found that these skill sets were not entirely present and that the Smart Specialisation Strategies shared common limitations.[50]

All of these difficulties are reflected in the approval delays which have meant that, as already noted, some of the S3 strategies are still pending (Table 6).

Table 6: Smart Specialisation Strategies - State of Play

	National		Regional			
	Approved	Date	Approved			Pending
			Total No.	First	Last	
Austria	Yes	2011*	9	2009	2016	0
Finland	NA	NA	NA	NA	NA	NA
France	Not applicable	Not applicable	26	June 2012	NA	0
Germany	Not applicable	Not applicable	15	Jan 2012	Nov 2015	0
Italy	Yes	May 2016	15	Dec 2013	June 2016	5
Netherlands	Not applicable	Not applicable	4	Sept 2013		0
Poland	(Submitted – pending approval)	-	2	2016	2016	16
Portugal	Yes	Dec 2014	7	Dec 2014		0
Sweden	NA	NA	NA	NA	NA	NA
United Kingdom	Not applicable	Not applicable	2	2014	2015	1 (England)

Source: EPRC research. Note: *The Austrian National Smart Specialisation Strategy is formally the Research, Technology and Innovation Strategy ('Becoming an Innovation Leader') which had been approved already in 2011. ** Scotland opted not to develop a S3 strategy and to retain instead a pre-existing framework for entrepreneurship and innovation.

[50] Grillo F and Nanetti R (2016) *Op. Cit.,* p. 178.

3.2 Innovation in the regional policies

3.2.1 The relative importance of regional innovation policy

It is not always straightforward to disentangle the relationship between innovation policies and regional development policies, and particularly the demarcation between the two. Countries place different emphases on: (i) innovation as a sectoral policy in the framework of their overall public policies; (ii) regional policy vis-à-vis sectoral policies; and, (iii) innovation as part of the regional policy packages. The trends discussed in the previous sections, namely the increasing territorialisation of innovation polices and the increasing financial weight assigned to innovation as a policy priority in Cohesion policy programmes, can make it difficult to separate out the two sets of policies, particularly where regional policy is fully subsumed under or aligned with EU Cohesion policy.

Figure 6 to follow, attempts a classification of countries of this study based on the different emphasis placed on innovation as a sectoral policy and on innovation as part of the domestic regional policies (where applicable). Countries have been grouped in four categories:

- **Group A: Strong-Strong** – At one end of the spectrum, the first group comprises countries which both place strong emphasis on innovation as part of their regional policy package, and have a strong sectoral innovation policy. This group includes **Germany** and **Switzerland**.

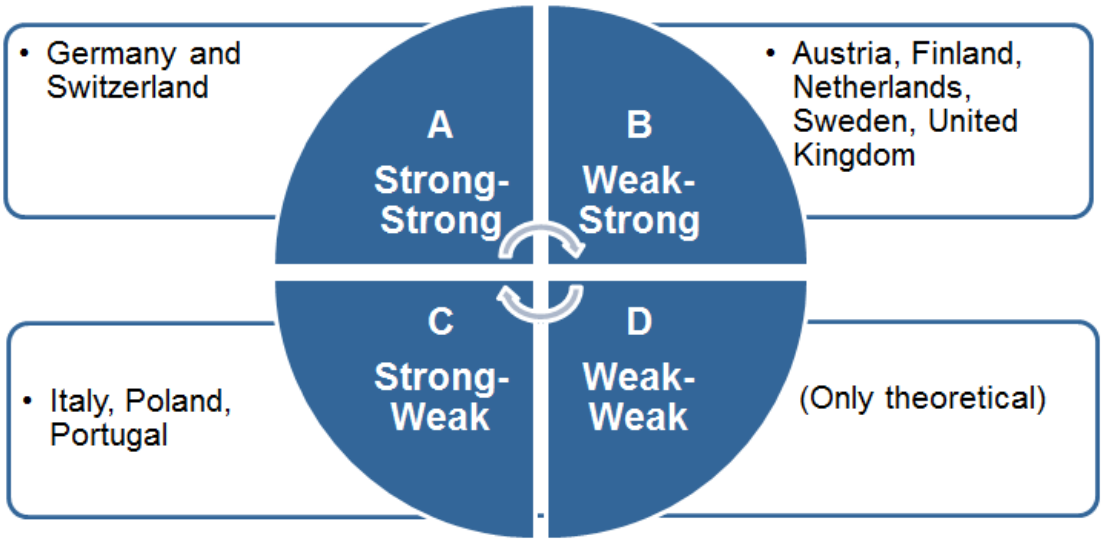
- **Group B: Weak – Strong** - A second category relates to countries which place only a marginal emphasis on innovation as part of their regional policy packages (particularly domestic regional policy) or which do not have an active regional policy as such, but that in parallel place considerable emphasis on innovation as a sectoral policy (with emphasis on national growth and competitiveness, rather than balanced territorial development based on regional strengths). This is the case of **Finland, Sweden** and also of **Austria**, the **Netherlands** and the **United Kingdom**, which do not have a domestic regional policy as such, i.e. an active regional policy beyond the programmes funded by the ESI Funds.[51]

- **Group C: Strong - Weak** – The last empirically relevant, category relates to cases where regional policy places strong emphasis on innovation, but in a context where a strong sectoral policy for innovation, beyond the funding provided by regional policy, is lacking. **Italy**, **Poland** and **Portugal** fit in this category.

- **Group D: Weak – Weak** - The last, albeit only theoretical, grouping in this categorisation would be the 'Weak – Weak' group (weak presence of innovation as part of the regional policy package and marginal or absent innovation policy). Given the policy paradigms currently in vogue, as previously discussed, it does not surprise that this group does not include any countries covered by this study.

[51] Norway has been omitted from this classification because it does not fit easily in any of the four groups. It could be considered to fit in the Group B (Weak – Strong) in that it lacks regional policy innovation schemes that are exclusively devoted to lagging regions. However, as already noted in Table 7, this is because existing regional innovation schemes were extended to the national territory due to their good performance and appreciation of their potential utility beyond the lagging regions. This extension is not considered to have diminished the relevance of these schemes for the areas that are targeted under regional policy.

Figure 6: Country grouping based on importance of innovation as a policy and as part of the regional policy package



Source: EoRPA country research.

In illustration of the above categories, **Switzerland** is an example of the first group (Group 'A'). Swiss regional policy, namely the New Regional Policy (NRP), has innovation at its heart. The current strategy, for the period 2016-20, focuses on fostering tourism and industry and places innovation at the centre of both sectors as a horizontal criterion for project eligibility and selection. Within the 'industry' priority, the NRP foresees support to Regional Innovation Systems, of which Switzerland counts six. Support is organised mainly through traditional instruments like technology parks. However, soft support is also provided through a platform called 'PLATINN', which is an inter-cantonal project involving seven cantons which supports innovative SMEs and start-ups in key sectors.[52]

Austria, Finland and the United Kingdom are illustrative of the second group (group 'B'). **Finland** is a country where innovation policy has been and continues to be a central policy. In the past, innovation was also a central component of regional policy, framed around cities. However, strategic and financial considerations have meant that the key regional policy schemes for innovation, the Centre for Expertise Programme (OSKE) and the subsequent Innovative Cities Programme (INKA), were discontinued. They have been replaced by a new scheme that intends to support the structural change of Finnish regions through agreement between the State and the cities, centred on local assets, strengths and potentials (thus in line with the philosophy of smart specialisation). However, the new scheme is less endowed financially (which has raised considerable concern about the future of regional innovation policy in the country). In **Austria** innovation is paramount to growth and competitiveness nationally (and it has been for many years) and, as such, it is one of the four overarching goals of regional policy too (alongside with the support of cross-border and international activities, resource and energy efficiency, and equal opportunities and labour qualification). However, regional policy equates essentially with EU Cohesion policy and there is no domestic regional policy as such. The **United Kingdom** too has very little active regional policy beyond Cohesion policy and the few policy instruments implemented under this - a few regional aid schemes in Scotland, Wales and Northern Ireland, and the Enterprise Zones/Areas throughout the UK - do not focus considerably

[52] For more information on the scheme see http://www.cdep-so.ch/en/about (accessed 9 September 2016). The scheme was evaluated in 2014 but the report is not publicly available.

on innovation. However, innovation policy as a sectoral policy is very important and innovation policy funding is allocated nationally, based on excellence and strength of proposals.

Lastly, Italy, Portugal and Poland are the three countries of the last (empirically relevant) group (Group 'C'). **Italy** fits in this group because it places strong emphasis on innovation as part of the regional policy framework, but it lacks a comprehensive domestic innovation policy. As underlined by Zecchini (2016), two recent reforms of the domestic R&D&I policy, in 2014 and 2016, have aimed to tackle the long-standing problems that have characterised Italian innovation policy for many years. These include: weak governance and fragmentation of competences; duplication of measures across government levels; lack of a reflexive process of monitoring and evaluation; and an emphasis on research aimed at societal needs, rather than oriented towards firms. Despite some improvements - for example the establishment of eight Technological Clusters to facilitate dialogue between public and private actors (plus four more to be launched soon) - the current framework continues to be focussed predominantly on research and human capital development, and to neglect the innovation needs of firms, especially SMEs, and the dissemination of innovation amongst firms. Further, the new innovation policy also operates with reduced funding and does not address the fragmentation/governance problems of the past.[53] Regional policy, on the other hand, places strong emphasis on innovation with, as already discussed, considerable resources earmarked for TO1 in the Partnership Agreement. In **Portugal**, since 2007, and increasingly so under the 2014-20 programming framework, innovation has become a core tenet of regional policy, to the extent that Cohesion policy funding has been deemed to have had an instrumental role in the development of the Portuguese R&I system.[54] Supporting innovation to add value to national production and diversify exports is also a key aspect of National Reform Programme. However, the main financial arm is represented by the Cohesion policy programmes. Similarly in **Poland**, innovation is a central pillar of the new, long-term economic development plan for the country which was launched in February 2016 by the Development Minister Mateusz Morawiecki - the Plan for Responsible Development (or the "Morawiecki plan"). One of the five basic 'pillars' of the Plan is the development of innovative companies, which involves, among others, drawing up a Business Constitution to simplify regulations, helping develop and launch innovative products, and higher spending on research and development. Nevertheless, most of the funding for innovation continues to come from the Cohesion policy programmes.

To the extent that trends can be identified, it can be noticed that:

- First, countries with sizeable regional policies tend to include innovation as a crucial feature of these, not least due to the impact of European strategic guidelines and the thematic concentration required by the EU under the CSG.
- Second, countries which do not have sizeable regional policies, on the other hand, can both implement innovation policy in a manner that is a-spatial in its objectives, i.e. focussed primarily on achieving increased competitiveness from a national perspective (**Finland**, **United Kingdom**) or, on the contrary, foster innovation as an engine for national growth in a territorially-declined fashion. In the **Netherlands**, for example, innovation is a central focus of the national enterprise policy which focusses on nine 'Top Sectors' in which the country is considered to excel in and which are deemed key for national growth. Whilst the focus is

[53] Zecchini S (2016) *La politica italiana per l'innovazione*, Impresa Lavoro Centro Studi Edizioni, pp. 31-37.

[54] Godinho M.M., Simões V.C. and Zifciakova J. (2016) *RIO Country Report 2015: Portugal*, EUR 27873 EN.

national growth and competitiveness, there is a regional dimension derived from the previous 'Peaks in the Delta' approach[55] whereby the earmarked sectors are regionally concentrated in nationally-relevant clusters.[56]

- Lastly, overall, even in countries where there is little emphasis on innovation as part of regional policy (or little emphasis on regional policies per se), 'place' is becoming a more important part of the sectoral innovation policies across the board, in the form of an emphasis placed on comparative advantage of regions and localities, and acknowledgement of the need for local geographies 'to invest in their differentiated strengths', in line with the currently dominant paradigms relating to the drivers of innovation (e.g. in the **Netherlands**, **Sweden** and the **United Kingdom**).[57]

It should be noticed that the strong focus on innovation as part of the regional policy package can generate tensions. In **Norway**, for example, regional policy has for a long time funded schemes aimed at innovation. This however has led to questions about the role of innovation within regional policy. The objective of regional policy lies in the support for communities, villages and quality of life in rural areas. In this light support for innovation has been viewed as a means to an end. However, there have been questions raised about the performance of some of the schemes in terms of achieving the intended regional policy goals (rather than the innovation goals of innovation policy with resources from the regional development budget). This same question can be raised about all other countries insofar as they fund innovation support schemes in their regional policy packages which are available across the national territory and not solely in selected areas, as will be discussed in some more detail in the next section.

3.2.2 Programmes and schemes supporting innovation within regional policy

Countries of this study implement a number of programmes and schemes to support innovation as part of their regional policy packages. These can be classified as follows:

- Incentives to firms for R&D activities, in the form of grants, innovation vouchers, loans;
- Support for innovative start-ups, incubators and university spinoffs;
- Tax incentives for R&D and/or intellectual property (e.g. patents and licenses);
- Support for the cooperation between firms and research providers, and between firms;
- Support to clusters / competitiveness poles;
- Open Innovation Platforms, other types of platforms, support for ecosystems.

A summary overview of the types of national-level programmes and schemes on offer in the countries of the study is provided in Table 7 to follow. A selection of these schemes – highlighted in bold in the table – is discussed in the next Section, part of the review of the evaluations of regional innovation

[55] den Hertog P, Bonger F, Minne B, Veldkapm J, Korlaar L and Janssen M (2012) Evaluatie van de programmatische aanpak, available at: http://www.rijksoverheid.nl/bestanden/documenten-en-publicaties/rapporten/2012/03/28/rapport-evaluatie-van-de-programmatische-aanpak/rapport-evaluatie-van-de-programmatische-aanpak.pdf (accessed 9 September 2016).

[56] And, at the same time, territorially-differentiated innovation support is also provided via schemes implemented by the regions and provinces. Raspe, O. et al. (2012), De ratio van ruimtelijk-economisch topsectorenbeleid, Den Haag.

[57] Baughan K (2015) The geography of innovation, Innovate UK blog, https://innovateuk.blog.gov.uk/2015/12/18/the-geography-of-innovation/ (accessed 9 September 2016).

measures.[58] While the table provides the current picture, from a longer term perspective it should be observed that while traditional support through aids to firms in the form of grants – e.g. for the acquisition of knowledge, R&D activities, technology transfer and training of human resources - continues to be in place in a number of countries (e.g. **Germany**, **Italy**, **Poland** and **Portugal)**, there has been a shift in innovation support from a firm-centred approach to a system-centred one, where the support is channelled primarily through clusters and networks and targeted at the context in which firms operate. In this approach, the public sector becomes primarily a facilitator, and support to firms becomes mostly indirect. Accordingly, in various countries, the State has withdrawn as a provider of subsidies and has reframed itself as promoter of research-industry interfaces, thus facilitating networking and collective learning activities.[59]

An interesting fact that emerges from the review of regional innovation programmes and schemes undertaken is that, in most cases, they relate to policy measures that are available throughout the national territory. In other words, these are not programmes or schemes that have been designed specifically for designated, less developed, areas. Only the German Federal Republic funds programmes and schemes – namely the GRW, the Innovation Skills East programme, and the Innovative regional growth poles scheme (a measure under the Enterprise Region programme) – that are available only in the Eastern Länder. Elsewhere, territorial eligibility is dictated by what is possible under State aid rules. To provide an example: in Italy, the various types of aids provided under the 'Development Contract' scheme – which is the main domestic scheme for major localised industrial programmes (min. €20 million) – can be granted across the entire national territory so long as the recipients are SMEs or projects are for industrial R&D&I. Large firms can only be supported in the 107(3)(a) or (c) areas in compliance with State aid rules. In similar vein, a scheme for innovative start-ups called 'Smart and Start', which was launched in 2013 only for the Mezzogiorno, was recently extended to the entire national territory. This seems to signal a trend that sees regional policy implemented through schemes that are not geared explicitly towards lagging areas. A result of this are questions, already discussed, about the performance of the schemes vis-à-vis the goals of regional policy, as opposed to the schemes' own sectoral objectives.

[58] For a description of some of the schemes not discussed in this report, the reader should refer to Vironen H, Vernon P, Miller S and Davies S (2016) *Regional Policy Instruments in Europe – Comparative Tables,* EoRPA paper 16/3.

[59] Tödtling F and Trippl M (2012) *Transformation of regional innovation systems: From old legacies to new development paths*, Paper presented at the 2012 Annual ERSA Conference, 21-26 August 2012, Bratislava.

Table 7: Different types of instruments to support innovation in the regional policies of countries covered by the study (in bold: schemes whose evaluations are discussed in the present report)

	Grants and incentives for R&D activities (e.g. innovation vouchers, aids)	**Innovative Start-ups, incubators and university spinoffs**	**Tax incentives for R&D or intellectual property**	**Cooperation between firms and research providers and between firms**	**Clusters / competitiveness poles**	**Open innovation platforms /other platforms / ecosystems**
Austria		AplusB centres*			**COMET Programme***	
Finland					AIKO (Regional innovations and experiments scheme)* [**OSKE, Centre of Expertise Programme** – suppressed]	
France	CPER*				**Competitiveness poles***	
Germany	GRW 'Go inno' Innovation vouchers for SMEs* Innovative SMEs*	EXIST – technology oriented and knowledge-based start-ups*		Central Innovation Programme for SMEs (ZIM)* Research Campus (cooperation science/firms)* Innovation Campus Innovation Skills East programme	'Go' Innovative clusters* Leading Cluster Competition* Innovative regional growth poles (under the Enterprise Region programme)	
Italy	Innovative investments* (MD 29 July 2013) Fund for Technol. innovation (law 46/82)* SME Guarantee fund – R&D section** Special revolving fund for technological innovation (FIT) Development contracts **Lombardia Funds ***	Smart & Start*	Tax deductions for patents, licenses and trademarks*		Technological clusters* Living labs* Technological labs*	Lombardia Open Innovation Platform
Netherlands	**SMEs Innovation Stimulus Top Sectors***			Top Consortia Knowledge and Innovation (part of TSP)*	Top Sectors Policy (TSP)*	Top Consortia Knowledge and Innovation (part of TSP)* Platform Beta Techniek*

	Grants and incentives for R&D activities (e.g. innovation vouchers, aids)	**Innovative Start-ups, incubators and university spinoffs**	**Tax incentives for R&D or intellectual property**	**Cooperation between firms and research providers and between firms**	**Clusters / competitiveness poles**	**Open innovation platforms /other platforms / ecosystems**
Norway[60]	-	-	-	(Arena – Innovation Networks)	(NCE – Norwegian Centres of Expertise)	-
Poland	Grants for development of products/services* Innovation grants* R&D grants*	Grants for business incubators, TT Offices, Innovation Centres*		Grants to SMEs for collaboration networks and TT*	Regional clusters*	
Portugal	Business innovation & entrepreneurship incentive scheme (incl. entrepreneurship voucher) RTDI incentive scheme (incl. R&D voucher) SME qualification & internationalisation incentive scheme (incl. innovation and internationalis. vouchers) Scientific & Technol. Res. Support System (SAICT)	Collective actions support system (SIAC)	Tax incentives for R&D (SIFIDE II)	Collective actions support system (SIAC)	**Collective Efficiency Strategies Public Policy Framework** (National policy supporting clustering processes), incl. business incentive schemes and the Collective Actions Support System (SIAC)	*Techno business platforms*[61]
Sweden					Tillväxtverket's programme on regional innovation and clusters*	**VINNVÄXT***
Switzerland						PLATINN
United Kingdom		University Enterprise Zones (England – being piloted)*				

Source: Country experts' research. Note: * denotes domestic innovation policy instrument, not strictly a regional policy scheme explicitly targeting lagging regions (as defined by the regional aid map), but which is co-funded under regional policy (notably under the ESIF). The table refers mostly to national / federal level instruments. In most countries there are a variety of further schemes implemented by the regional authorities which, however, have been mostly omitted from the review. Bold-highlighting indicates schemes whose evaluations are discussed in Section 5. Underlined schemes are schemes that only operate in structurally weak regions (as defined by the regional aid map).

[60] Norway has two main schemes for innovation in the context of cluster policies – Arena (Innovation Networks) and NCE (Norwegian Centres of Expertise). Although born originally as regional policy instruments, given their success in driving innovation, they were later taken over as instruments of innovation policy.

[61] Introduced with ministerial order n.º 2909/2015. It may not have been launched yet. Presidência do Conselho de Ministros e Ministério da Economia (2015) Despacho n.º 2909/2015, Gabinetes dos Secretários de Estado do Desenvolvimento Regional e da Inovação, Investimento e Competitividade. Diário da República, 2.ª série – N.º 57 – 23 de março de 2015.

4. RECENT USE OF EVALUATION EVIDENCE TO SUPPORT POLICYMAKING IN REGIONAL INNOVATION POLICIES

KEY FINDINGS

Countries covered by the study have undertaken a number of recent evaluations on the innovation-related programmes and schemes comprised in their regional policy packages.

Evaluations have been carried out for a variety of aims: from comprehensive policy appraisal, to supporting decisions over policy termination; from testing existing instruments, to establishing effects; from reappraising measures against changed institutional contexts, to testing 'bold' choices made by the administrations.

In various countries **evaluation is embedded in the policy process and in the lifecycle of specific programmes and schemes.**

There is evidence that evaluation conclusions and **recommendations are followed-up**, although:

- in some cases it is difficult to pin down the full extent of this;
- some evaluations have mainly accountability and stock-taking functions;
- policy decisions can be taken also irrespective of evaluation findings (e.g. linked to financial cuts).

The following sections provide a review of a selection of evaluations of regional policy innovation measures (programmes or schemes) implemented in countries covered by the study. The selection was based on three main criteria: the evaluations' relevance, appraised based on the salience of the programmes or schemes assessed; their recent completion; and, where applicable, the discernible impact that could be detected on the policy, whether in terms of strategic direction, design or implementation. It should be mentioned at the outset that evaluations do not always provide recommendations. In some cases evaluators only formulate conclusions which is left to the policymakers to consider and, if and as applicable, follow-up.

In what follows, nine evaluations from seven selected countries are reviewed. For each evaluation, the following information is provided:

- Background information on the evaluation and on the evaluated programme or scheme;
- Summary of the main conclusions and recommendations; and a
- Review of the extent to which recommendations have been taken on board and, where available, to which effect.

The evaluations reviewed show that evaluations are undertaken for different purposes which include the following:

- To undertake a comprehensive reappraisal of the policy in its entirety – as in the **German** study on the tasks, structure and possible configuration of regional policy post 2020;

- To support decisions about the termination or revision of policy programmes - as in the case of the **Finnish** Centre of Expertise and **Dutch** Peaks in the Delta programmes;
- To test and refine the operation of existing instruments – as in the evaluations of the **Austrian** COMET programme (Competence Centres and Excellent Technologies), of the **Dutch** SME Innovation Stimulus Top Sectors Scheme, and of the incentives funded by the **Portuguese** 2007-13 COMPETE OP and cluster policy;
- To provide accountability and evidence on the effects delivered by the schemes – as in the evaluation of the **Swedish** VINNVÄXT programme;
- To reappraise the suitability of instruments vis-à-vis a changing institutional context – as in the evaluation of the **French** Competitiveness Poles; and, lastly,
- To test the validity of bold choices, like the introduction of novel schemes or the concentration of resources on new types of instruments – as in the evaluation of innovation-related financial instruments undertaken in Lombardy (**Italy**).

4.1 Evaluation evidence for comprehensive policy appraisal

4.1.1 The study on the tasks, structure and possible configuration of a Germany-wide system for supporting structurally weak regions from 2020

Background on the evaluation

Germany's 2013-17 federal government coalition agreement between the CDU, CSU and SPD set out two major goals relating to regional policy, namely (i) the creation of a new regional policy framework from 2020, and (ii) a reform of federal-*Länder* fiscal relations, in the context of the planned end, in 2019, of the current Germany-wide fiscal equalisation system (*Länderfinanzausgleich*) and Solidarity Pact for the eastern *Länder*.[62] In this context, the Federal Ministry for Economic Affairs and Energy awarded a contract in October 2014 for a study on the 'tasks, structure and possible configuration of a Germany-wide system for supporting structurally weak regions from 2020', and the final report was published in June 2016.[63]

The study mainly took the form of a meta-evaluation, data analysis and literature review, in addition to a series of meetings and discussions with policymakers, and comprised different components, summarised in Box 1 below. The goal was to propose an integrated Germany-wide support framework for structurally weak regions, and to describe the tasks, structure and possible configuration of a future regional policy system from 2020, whose aim would be to reduce the locational disadvantages of structurally weak regions, to contribute to economic growth and employment, and so reduce regional developmental disparities and facilitate fairer locational competition. Although the study was not solely focussed on innovation, but covered all elements of support present in Germany's regional policy, it returned recommendations on innovation, including that cooperation, R&D and innovation should become more central to regional policy.

Evaluation conclusions and recommendations

The conclusions for the future development of the Regional Joint Task (GRW) after 2020 were as follows:

- The regions used for designating eligibility (labour market regions, at roughly NUTS 3 level) should be reassessed to ensure that funding is targeted at functional regions that reflect commuter linkages, including those that cross Land boundaries.
- The methodology and indicators used for designating GRW regions should also be reassessed, including with the aim of improving transparency.
  Support for business investment should continue, with the aim of expanding private capital stock, particularly in the eastern *Länder*, and, in particular, scope for ensuring ongoing support for the investment projects of larger firms should be explored, notably via instruments

[62] CDU, CSU and SPD (2013) *Deutschlands Zukunft gestalten: Koalitionsvertrag,* Rheinbach, https://www.cdu.de/sites/default/files/media/dokumente/koalitionsvertrag.pdf (accessed 9 September 2016).

[63] Untiedt G, Karl H, Rosche J, Kersting M and Alecke B (2016) *Aufgaben, Struktur und mögliche Ausgestaltung eines gesamtdeutschen Systems zur Förderung von strukturschwachen Regionen ab 2020*, GEFRA and RUFIS, Münster/Bochum, 31 March 2016, http://www.bmwi.de/DE/Mediathek/publikationen,did=770216.html (accessed 9 September 2016).

(in the 'middle ring' – see Box 1 below) that focus e.g. on R&D and innovation and so are less subject to constraints.

- The GRW should have a stronger focus on cooperation, R&D and innovation. Although the GRW can in principle fund these kinds of interventions, the actual amount of funding allocated is limited. There is a need for both stronger cooperation with sectoral R&D policies at federal and *Land* levels, in order to exploit potential synergies, and increased funding for innovation (as well as related funding for infrastructure and human capital) in structurally weak regions as part of the regional policy package.
- GRW eligibility rules should be reassessed. In particular, the restriction on funding to firms where there is evidence that firms export outside the region should be rethought. The evaluators note, for example, that support for R&D, start-ups, cooperation and broadband investment can also bring net benefits, even in the case of firms which do not export outside the region.
- GRW support for business-oriented infrastructure should continue but specific changes should be considered, for example to expand the types of broadband infrastructure which can be funded.
- Future synergies between the GRW and the other instruments in the 'middle' and 'outer' rings of Germany's regional policy should be fostered (the study formulates specific recommendations on how this can be achieved).
- A more systematic approach to evaluation should be introduced, including both ex-ante and ex-post evaluations, as well as steps to ensure the availability of the data needed.
- And, lastly, regular reports should be undertaken on the medium- to long-term economic development of structurally weak regions in Germany (similar to the EU's regular Cohesion Report), and the impact of all instruments should be regularly evaluated in order to improve evidence-based policymaking.

Box 1: The study on the tasks, structure and possible configuration of a Germany-wide system for supporting structurally weak regions from 2020: main components

The study comprised the following main components:

1. An **analysis of the economic development of Germany's regions**, drawing on the latest data;

2. A **literature review** of the principles and rationales underpinning regional policy;

3. A **description of a wide range of policy instruments** seen as relevant to German regional policy, together with a meta-evaluation of evidence of the effects of these instruments, based on a 'three ring model' i.e.

- An inner ring, made up of the Regional Joint Task, the ERDF, and *Land* programmes and instruments;
- A middle ring, made up of federal government instruments (whether focused on structurally weaker regions or on all regions), targeted at innovation, SME support and infrastructure, as well as financial instruments;
- An outer ring, made up of support for rural development (through the EAFRD and the domestic Joint Task for Improving Agricultural Structures and Coastal Protection) and urban development.

4. An **assessment of the current GRW methodology for designating eligible regions**, as well as possible modifications to this methodology;

5. **Proposals for an integrated regional and structural policy for structurally weak regions from 2020**, once again focused on the three ring model.

Source: G. Untiedt, H. Karl, J. Rosche, M. Kersting and B. Alecke (2016) *Op. Cit.*.

Uptake of evaluation recommendations

While it is too soon to assess which concrete changes will be introduced in the future German regional policy framework as a result of the evidence put forward by this study, the study was commissioned exactly to feed evidence into the discussions on the reform of German regional policy for the forthcoming, post 2020, period. As a result, the launch and drafting of the study have been integrated into the process of developing post-2020 regional policy. The goals and format of the study were agreed by the GRW Sub-committee (the operational body which oversees the GRW, made up of civil servants from federal and Land levels), and interim and draft final versions of the report were presented to the GRW Sub-committee for discussion. The final version of the study was presented by the Federal Minister for Economic Affairs and Energy, Sigmar Gabriel, and is seen as one of the building blocks for Germany's post-2019 regional policy.[64] The press release linked to the publication of the study noted that it 'proposes a comprehensive and integrated regional policy system aimed at ensuring equivalent living conditions throughout Germany. Alongside the GRW's classical support for regional development, other instruments for SMEs and innovation should play an important role in future. Some of the programmes which until now have been confined to eastern Germany may in future be extended to structurally weak regions throughout Germany'. [65]

[64] Bundesministerium für Wirtschaft und Energie (2016) Gabriel legt Gutachten zur Zukunft der regionalen Strukturpolitik für ganz Deutschland vor, Press release, 10 June 2016, http://www.bmwi.de/DE/Presse/pressemitteilungen,did=770250.html (accessed 6 September 2016).

[65] *Ibidem*.

4.2 Evaluation evidence supporting policy termination and new policy formulation

4.2.1 The Finnish Centre of Expertise Programme (OSKE)

Background on the scheme and its evaluation

The Centre for Expertise Programme (OSKE) was a key instrument for the support of regional competitiveness during the period 1994-2013. It supported regional strengths, regional specialisation and cooperation between the different centres of expertise (and between the research sector, educational institutions, business and industry). It was evaluated at different stages throughout its life and, for the last time in 2013.

Evaluation conclusions and recommendations

The final evaluation[66] concluded that the programme played a key role for nearly two decades as a promoter of local and regional innovation policies and in the support for SMEs in particular. However, the evaluators underlined that despite a number of good practices introduced, the programme had came to a natural end of its life cycle.[67] Although the programme had tried to respond to the global changes in the innovation environment, the structural changes in Finland had been too extensive for the programme to be able to cope with. The evaluators pointed to the need to renew innovation programmes at a time of increasing global competition, starting afresh. From the business perspective, innovation is increasingly carried out in business-led ecosystems and less so in national clusters. The recommendation for innovation policy was thus to ensure that regional expertise would have direct access to international nodes. Accordingly, OSKE was thus terminated to leave room for a new generation of innovation activities. This led to the launch of the INKA programme at the start of 2014, which was to partly continue the activities of OSKE but which was designed also to incorporate seven specific recommendations formulated by the evaluators.

Overall, while OSKE had benefited SMEs in particular, the evaluation underlined the importance of attracting larger firms into the innovation activities and that future future innovation policy should integrate the support to start-ups and growth-firms of all sizes in a single instrument. Therefore the evaluation called for more support for initiatives that could serve both large and small firms. According to the evaluation, one of the most effective means to make large and small firms and research institutes work together would be through demonstration projects related to significant societal problems (energy care, transport, health care or social care). In such projects, there would be potential to utilise innovative procurement methods and to strengthen the impact of innovation activities. Cities would play a natural role in this, as they are generally responsible for such services. The Innovative cities (INKA) programme was seen to have a role in delivering such demonstration projects, according to a reformulated operation inclusive of seven key recommendations proposed by the evaluators (Box 2)

[66] Ministry of Employment and the Economy (2013) Alueet globaaleissa ekosysteemeissä, Osaamiskeskusohjelman loppuarviointi, 19/2013.

[67] The evaluation recognises that the business environment has changed significantly since the launch of the programme in 1994. The key impact of the OSKE in the situation influenced by globalisation and the financial crisis has been its ability to complement quickly and flexibly the other innovation programmes, and to offer local support to the development of SMEs and alleviating the effects of structural changes. This has resulted in a number of good practices (which are discussed in detail in the report).

Box 2: Recommendations of the evaluation of the Innovative cities (INKA) programme

1. **Shift focus away from clusters to development ecosystems** - Global competition is increasingly taking place between different ecosystems. Given the specific circumstances in Finland, there is a need for individual clusters to network on a global scale and create their own ecosystems.
2. **Incentives to encourage cooperation between businesses**. Large businesses are particularly important for the success of small businesses, and therefore the innovation policy needs to encourage large businesses into cooperation.
3. **Attract top-level international expertise into projects**. The national innovation policy needs to help to find the right top-level international expertise into innovation projects.
4. **Focus on demonstration and pilot projects**. Concrete demonstration projects, which are related to significant societal problems, are believed to effectively bring together small and large businesses and research institutes, as well as to have the potential to utilise innovative procurement methods and strengthen the impact of innovation activities.
5. **Strengthen the ability to orchestrate the network activities**, particularly in terms of coordinating the different interest of the involved actors.
6. **Focus on phased and competitive programmes**. The ecosystems and **networks** develop in phases. By providing additional time and financial incentives, it is possible to encourage regional actors to strengthen their cooperation, which can lead to better projects at later phases.
7. **Clarify responsibilities for results and implementation**. There is a need for a representative of the funder to be more involved in the operative steering of the programme. This way the funder has a direct responsibility for results and can act as good practice communicator between different projects and thereby increase the synergy effects between projects.

Source: Ministry of Employment and the Economy (2013) Alueet globaaleissa ekosysteemeissä, Osaamiskeskusohjelman loppuarviointi, 19/2013.

Uptake of evaluation recommendations

As for the take-up of the evaluation recommendations, the INKA programme was intended as a key policy instrument to strengthen the regional innovation hubs in Finland, based on the principle that the specialisation of cities would be supported on the basis of their strengths and international expertise by encouraging them to focus on key priorities and on broad-based public sector and business cooperation. This would in turn create knowledge-based business (e.g. new businesses or significant renewal of existing businesses) while utilising a new type of development environment (i.e. the cooperation between state, business and cities). The programme would support large pilot and development projects, as well as promote better conditions for the various innovation actors to be based in the Finnish innovation hubs,[68] with focus on five themes: smart city and renewing industry; bioeconomy; sustainable energy solutions; future health; and cyber safety – each linked and delivered by a designated city (respectively Oulu, Joensuu, Vaasa, Tampere, Jyväskylä). However, the INKA programme, which had replaced the preceding OSKE, was cut as a result of the cost-cutting exercise of the present Government, before its effectiveness could be assessed (it will operate only until the end of 2017). Future, reduced, funding will be steered into a new instrument, called 'Regional innovations and experiments' (AIKO), which was launched at the end of 2015. AIKO instrument is perceived to be significant by the Government in terms of contributing to the renewal of regional

[68] http://docplayer.fi/313195-Inka-innovatiiviset-kaupungit-ohjelma-2014-2020.html (accessed 10 August 2016)

development and economic structures, by promoting competitiveness and growth across Finland leveraging on the different strengths of regions. It entails three strands: (i) structural change; (ii) State-cities growth agreements; (iii) nationally-significant growth zones. [69] Whilst the full extent of the financial cuts and operational differences compared to INKA are not yet clear, the perception amongst Finnish policymakers is that the instrument embodies a turn in innovation support from organised in regional centres to national hubs (for more detail on the new AIKO scheme see Box 3 below).

Box 3: The new 'Regional innovations and experiments' (AIKO)

AIKO entails three different strands of activities:

1. **Proactive measures to structural change in the regions.** The intention of these measures is to implement quick and experimental (new) measures and to improve regional resilience. Key themes under this approach are: renewal of industry and businesses, growth and internationalisation and experiments promoting employment and business activities. The structural change projects are decided by the Regional Councils on the basis of the implementation plan of the regional strategic programme, which includes a regional contingency plan. AIKO funding is not intended to be used for infrastructure or for other physical structures, or for the organisation of individual events. AIKO funding can provide a maximum of 70 percent of the total public funding to the project.
2. **Growth agreements between the state and the cities,** which aim to strengthen growth and competitiveness by concentrating on a few strategic development areas. Growth agreements for 2016-18 have been made with the cities of the capital region (Helsinki, Espoo, Vantaa, Kauniainen and Lahti), Joensuu, Lappeenranta-Imatra, Oulu, Tampere, Turku and Vaasa following a competitive proposal submission process. As part of the growth agreements, the cities offer a platform for business to develop new solutions concerning themes such as smart transportation, energy and healthcare. For instance, the theme in the capital region growth agreement focuses on clean and smart solutions. The intention is to adopt a new type of model for developing the cities in the capital region and to generate growth and to increase the international attractiveness in terms of skilled people and investments in the field of 'clean & smart' sector.[70] Within the growth agreement framework, there are also two thematic networks of cities consisting of cities of different sizes.[71] Although growth agreements have existed also in the past, they were funded via Tekes through the Innovative Cities (INKA) instrument. Funding under the current growth agreements will be allocated by the Ministry of Employment and the Economy through the relevant Regional Councils.
3. **Nationally significant growth zones**. The aim is to increase business activities, mobilise labour force and streamline commuting across municipal borders. The growth zone links the different centres to form a larger labour market and economic area which attracts international investments. Strategic agreements were made following a competitive proposal process and two growth zones were selected: the northern growth zone and the growth corridor of Finland.

Source: Finland country research.

[69] Ministry of Employment and the Economy (2015) Alueelliset innovaatiot ja kokeilut, Ennakoidun rakennemuutoksen suunnitelman laatiminen, 23 November 2015

[70] http://www.tem.fi/alueiden_kehittaminen/tiedotteet_alueiden_kehittaminen?89522_m=120529 (accessed 14 June 2016).

[71] http://www.tem.fi/kasvusopimus (accessed 13 June 2016).

4.2.2 The Dutch Peaks in the Delta

Background on the scheme and its evaluation

Until 2011, when the policy was discontinued, the objectives of Dutch spatial economic policy were based on the *Peaks in the Delta* policy paper of 2004 (Pieken in de Delta, PiD). This set out the government's territorial economic agenda and the goal to contribute to the national policy objective of restoring the international competitiveness of the Dutch economy, using spatially-targeted initiatives to remove regional obstacles to national growth.[72] The policy focused on sectoral strengths or clusters (so-called 'peaks') in six regions – Northern Netherlands, Eastern Netherlands, Randstad North Wing and Utrecht region, Randstad South Wing, South-Western Netherlands and South-Eastern Netherlands.[73]

In 2014, an evaluation of the long term effects of regional economic development policy was carried out which largely reflected on the central government's regional economic policy from 2004 until 2014 but with a key focus on the Peaks in the Delta policy.[74] The evaluation was commissioned to examine the effects of two important changes in spatial economic policy in the Netherlands.

1. An increased focus on supporting strong regions instead of less developed regions, particularly under PiD (2006); and
2. Decentralisation of responsibilities for economic development policy from the central government to the municipalities (2010 – 2012).

Evaluation conclusions and recommendations

The evaluation concluded that regional economic policy has had four main outcomes related to the strengthening of: (i) the organisational capacity of clusters; (ii) the innovation capacity of clusters; (iii) the human capital agenda of clusters; (iv) the conditions for clusters' competitiveness.

Uptake of evaluation recommendations

The evaluation was conducted after the termination of the PiD programme but the key rationale of PiD (supporting strong sectors) continues in current Top Sector policy albeit without the spatial dimension that PiD had. As such, the evaluation has not led to any major policy changes but validated some of the policy choices that had already been taken by the Dutch government in terms of the focus and content of cluster support through the new Top Sector policy.

[72] Ministry of Economic Affairs (2004) *Peaks in the Delta: Regional Economic Perspective*, The Hague, Section 1.2.

[73] Bachtler J and Van der Zwet A (2012) *Developing a Regional Agenda for the New Enterprise Policy: Regional Policy Developments in the Netherlands,* 2011-12, Regional Policy Developments in Europe: Country Reviews 2011-12, European Policies Research Centre, University of Strathclyde.

[74] Technopolis (2014) Verschuivende pradigma's in het ruimtelijk economisch beleid, evaluatie doorwerking ruimtelijke economisch beleid in de regio.

4.3 Utilising evaluation to test and improve policy instruments

4.3.1 Austria: The evaluation of the COMET programme

Background on the scheme and its evaluation

The COMET (Competence Centres for Excellent Technologies) programme[75] was launched in 2006 and is seen as one of the most successful technology policy initiatives in Austria and the main federal level programme for innovation.[76] According to COMET managers, it is recognised also internationally as a best-practice model.[77] COMET, which is set to run until 2017, supports competence centres, i.e. strategic alliances between universities and industrial firms. It does not have any thematic focus and it is open to all firm sizes, not exclusively SMEs. Its predecessors have been in place since 1998, when federal support of cooperation between research and industry in the form of competence centres started via the programmes Kplus, K_ind and K_net. In 2006, these programmes have been transformed into COMET. At the end of 2015, there were 41 COMET centres and projects,[78] in which c. 1,500 researchers from science and industry were working jointly in research programmes.

The overarching aim of the scheme is to strengthen the cooperation culture between research and businesses, in a context in which the interests of both industry and science become aligned.[79] The objectives of the COMET programme are: (i) to develop new expertise by initiating and supporting long-term research cooperation between science and industry in top-level research, and (ii) to establish and secure technological leadership of firms. The long-term objective is to strengthen Austria as a research location by further developing existing strengths and integrating international research expertise. This should be achieved via a) strengthening the culture of cooperation between science and industry; b) aligning strategic interests between industry and science; c) bundling of players by using thematic synergies; d) establishing centres with international visibility; and e) strengthening human resources. In pursuing these objectives, COMET is also supposed to encourage a balanced participation in gender terms.[80]

COMET is operated by the Austrian Research Promotion Agency (*Österreichische Forschungsförderungsgesellschaft*, FFG)[81] on behalf of two federal Ministries, the Federal Ministry for Transport, Innovation and Technology (*Bundesministerium für Verkehr, Innovation und Technologie*, BMVIT)[82] and the Federal Ministry of Science, Research and Economy (*Bundesministerium für Wissenschaft, Forschung und Wirtschaft*, BMWFW).[83] There is an informal steering body, which

[75] This section draws from a case study realised for a research project for the Italian region Lombardy in the context of the ongoing evaluation of the ERDF 2007-13 Regional Operational Programme. Gruppo CLAS, Expert for Europe and EPRC (2016) Servizio di valutazione del POR FESR 2007-13 di Regione Lombardia *Rapporto di valutazione conclusivo (2016). Parte Seconda: Gli approfondimenti tematici. Capitolo 4 – La valutazione dell'efficacia delle misure per la collaborazione tra imprese e tra imprese e ricerca*, pp.101-111.

[76] Interview with Markus Gruber, consultant at convelop, 3 February 2016.

[77] https://www.ffg.at/en/comet-competence-centers-excellent-technologies (accessed 9 September 2016).

[78] K2 Centres, K1 Centres and K Projects on 6 October 2015, https://www.ffg.at/sites/default/files/allgemeine_downloads/strukturprogramme/20151006_comet_ueberblick_zentrenprojekte.pdf (accessed 9 September 2016).

[79] FFG (2013), *Programme Document for the Competence Centres Programme COMET, Competence Centres for Excellent Technologies*, Vienna, 1 July 2013 (English Translation from German Original).

[80] *Ibidem*.

[81] https://www.ffg.at/en (accessed 9 September 2016).

[82] https://www.bmvit.gv.at/en/index.html (accessed 9 September 2016).

[83] http://www.en.bmwfw.gv.at/Seiten/default.aspx (accessed 9 September 2016).

consists of representatives of the federal level, i.e. the two ministries, and of the *Länder*. *Länder* are involved also in other ways, which are stipulated in bilateral agreements in writing. Where a *Land* contributes funding, it can participate in the selection of centres and projects.[84]

COMET has three lines of funding, which differ according to the centres' international visibility, project volume and duration:

- 'K Projects' (21 in total)[85] are smaller centres that allow for the support of research themes run by relatively small consortia that do not yet fulfil the criteria of K1 Centres. The objective of K Projects line is to initiate high-quality research in science-industry cooperation with a medium-term perspective and a defined theme with a potential for further improvement.[86]
- 'K1 Centres' (15) have the goal of initiating high-quality research defined jointly by science and industry with a medium-term to long-term perspective. K1 Centres implement top-level research with a focus on scientific and technological developments and innovations to qualify for the future markets.[87]
- Lastly, the objective of 'K2 Centres' (5) is bundling of existing national expertise in the long-term and cooperation with the world's leading researchers, scientific partners and company partners in joint strategic research programmes at highest level. This is to achieve long-term strengthening and a significant increase of Austria's attractiveness as a research location internationally.[88]

Funding is awarded for a period of three to five years for K Projects, eight years for K1 Centres and ten years for K2 Centres. All three types of support (K1 Centres, K2 Centres and K Projects) are selected via calls. Each call comes with a range of guidance documents, clear illustration of selection criteria and information events across Austria.[89]

Evaluation is an embedded part of the process of Centre delivery. The COMET programme has an evaluation plan attached to it, which outlines the evaluation process and criteria for the centres as well as for the programme as a whole.[90] Compulsory evaluation at the level of the individual funding case is part of the funding agreements with competence centres. A compulsory ex-ante evaluation is followed by a review in the second (for K1 Centres) or third year (for K2 Centres). At half-time, an external mid-term evaluation determines whether funding is continued or not. K1 Centres are subject

[84] *Länder* can do this in two ways. They can either take part in the assessment process or they can provide formal comments ('declarations') to the assessors. The FFG communicates directly to COMET centres and projects. Further, *Länder* also maintain contact to the centres/projects in their territory via their own contact points. These contact points are usually the *Land*'s business or innovation agency (such as SFG in Styria) or a *Land* government department. Also, in spite of COMET being administered by the federal level, the financial contribution of the *Länder* gives them some scope to pursue their own economic and innovation strategies.

[85] As in October 2015.

[86] https://www.ffg.at/en/comet-competence-centers-excellent-technologies (accessed 9 September 2016).

[87] *Ibidem*.

[88] *Ibidem*.

[89] See for instance the information material and dates for information events for the most recent call for K Projects: https://www.ffg.at/k-projekte-6call-informationsveranstaltungen-oesterreich (accessed 9 September 2016). Eligible activities include: Activities in the field of industrial research; activities in the field of experimental development; activities in the field of basic research linked to activities listed under points 1 and 2; training measures linked to activities listed under points 1 and 2; and, technological feasibility studies.

[90] FFG (2015) *Evaluierungskonzept für das Kompetenzzentren-Programm COMET*, Wien, 1. April 2015, available at https://www.ffg.at/sites/default/files/allgemeine_downloads/strukturprogramme/evaluierungskonzept_comet_2015.pdf (accessed 9 September 2016).

to a mid-term evaluation after four years, K2 Centres after five years. Finally, after the end of the funding contract, an ex-post evaluation needs to be carried out.

Evaluation also takes place at programme level. A mid-term assessment of COMET's predecessor programmes, Kplus und K_ind/K_net in 2004[91] made recommendations for future directions of the support to competence centres and an ex-post evaluation of these programmes has been carried out in 2013.[92] According to the evaluation plan, the first evaluation of the COMET programme had to take place after the mid-term evaluations of the centres, but no later than six years after the first centres have been set up. This was done in the form of an impact analysis in 2013[93] and was followed by another one in 2015.[94] A third analysis is in preparation at the time of writing (February 2016). After the programme comes to an end, there will also be the required ex post evaluation.

All evaluations at programme level need to be carried out by external experts. The choice of the most suitable methods is left to the evaluators, but evaluations must consider the following complementary aspects of the programme: (i) programme design; (ii) programme management and implementation; (iii) outputs, results and impacts of the programme; (iv) positioning of the programme in the Austrian and European RTDI support system; and, (v) recommendations for the future of the programme.[95]

Evaluation conclusions and recommendations

The 2013 ex post evaluation concluded that programme had clear, coherent objectives and resulted in competence centres with considerable diversity in terms of partner structures and performance patterns; therefore the use of monitoring data should be increased as it could provide a baseline for developing and steering the centres and adapting the competence centre programme.

The FFG considers the stable and long-term nature of cooperation between research institutes and firms to be the most important outcome of supported provided since 1998. While the predecessor programmes from 1998 to 2005 focussed on closing the perceived gap between research actors (knowledge creators) and business actors (knowledge appliers), COMET is able to build on the trust already created amongst actors. This trust now allows taking a more long-term perspective to cooperation in competence centres, in spite of the limited duration of funding (up to 10 years). The two ministries who are responsible committed themselves to provide c. €50 million each year for the foreseeable future, thereby assuring a long-term perspective amongst the actors in the centres. In some cases, the funding for a centre/project has not been continued (e.g. because the agreed outcomes have not been achieved), but in most instances the competence centres continued existing

[91] Edler J, Lo V and Sheikh S (2004) *Assessment "Zukunft der Kompetenzprogramme (K plus und K ind/net) und Zukunft der Kompetenzzentren*, Approbierter Endbericht, Januar 2004, https://www.bmvit.gv.at/innovation/themenoffene_programme/downloadsstruktur/assessmentend.pdf (accessed 9 September 2016).

[92] Schibany et al (2013) *Ex-post Evaluierung der Kompetenzzentrenprogramme Kplus und K_ind/K_net*, Endbericht Juni 2013, available at https://www.bmvit.gv.at/innovation/themenoffene_programme/downloadsstruktur/kprogramme__eval__endbericht.pdf (accessed 9 September 2016).

[93] Geyer A et al (2013) *COMET-Wirkungsanalyse*, Endbericht, 19. April 2013, https://www.ffg.at/sites/default/files/allgemeine_downloads/strukturprogramme/comet_wirkungsanalyse_endbericht.pdf (accessed 9 September 2016)

[94] Dinges M et al (2015) *Wirkungsanalyse 2015 des österreichischen Kompetenzzentrenprogramms COMET*, Endbericht, AIT-IS-Report, Vol. 111, Oktober 2015.

[95] FFG (2015) *Op. Cit.*, pp. 4-6.

in a different form nonetheless, e.g. as part of universities. Specifically provided phasing-out funding for one year after the termination of the funding agreement is supposed to assist with this transition.[96]

Uptake of evaluation recommendations

The COMET programme and its predecessor programme have repeatedly taken on board the recommendations made in the context of evaluations and other studies. For instance, the mid-term assessment of Kplus und K_ind/K_net in 2004[97] suggested an earlier review of the centres' progress and the outsourcing of any evaluation activities outside the body in charge of the programme (at the time Forschungsförderungsfonds, FFF). Both recommendations were incorporated in the COMET programme. Further, the Austrian RTDI strategy of 2010, which was published in 2005 and suggested the continuation of the Competence centres programme, made a number of recommendations that were included in COMET programme, namely: an increased effort to create larger centres; efforts to ensure that the centres' activities are relevant for industrial firms; stronger internationalisation efforts; and the provision of more appropriate financial support.[98]

The 2013 ex post evaluation of COMET's predecessor programme looked at the impact that the scheme had delivered according to different stakeholder groups (i.e. businesses and universities), as well as on human resources more widely. It also selected a number of centres and looked at these in the context of case studies. For each of these dimensions it developed conclusions, but it did not formulate concrete recommendations for policy-makers. It was left to policymakers to draw their conclusions as to what the evaluation findings should entail in terms of policy change.

4.3.2 Netherlands: The evaluation of the SME Innovation Stimulus Top Sectors

Evaluation is a staple component of the Dutch approach to policymaking and recently the Dutch Ministry of Economic Affairs commissioned an evaluation of the SME Innovation Stimulus Top Sectors (*MKB Innovatie Stimuleringsregeling Top Sectoren*, MIT), a new scheme that was introduced in 2013 as part of a wider collaboration agenda between central and regional government, and to respond to early criticism to the new Top Sectors approach that it failed to provide sufficient support for links to SMEs.

The MIT is an umbrella scheme which provides several types of innovation-focussed support for SMES - Innovation-advice projects, Feasibility studies, R&D collaboration projects, Knowledge vouchers, Innovation agents and Network activities. It has three goals which are to support innovation in SMEs, linking SMEs to the innovation agenda of Top Sectors policy, and harmonise the framework of SME-targeted innovation support instruments at provincial and central level.

[96] Interview with Otto Starzer, Programme Director at FFG, 15 February 2016.

[97] Edler J, Lo V and Sheikh S (2004) *Assessment "Zukunft der Kompetenzprogramme (K plus und K ind/net) und Zukunft der Kompetenzzentren*, Approbierter Endbericht, Januar 2004, https://www.bmvit.gv.at/innovation/themenoffene_programme/downloadsstruktur/assessmentend.pdf (accessed 9 September 2016).

[98] Austrian Council (2005)

Rat für Forschung und Technologieentwicklunghttp://www.rat-fte.at/tl_files/uploads/Strategie/Strategie%202010_Druckfassung.pdf (accessed 9 September 2016).

The evaluation will inform the decision to continue the MIT instrument which runs until 2017. It will include a review of the instrument but also looks forward. The specific tasks for the evaluator are:

- Describe the current target group and potential target group of the MIT in terms of their level of innovation, number of employers, sector, age and other relevant criteria.
- Assess if the MIT (and each of the independent instruments) has achieved its objectives (effectively and efficiently) and whether they provide added value
- Have the goals been achieved against minimum costs (Effectiveness of the policy)
- Has the MIT been efficient (effectiveness of the implementation
- Provide advice on how the instrument could be improved and which relevant indicators should be added to the monitoring process

The objectives of the MIT will be evaluated using econometric methodologies as described in the report 'Dare to Measure' (*durf te meten*).[99] Overall, the evaluation will make use of a mix of quantitative and qualitative techniques.

[99] Commissie Theeuwes (2014) Durf te meten.

4.3.3 Portugal: The evaluation of the COMPETE National Operational Programme 2007-13

Background on innovation support schemes and their evaluation

A number of evaluations were carried out in Portugal of Cohesion policy-funded programmes which included measures supporting innovation. These evaluations include the strategic evaluation of the 2007-13 NSRF in the fields of innovation and internationalisation;[100] the evaluation of the 2007-13 Competitiveness Factors Operational Programme (COMPETE OP);[101] an evaluation of the incentive schemes under the 2007-13 NSRF;[102] and an evaluation of the cluster policy funded under the NSRF (discussed later).[103] All of these evaluations were completed by 2013 and provided evidence that fed into the preparation of 2014-20 programmes.

The COMPETE OP, in particular, focused on innovation, scientific and technological development, internationalisation, entrepreneurship and the modernisation of the public administration. Three business incentives schemes and four 'Support Systems' (i.e. investment programmes) - Support System for Entities within the National Science and Technology System (SAESCTN), Support System for Administrative Modernisation (SAMA), Support System for Collective Actions (SIAC) and Support System for the Financing and Risk Sharing of Innovation (SAFPRI) – were the main instruments funded by the OP.

Evaluation conclusions and recommendations

The evaluation of the 2007-13 COMPETE OP[104] incentive schemes provide a number of conclusions, including the commendation for the stronger strategic focus on R&D&I compared to the 2000-06 period and a design of instruments more capable of targeting innovative projects, based on competitiveness factors.

With regards to promoting a knowledge and innovation-based economy, the evaluation notes that important results have been achieved. Programme support is noted to have contributed to a pronounced increase in business R&D investment as well as the promotion of links between enterprises and knowledge and product/process innovation centres. Regarding the three business incentive schemes in particular, the analysis has verified the existence of high investment catalyst, amplifying, accelerator and facilitating effects. It is noted at the same time that the COMPETE OP

[100] IESE/Quaternaire (2013) Avaliação Estratégica do Quadro de Referência Estratégico Nacional (QREN) 2007-2013, Lote 3 (Avaliação do Contributo do QREN para a inovação e a internacionalização das empresas, em particular as PME), October 2013; http://www.observatorio.pt/download.php?id=1022 (accessed 13 September 2016).
[101] Augusto Mateus & Associados/PwC (2013) Estudo de Avaliação Intercalar do Programa Operacional Fatores de Competitividade (COMPETE), November 2013; http://www.qren.pt/np4/np4/?newsId=4130&fileName=relatorio_avint_compete_nov2013.pdf (accessed 13 September 2016).
[102] Augusto Mateus & Associados (2011) Avaliação da Operacionalização inicial dos Sistemas de Incentivos no contexto da Agenda Factores de Competitividade, June 2011; http://www.ifdr.pt/ResourcesUser/Newsletter/Newsletter_9/SIncentivos/AV_SI_RF.pdf (accessed 13 September 2016).
[103] SPI/Innov TSD (2013) Estudo de avaliação da estratégia e do processo de implementação das estratégias de eficiência colectiva – tipologia clusters, April 2013; http://docplayer.com.br/7081704-Sociedade-portuguesa-de-inovacao.html (accessed 13 September 2016).
[104] Augusto Mateus & Associados/PwC (2013), *Op. Cit.*

should not be regarded as the only instrument of national and Community financial support for promoting a knowledge-based economy in Portugal.

Uptake of evaluation recommendations

The study delivered a number of recommendations. Some examples of those which were taken on board are provided in Box 4 below.

Box 4: Recommendations on innovation support schemes which were implemented

1. **To maintain existing financing model** - The evaluation recommended to maintain the existing financing model based mainly on non-refundable incentives for the RTD and SME modernisation schemes, and predominantly on refundable incentives (with the possibility of a premium linked to implementation and performance) for the Innovation scheme; a recommendation that was taken on board.
2. **To extend applicability of the voucher-type instruments** - Based on a positive assessment of the efficacy of the voucher for firms investing in RTDI, the evaluators recommended that the applicability of this type of instrument be extended to additional expenditure domains (for example, internationalisation and entrepreneurship) and to the support of technology transfer. This resulted in the introduction of new types of vouchers which now fund a wider range of eligible expenditure (including, for example, the acquisition of consultancy services by firms for the exploration of new markets or by start-ups). Altogether, firms can now take advantage of the following types of vouchers, under three distinct incentive schemes:
   (i) **entrepreneurship voucher** for projects of acquisition of consulting services in the area of entrepreneurship essential to start-ups, including the development of business plans (under the Business Innovation and Entrepreneurship Incentive Scheme);
   (ii) **internationalisation voucher**, funding market exploration services, and **innovation voucher**, for consultancy services in the area of innovation (under the SME Qualification and Internationalisation Incentive Scheme); and
   (iii) an **R&D voucher** for the purchase of services in research and technological development and technology transfer activities (under the RTD Incentive Scheme).
3. **To improve the visibility and predictability of call for projects**, particularly via the publication of calls for tenders according to regular and planned timeframes. This resulted in the publication of a calendar of open and forthcoming calls for the three main incentive schemes, covering a full year.[105]
4. **To improve communication about the funding opportunities on offer** and, in particular, to avoid fragmentation of information by introducing improved linkages between the various communication outlets in place for the different support schemes, to ensure 'a more uniform treatment of information and effectiveness in the way it is perceived'. Currently, there is some evidence of a relatively systematised approach to presenting information about the different support schemes, including through a single online portal for all incentive schemes.[106]

Source: Augusto Mateus & Associados/PwC (2013) *Estudo de Avaliação Intercalar do Programa Operacional Fatores de Competitividade (COMPETE)*, November 2013.

[105] For example, http://psz.pt/docs/Plano_Abertura_Incentivos_2016.pdf - calendar of the open/forthcoming calls under the three incentive schemes, http://www.poci-compete2020.pt/concursos/Avisos-COMPETE2020 - identical calendar at the COMPETE 2020 website, https://www.portugal2020.pt/Portal2020/Media/Default/Docs/avisos/Planos/21julho-PLANO%20AVISOS%202016_09-05-2016%20COM%20FSE.pdf – full calendar of calls under PT2020 for 2016.

[106] http://www.portaldosincentivos.pt/; as well as an online portal of incentives, systematised by OP: http://www.incentivos.com.pt/po-competitividade-internacionalizacao/

4.3.4 Portugal: The evaluation of the national Cluster Policy[107]

Background on the Cluster Policy and its evaluation

An important evaluation was also that realised on the Portuguese Cluster Policy, namely the national Public Policy Framework regarding Collective Efficiency Strategies. This recognises the importance of clusters as: (i) platforms for open innovation; (ii) catalysts for accessing and sharing knowledge; (iii) and facilitators of collaborative practices in the early stages of the processes of innovation, RTD and internationalisation. The cluster policy is implemented through a number of schemes, which are largely associated with the instruments of the COMPETE OP, particularly the business incentive schemes and the Collective Actions Support System (*SIAC*).

Evaluation conclusions and recommendations

The evaluation findings were overall mixed; some of the results were found to be short of expectations. It was overall concluded that the cluster policy was still significantly dependent on schemes funded by the European Cohesion policy programmes, and lacked a systemic approach and clear governance model. In this regard, the evaluation suggested a thorough revision of existing clusters through a re-evaluation of clusters' capabilities and performance. This was taken into consideration in the revision of cluster policy which resulted in the approval by the national government, in March 2015, of the conditions and requirements for the recognition of competitiveness clusters. The March 2015 Regulation on the recognition of competitiveness clusters[108] to a large extent addressed the concerns and recommendations raised by the evaluation. The evaluation also stressed the importance of ensuring adequate coherence between the clusters, R&I and territorial policies in the context of Smart Specialisation Strategies, in accordance with the guiding principles included in European documents on this theme.

Uptake of evaluation recommendations

The evaluation provided many recommendations, several of which have been taken on board by the Portuguese administration. A summary of the key recommendations and of how they have been addressed is provided in Table 8 to follow.

[107] SPI/Innov TSD (2013) *Op. Cit.*

[108] Regulamento de Reconhecimento dos Clusters de Competitividade. Presidência do Conselho de Ministros e Ministério da Economia (2015) Despacho n.º 2909/2015, Gabinetes dos Secretários de Estado do Desenvolvimento Regional e da Inovação, Investimento e Competitividade. Diário da República, 2.ª série – N.º 57 – 23 de março de 2015: https://dre.pt/application/file/66817438.

Table 8: Recommendations and actions from the evaluation of Portuguese Cluster Policy

Issues raised and recommendations	Follow-up
Lack commitment and coordination, and of anchoring of cluster policy initiatives on longer-term programming and instruments Concrete recommendations: • To reformulate the model of governance, consolidating a structure of policy coordination and nominating a management structure that benefits form the accumulated knowledge; • To identify a public administration entity that would assume a central role in the implementation of the relevant policies; • To design a comprehensive national cluster policy defined in a medium-term context (2014-20), which defines goals aligned with the country priorities and the international contexts.	• Adoption of new regulation framing new national strategy to support the consolidation and creation of competitive clusters, opening a new cycle of public policy supporting business clustering. • Re-formulation of governance model for 2014-20, with attribution of coordination responsibility to a dedicated public agency (IAPMEI)[109] with tasks of strategy development and evaluation. The institutionalisation of this role is ensured by the mandatory signature, upon recognition of a cluster, of a contract with IAPMEI regarding the definition of duties, objectives and goals of the cluster (as a condition for support). • Adoption of a more structured approach: strategies covering the period 2015-20 and consideration of the new cycle of clustering policy as instrumental to achieve the strategic objectives of the 'Competitiveness and Internationalisation' thematic priority of the Portugal 2020 PA – i.e. for the 2014-20 period.
Process of recognition of clusters on the whole adequate but characterised by a number of weaknesses (related to level of maturity and distinct features). Concrete recommendations: • To start a new process of recognition, with revised rules and conditions; • To use of a uniform nomenclature, opting for the designation of 'cluster' (dropping 'pole') and to adopt a classification system according to levels of maturity (e.g. differentiating between "maturing" and "mature" clusters, the latter further subdivided into: "national leader" and "clusters with international ambition", to be aligned with the objectives and instruments of support; • To create conditions allowing declassification or increase in echelon between the different levels (depending on compliance with objectives set); • To allow previously recognised clusters to re-apply, subject to same rules as new applicants and to the new classification system adopted; • To ensure broad and timely dissemination of the new recognition process, with involvement of an evaluation committee and with an inter-ministerial order which establishes the framework for the agreement between the recognised managing bodies and structure.	• New process of recognition of clusters launched, based on revised rules and conditions and new classification: the regulation on the recognition of Competitive Clusters distinguishes between 'consolidated' and 'emergent' clusters, according to the level of maturity; • Terms for the validity of the recognition of the competitiveness clusters have been set (the recognition of the competitiveness cluster is valid for six years and may, in duly justified cases, be extended for another year), and a possibility to withdraw the decision on the recognition of the cluster has been foreseen (in case the conditions are not complied with or in a number of other defined cases); • Dissemination of the new recognition process has been ensured through the tendering notices issued by IAPMEI which are published on its website; • The management structure of the recognition procedure includes IAPMEI, the Strategy and Studies Cabinet of the Ministry of Economy[110] as well as the Evaluation Commission, constituted by representatives of various entities (incl IAPMEI, the Strategy and Studies Office, the Development and Cohesion Agency (ADC), the National Innovation Agency (ANI), Trade and Investment Agency, as well as the Competitiveness and Internationalisation OP).

[109] IAPMEI – Instituto de Apoio às Pequenas e Médias Empresas e ao Investimento, Institute for the Support to Small and Medium-sized Enterprises and Investment; a Specialised public Agency for Competitiveness and Innovation.

[110] O Gabinete de Estratégia e Estudos do Ministério da Economia.

Recommendations	Follow-up
Need for a more strategic approach. Concrete recommendation: • To make adjustments to the current model of support to managing bodies, introduce a requirement for applicants to have a strategic vision and include as a funding requirement the elaboration of a detailed action plan, with a set of concrete and measurable goals. • To prioritise the development of activities with higher added value, supporting greater differentiation in the activities promoted by the managing bodies, strengthening cooperation between companies and the entities of the national science and technology system, supporting innovation and R&D-oriented activities, promoting clusters internationally and supporting their internationalisation activities.	The new regulation: • Incorporates the requirement for the competitiveness clusters to present a common strategic vision and an action programme capable of generating substantive impacts on the economy: the enterprise clustering initiatives that submit applications with a view to recognition, must have the capacity to ensure, from the outset, clear economic contribution and must commit to a programme of action, which details the strategic lines of action, translated into contracted and planned objectives. • Stresses that the creation of expanded and improved conditions for innovation is essential, which would enable the introduction of more diversified ranges of products and services into international markets, with greater added value. 111 • Adds the following objectives for the competitiveness clusters: to act in economic sectors or value chains that favour the achievement of higher levels of innovation, technological development and competitiveness, among other things through increased export capacity and internationalisation; to promote the internationalisation of clusters through the participation in international networks, developing or deepening 'cross-clustering' initiatives; to have a proven 'international vocation'. • Notes that the recognition of competitiveness clusters should encourage economic actors to share knowledge in the fields of innovation and internationalisation.
Need for better evaluation. Concrete recommendations: • To redesign the evaluation model as part of an evaluation system that is participative, systematic and rigorous. • To consider the relevance of the frequency and the international dimension of the evaluation process. • To encourage periodic evaluation practices by managing bodies (including the specific targets and measurable goals that can be used as monitoring indicators as an eligibility requirement). • To ensure that methodologies are more robust, participative and forward-looking with periodic identification of development priorities.	The new regulation: • Includes provisions on the monitoring and evaluation requirements and procedures (including the requirement for IAPMEI to analyse the contribution of the activities developed by the recognised clusters to the previously set and contracted objectives and targets, and the requirement to carry out two evaluations (at mid-term and at the end of the recognition period). • Makes reference to a participative approach, whereby clusters should 'cooperate and operate in a network, involving companies and other relevant stakeholders, maximising the opportunities for 'cross-participation'.

Source: SPI/Innov TSD (2013), Sociedade Portuguesa de Inovação and Inno-TSD, Estudo de avaliação da estratégia e do processo de implementação das estratégias de eficiência colectiva tipologia clusters. Lisboa: Observatório do QREN.

[111] Among other things, this is expected to be encouraged through the direct participation of business agents in the construction of techno business platforms (plataformas tecnoempresariais), to ensure that the knowledge and experience of *innovation* activities contribute to a rapid valorisation of goods and services

4.4 Evaluation evidence supporting accountability

4.4.1 Sweden: The evaluation of the effects of the VINNVÄXT programme

Background on the programme and its evaluation

VINNVÄXT - Regional growth through dynamic innovation systems – is a regional policy programme administered by VINNOVA, the national innovation agency of Sweden. It is a competitive programme for the Swedish regions whose aim is to promote sustainable regional growth by developing internationally competitive research and innovation environments in specific growth fields. The programme is competitive and winning regions receive up to SEK 10 million per year for a period of ten years (c. €1 million, with a possibility of extending this by six years with more limited support). The regions are expected to contribute at least the same amount. The ultimate goal is for the recipient regions to become internationally competitive in their respective fields during this period of support. To qualify as a VINNVÄXT region, the region must propose a project based on an idea that is anchored on renewing the traditional strengths and clusters of the region. In addition to financial support, the awarded regions are also offered different types of support services, such as seminars, training, exchange of experience, and knowledge and research activities.[112] One of the key preconditions for the programme is the active participation of actors from the private, public and research sectors, as well as from the political sphere. The programme began in 2001 and some 200 initiatives have applied for funding under the four calls that VINNVÄXT has organised. Of these, 15 functional regions have been selected so far (see Table 6). These 15 regions share a number of common features, including: strategic concept; strong R&I environment; strong regional leadership; active participation of public, private and research sectors; and, crucially, significant potential for growth. Once awarded, regions are evaluated every three years by international experts.[113]

To better appreciate the effects of the programme in its first 15 years of existence, VINNOVA commissioned an effect analysis of the programme. It was concluded in 2016.[114] The analysis focuses on twelve initiatives that received funding during 2003-2008, but with the aim of appraising the programme's effects overall and not just of the individual initiatives examined. More specifically, the study evaluated the effects of VINNVÄXT on regional and national policy, on the innovation systems and on regions, as well as on the participating triple helix-actors.

Evaluation conclusions and recommendations

The results of the analysis show that VINNVÄXT has helped to anchor the Triple Helix model as a working method in the regions. This in turn has led to closer relations amongst the actors in the regions. Furthermore, there are examples of VINNVÄXT regions which are considered to be coping better with rapid structural changes as a result of VINNVÄXT.

[112] VINNOVA (2014) VINNVÄXT, A programme renewing and moving Sweden ahead, 2014:04.

[113] VINNOVA (2014) VINNVÄXT, A programme renewing and moving Sweden ahead, 2014:04.

[114] Kontigo (2016) Effektanalys av Vinnväxt-programmet, Analys av effecter och nytta, 2016:03, accessed 6 September 2016.

Figure 7: VINNVÄXT winners

Source: VINNOVA (2014) VINNVÄXT, A programme renewing and moving Sweden ahead, 2014:04.

The study has also shown that the researchers linked to VINNVÄXT initiatives perform better with respect to publications and citations in comparison to (comparable) Swedish researchers. VINNVÄXT is also considered to have had other positive effects on academia. For instance, cooperation between academia and industry has led to a stronger research profile for the universities involved, while the firms gained access to new knowledge and technology as the basis of their renewal and innovation. Cooperation with VINNVÄXT initiatives is also viewed to have helped develop the quality of research and other activities at the Universities and colleges.

More importantly, firms participating in the VINNVÄXT programme have enjoyed better development in relation to several growth-variables in comparison to a control group (e.g. turnover, employment, productivity and exports). More than half of the growth areas of VINNVÄXT have enjoyed better employment (in the VINNVÄXT region) than in the rest of the country, although this differs somewhat between the regions. Based on interviews and survey data, the evaluators concluded that the VINNVÄXT programme has been important for the development of the innovation capacity of firms in the assisted regions, not least through the links with academia and research that the initiative offers. The programme did not generate any particular effect on new patents, however. Overall, the VINNVÄXT programme is evaluated to have succeeded in creating important results and effects when

it comes to developing innovative environments that are internationally competitive and sustainable, which was also the programme's main aim.

Uptake of evaluation recommendations

The study, like other similar evaluations of effects commissioned by VINNOVA did not have a direct 'applicable' aim in mind, i.e. it was not commissioned to rethink the scheme or revise its operation. It effectively had an accountability and stock-taking function. It has provided the desired insights on the effects delivered in terms of sustainable growth, local communities, and development of innovation. VINNOVA carries out at least two effect analyses a year, similar to this.

4.5 Evaluation to reappraise effectiveness in the light of a changing context

4.5.1 France: The evaluation of the competitiveness poles

Background on the programme and its evaluation

Policies for R&D&I in France have been through major changes over the past 15 years, under the influence of national initiatives and European strategies.[115] A recent report by *France Stratégie*[116] identified 5 major trends in innovation policy in France, namely:

- The amount of funding allocated to innovation support has more than doubled between 2000 and 2015, from €3.5 billion to €8.7 billion (+0.16 GDP percentage point).
- There has been a shift from direct support (in the form of RDI grants), which has decreased from € c.2.9 billion to € c.1.6billion, to indirect support (fiscal incentives), which has soared substantially from €584 million to € c.6.3 billion. The higher use of the Research Tax Credit scheme ("*Crédit Impot Recherche*") indexed on RDI expenditure accounts for a large share of that increase. A higher recourse to financial instruments (loans, equity) is also to be noted.
- The number of State schemes has also doubled, from 30 to 62. This is due to the ambition to provide tailored support to individual projects and develop targeted collaborations between research and firms.
- Several specialised agencies have been created in order to undertake specific activities, including: BPI France, the French public investment bank, whose purpose is to manage financial instruments for business support at all stages of development, mainly on innovative projects; and, the General Commissariat for Investment (CGI, *Commissariat Général à l'Investissement*) which manages the Investments for the Future Programme (PIA, *Programme des Investissements d'Avenir*), which is a large financial envelope made available for innovative projects.
- Innovation policy has been unstable (in terms of instruments and implementing structures) because of its comprehensive renewal and the redefinition of objectives and funding over the years.

[115] This section draws in part from a case study realised for a research project for the Italian region Lombardy in the context of the ongoing evaluation of their ERDF 2007-13 Regional Operational Programme. Gruppo CLAS, Expert for Europe and EPRC (2016) Servizio di valutazione del POR FESR 2007-2013 di Regione Lombardia *Rapporto di valutazione conclusivo (2016). Parte Seconda: Gli approfondimenti tematici. Capitolo 4 – La valutazione dell'efficacia delle misure per la collaborazione tra imprese e tra imprese e ricerca*, pp.112-125.

[116] France Stratégie (2016) *15 ans de politiques d'innovation en France*, January 2016.

Yet, despite the major upheaval, French innovation policies are not systematically evaluated. Evaluations are mostly carried out for specific schemes and, just like the policy, evaluation has tended to be fragmented, without any significant degree of coordination or overarching strategy.[117]

This having been said, the competitiveness poles policy – which is the landmark policy for innovation in France and a policy that is also cofunded by regional policy - was evaluated in 2012.[118] It is currently undergoing further evaluation as part of a review of the scheme as it enters its third policy phase (2013-19),[119] coinciding with the introduction of a new territorial governance system that reinforces the strategic role of regional governments in local level economic development (vis-a-vis sub-regional entities).[120] Just like its 2012 predecessor, the current evaluation is organised in two main parts: first, a set of individual evaluations of each pole, aimed at appraising their effectiveness in turning R&D investments in innovative products and services; and second, an evaluation of the policy as a whole. The results of the evaluation are not yet known since the evaluation is currently being undertaken; however, they will inform a review of the scheme in the light of the more pronounced involvement of regional authorities and deconcentrated State services in the poles' governance, introduced by the 2015 territorial reforms, and the related needs for more coordination between regional development and national priorities, and between the poles (of which there are currently 71, a number that is perceived as potentially too high to achieve the desired critical mass and specialisation).

The 2012 evaluation too comprised both an evaluation of the policy overall – undertaken through an analysis of statistical and monitoring data and interviews with national ministries, national research and education centres, and enterprises (c. 55 in all) – and individual evaluations on the 71 poles, realised through fieldwork research in each of the poles and data analysis, realised by experts with consolidated knowledge in the fields of operation of each pole.

Evaluation conclusions and recommendations

The 2012 study delivered three possible scenarios for the future development of the poles and a number of concrete recommendations, summarised in Box 5 to follow.

[117] Zecchini S (2016) *Op. Cit.,* p. 70.

[118] Technopolis, Erdyn and Bearing Point (2012) *Etude portant sur l'évaluation des poles de compétitivité*, 15 June 2012.

[119] La Gazette des Communes (2016), *Poles de compétitivité: le gouvernement en mode évaluation-réorganisation*, 7 Mars 2016, http://www.lagazettedescommunes.com/432180/poles-de-competitivite-le-gouvernement-en-mode-evaluation-reorganisation/#fn-432180-1 (accessed 9 September 2016).

[120] Journal Officiel de la République Française (2015), *Loi n° 2015-991 du 7 août 2015 portant nouvelle organisation territoriale de la République*, https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000030985460&categorieLien=id (accessed 9 September 2016).

Box 5: Recommendations of the 2012 evaluation of the French competitiveness poles policy

1. To extend the timeframe of the policy along an eight year cycle – the poles have seen a remarkable dynamism and promising economic effects. One of the strengths of the instrument was considered to lie in its duration. The evaluators recommend that the timeframe of the scheme be extended for a period of 8 years (2013-2020), to guarantee continuity and align the instrument with the Cohesion policy programming cycle. This would give: (i) clarity and certainty for beneficiaries over funding availability; (ii) alignment with the European policy framework (Cohesion policy and Europe 2020); and, thus, (iii) enhanced possibility of capitalisation and synergies with EU instruments like Horizon 2020 and Cohesion policy-funded schemes, particularly FI schemes. The longer time-frame would also be more in tune with longer innovation cycles. It would have to be matched by a contractualisation in two stages (2013-2016 and 2017-2020), linked to a (light) mid-term evaluation of the poles comprising self-evaluation, analysis of implementation data and in-depth appraisal only limited to a selected number of key themes.

2. To redefine the positioning of the poles policy in the context of the wider French industrial and innovation support strategies

2a - To reaffirm an inter-ministerial vision of the policy and clarify its interrelation with the national R&D strategy and support initiatives, and the local innovation and territorial strategies.

2b – To establish a classification of the poles based on explicit criteria which express a clear strategic vision on the part of the State. The evaluators propose a distinction between 'international competitiveness poles' and 'competitiveness and innovation poles'; the first being linked to the goal of making France internationally competitive, the latter related to innovation as engine for territorial development.

2c – To preserve and deepen the inter-ministerial approach within the piloting of the poles, particularly with a more active engagement of the Ministry of research and higher education, and the mobilisation of the Ministry of the environment in the inter-ministerial working group.

3. To reaffirm the goal of competitiveness through innovation to be realised by creating a monitoring instrument for the final results of the R&D activities of the poles and the resulting innovations, and envisaging measures to ensure that these innovations are commercialised (e.g. through FI schemes for the demonstration and commercialisation of innovation). This should also be ensured by detailing in the funding contracts for the poles those activities that they'll implement towards this aim.

4. To consolidate the role of the Inter-ministerial Single Fund (FUI, *Fond Unique Interministériel*), providing it with more funds and revising its mission so as to fund intermediate sized projects (even when the FUI is not the only fund that intervenes) and the last stages of activities prior to the marketization of a new product.

5. To make the poles more financially robust – According to the evaluators the financial model of the poles is their most important weakness, notably the unrealistic assumption that the animation function that they undertake can be funded entirely from own resources. It is necessary to introduce the principle of an equal split – 50% public and 50% private – of the financing of the poles' animation activities. The performance contract to be established for each pole should also include a description of the economic model of the pole, inclusive of financial plan and of a business plan.

Source: Technopolis, Erdyn, Bearing Point, *Etude portant sur l'évaluation des poles de compétitivité*, 15 June 2012, pp. 155-162.

Uptake of evaluation recommendations

Some of the recommendations were taken on board in the revision of the poles introduced in 2013. For example, the reform[121] strengthened the 'performance' aspect of the contracts to be signed by each pole and the monitoring of the degree to which the objectives set were met. It also introduced a finer identification of target markets, thus shifting attention from the number of innovation projects financed, to the economic impacts delivered (via refined selection criteria, strengthened monitoring associated with the 'performance contracts', reinforced services provided by the poles to member-SMEs regarding access to finance, international partnership opportunities, skills development, and technical assistance).[122] Further, the study recommended a distinction between 'international competitiveness poles' – aimed at making France globally competitive - and 'competitiveness and innovation poles' - with a more marked territorial development vocation. This distinction was also introduced and is likely to play a major role in the debates about the future of the scheme, with the regions pushing for more autonomy in the management of the latter but also more input in the delivery of the former.

4.6 Evaluation evidence to test the validity of bold choices

4.6.1 Italy: The evaluation of financial instruments for R&D&I in Lombardy

Background on the schemes and their evaluation

In Italy, the region of Lombardy in the period 2007-13 introduced in its ERDF programme a number of financial instruments targeting firms, with a view of strengthening their ability to access to credit and improving their competitive standing by supporting investments in R&D and innovation. The regional authority made the strategic choice to focus a considerable amount of resources – €293.9 million or 49 percent of the resources of the programme's largest priority (Priority 1, Research on Innovation), equivalent to circa 27 percent of total programme allocations – on innovation-related schemes. Almost half of the resources of the priority (€145.6 million) were channelled through three main funds (all co-funded by the ERDF):

- A **revolving fund for entrepreneurship (FRIM FESR)** targeting the mobilisation of private finance for projects aimed at enhancing the competitive capacity of micro, small and medium firms through the introduction of product or process innovation, the industrial application of the results of research, and the development of R&D in key sectors (agri-food industry, aerospace, sustainable housing, automotive and energy).
- A **guarantee fund (Made in Lombardy)** to support lenders in providing credit to firms of all sizes, from micro to large, for projects related to competitive development, research,

[121] Conseil des Ministres (2013) *Communication - La troisième phase des pôles de compétitivité*, Compte rendu du 9 Janvier 2013. Available at : http://www.elysee.fr/conseils-des-ministres/article/compte-rendu-du-conseil-des-ministres-du-9-janvier-201/ , http://competitivite.gouv.fr/documents/commun/Politique_des_poles/2013-2018/2pages-politique-poles.pdf (accessed 9 September 2016).

[122] Funding opportunities were also developed for the commercialisation and industrialisation of pole-nested projects, such as the programme of loans for industrialisation and commercialisation funded under the Investments for the Future Programme, PIA (*Prêts à l'Industrialisation et la Commercialisation, PIPC*). However, the scheme was interrupted in 2013 due to low uptake, and replaced by other schemes, such as PIA-funded call for Competitiveness-Structuring R&D Projects (*'Projets de Recherche et développement Structurants pour la Compétitivité'*, PSPC).

innovation and the modernisation aimed at the introduction of process innovation and business growth.

- A **JEREMIE Fund** (Joint European Resources for Micro to Medium Enterprises) supporting the birth and expansion of micro, small and medium firms. This is a fund of funds providing advances to financial intermediaries to support investment programmes with high innovative content, functional to the realisation of RTDI investments (part of the fund was later destined to a further guarantee fund for investments in the working capital of firms).

Table 9 below, provides a summary overview of the financial and physical performance of the three funds.

Table 9: The performance of financial instruments in the Lombardia 2007-13 Regional Operational Programme

Fund	Financial performance (€ mill)	Physical performance
FRIM FESR – Fund for aided loans for investments in research, development and innovation (finance)		
- Product and process innovation and industrial application of research results	Financial attribution: 64.1 Contributions granted: 60.3 Paid out: 59.1	No. of firms funded: 157 Activated investments: 83.2
- R&D projects in strategic sectors	Financial attribution: 49.8 Contributions granted: 47.5 Paid out: 45.4	No. of firms funded: 250 Activated investments: 121.0
Made in Lombardy – Guarantee Fund for loans for investments in R&D&I (guarantees)		
	Financial attribution: 9.7 Contributions granted: 122.6 Guarantees: 98.1	No. of firms funded: 116 Activated investments: 178.3
JEREMIE FESR – Funds for the concession of guarantees for loans and credit lines (guarantees)		
- Guarantees for investments in R&D&I	Financial attribution: 1.0 Contributions granted: 11.5 Guarantees (to Confidi): 7.5	No. of firms funded: 49 Activated investments: 14.1
- Guarantees for revolving credit lines	Financial attribution: 21 Contributions granted: 48.3 Paid out: 38.6	No. of firms funded: 165 Activated investments: -

Source: Postorino O (2016) *Lo stato di attuazione del POR FESR 2007-2013,* presentation to the Monitoring Commmittee meeting of 25 May 2016, http://www.ue.regione.lombardia.it/shared/ccurl/259/845/Informativa%20AdG_CdS%202016_v1.0_200516.pdf (accessed 7 September 2016).

The choice to concentrate such a high proportion of resources on these new types of instruments, and particularly to move away in part from grants, was innovative and, to an extent represented unchartered territory for the Regional Authority. For this reason, as part of the final evaluation report of the ongoing evaluation, delivered in 2016, the regional authority asked the programme's evaluators to undertake a dedicated evaluation of the schemes with the goal of appraising:

(i) the effectiveness of support, i.e. whether the investments funded/guaranteed contributed to the objectives of the priority;
(ii) the financial leverage achieved compared to traditional schemes; and,
(iii) the views of firms about the funds, both in themselves and in comparison with traditional schemes, including on the procedural aspects of delivery.

This request built on annual reports that had been delivered by the evaluators in previous years, when the financial instruments were also appraised.[123] Both these annual reports and the final report delivered important insights to the managing authority. These had both direct effects on the 2007-13 programme and were utilised to refine the FIs that will be offered as part of the 2014-20 programme.

Evaluation conclusions and recommendations

The evaluation returned a number of conclusions. Most of all, these included a validation of the choice to introduce these new forms of support for firms undertaking R&D and innovation-related investments, as the three funds were found to have corresponded to a large degree to the needs of firms. The evaluators formulated the following conclusions on the funds' takeup and effectiveness:[124]

- The funds supported a high number of firms (455) and investments of considerable size – almost all projects entailed investments above €100,000 and one in three above €1 million. Most investments related to firms operating in high technology/high knowledge productive sectors and to firms that already had a high propensity towards investing in innovation (91 percent of beneficiaries had already made at least one investment allowing for the introduction of product or process innovation in the previous three years). A majority of projects resulted in product/services innovation (72 percent, versus 28 percent of new business processes); in one in three, the product/services innovation introduced related to products/services not yet available on the market.
- In relation to the programme priority's goal to strengthen the competitive and innovative capacity of firms, almost the entirety of beneficiaries considered the investment to have delivered a positive return in the technological development of the firm and that the investment has had or will generate a positive return for the firm in terms of the quality of products/services offered, increased number of products/services offered, or improved flexibility in production. 63 percent of beneficiaries declared that the aided loan or guarantee allowed them to realise the project to an extent that would not have been possible without funding either in terms of timetable (51 percent) or size (22 percent). 6.5 percent declared that they would not have been able to undertake the investment at all without the support of the funds.

[123] The evaluation examined is an ongoing evaluation whereby the evaluators were appointed at the beginning of the programming period and tasked to appraise the programme throughout its life-cycle with a mix of annual reports (with content defined annually in agreement with the managing authority) and two interim and a final report. The financial instruments discussed – FRIM ERDF, JEREMIE and Made in Lombardy - were examined especially in the annual reports delivered in 2012 and 2013 and in the intermediate and final reports. See Gruppo Clas and e4e (2013) *Rapporto di valutazione dei primi risultati*; Gruppo Clas and e4e (2012) *Allegato 2 al rapporto annuale di valutazione. La valutazione degli strumenti di ingegneria finanziaria*, 31 October 2012*;* and Gruppo Class, e4e and EPRC (2013) *Rapporto di valutazione intermedia – Seconda parte,* pp. 65-70.

[124] Gruppo CLAS, Expert for Europe and EPRC (2016) *Servizio di valutazione del POR FESR 2007-2013 di Regione Lombardia Rapporto di valutazione conclusivo (2016). Parte Seconda: Gli approfondimenti tematici. Capitolo 2 – La valutazione degli investimenti in ricerca, innovazione e competitività dell'asse 1 supportati con gli strumenti di ingegneria finanziaria*, pp. 29-46.

- Procedurally, firms valued the fact that the entire submission process was undertaken online (itself the result of a previous evaluation recommendation) and the personalised assistance provided by the fund manager during the application preparation and implementation stages. However, firms also noted the excessive amount of documentation required and the excessive length of the project selection procedure. This latter was a cause of withdrawal of application for a number of firms (accounting for one fourth of all withdrawals). Financial reporting was also viewed as complicated and more so than for grants.
- The schemes had a higher multiplier effect compared to grants, generating for each €1 invested or guaranteed €3.1 of private investment. The highest leverage was found in the Made in Lombardy fund (see Table 9: €178.3 million of investments generated by guarantees provided with €9.7 million of public funds, 18 percent). However, this amount was considerably lower than the 51 percent estimated when the programme was designed (based on the expectation that the fund would guarantee investments for €500 million).
- On the whole, the support provided through the financial instruments for research, development and innovation was valued by the firms who declared to be satisfied with the schemes and a level of satisfaction that was found to be higher compared to that declared by firms that have been beneficiaries of grants. However, a number of simplifications would improve the schemes (see below).

Uptake of evaluation recommendations

The evaluators pointed also to a number of procedural weaknesses that needed to be addressed to strengthen the schemes' efficiency and appeal for beneficiaries, including the following:

- there was also a high degree of rejections, including due to the insufficient credit rating of firms or too high risk of investment proposed, this should have been prevented with better communication with and assistance to applicants;
- bureaucratic demands were too burdensome for firms, particularly with regards to financial accounting procedures linked to the payment of funds;
- the way funding was offered in the context of the Made in Lombardy fund, based on a 30-70 percent split and reimbursement of already sustained costs, was not ideal for firms who would have preferred a more staggered approach, in line with other existing schemes;
- the procedures of the JEREMIE fund were too complex and lengthy, and needed to be simplified.

These insights were useful for the refinement of the appraisal and reporting procedures of financial instruments that will be offered under the 2014-20 programme, where financial instruments will continue to be prominent (e.g. the FRIM FESR fund will be refinanced with €30 million). Although the precise nature of future FIs has not been made public yet, informal feedback seems to indicate that operational recommendations raised in the context of the 2007-13 programme evaluation will be taken on board.

Further, based on recommendations discussed with the managing authority during various meetings that were held as part of the ongoing evaluation process, a number of changes to the operationalisation of the three funds were introduced during 2007-13 too, for example relating to the digitalisation of procedures, from the initial application to the final reporting by the fund manager to the

MA; with regard to the timeliness of reporting by the fund manager; and, with reference to the revision of eligibility and operational conditions, so as to make the schemes more appealing to the intended recipients (e.g. more convenient interest rate in Made in Lombardy, inclusion of working capital in FRIM ERDF).

Another 'bold' choice of the 2007-13 ERDF programme which deserves to be mentioned - and that will be continued in the 2014-20 ERDF Regional Operational Programme - was the allocation of €522,000 from the ROP[125] for the realisation of an Open Innovation Platform - http://www.openinnovation.regione.lombardia.it/it/home-page - intended to support the creation of collaborative links and joint projects between firms and research providers.[126] The 2014-20 programme is supporting firms to access the platform and the creation and development of 'communities' within it, linked to the themes of the regional Smart Specialisation Strategy. Two calls for tenders, with one million euros of resources each, are currently open for these purposes. The platform currently counts almost 4,000 registered users and contains 86 thematic communities. It was introduced as a pilot based on: (i) the findings of dedicated research to establish the demand for innovation amongst firms located in the region; (ii) dialogue with the local Chambers of commerce and entrepreneurial organisations; and (iii) the realisation of a survey amongst firms and research institutions, to establish their appetite for this form of support and the specific needs that the platform should address. Additionally, the Managing Authority of the 2007-13 programme asked the programme's evaluators to include in the final evaluation report of the ROP's ongoing evaluation an international benchmarking exercise, on the measures implemented in ERDF-funded programmes elsewhere in Europe to support collaboration between firms and research, including any Open Innovation Platform initiative in place.[127] Overall, thus, evaluation was central to the introduction and continuation of the platform. Its innovative character was recognised by the fact that it was shortlisted amongst the finalists of the 2016 RegioStar Awards.

[125] Region of Lombardy, Deliberation no. X/2521. 17 October 2014.

[126] http://www.ue.regione.lombardia.it/cs/Satellite?c=Redazionale_P&childpagename=ProgrammazioneComunitaria%2FDetail&cid=1213646965905&packedargs=NoSlotForSitePlan%3Dtrue%26menu-to-render%3D1213301216768&pagename=PROCOMWrapper (accessed 9 September 2016), also Regione Lombardia (2015) *Innovazione e competitività in Lombardia. Il Programma Operativo Regionale: La Piattaforma Regionale di Open Innovation*, Power Point presentation at EXPO 2015, Milan (no date).

[127] Gruppo CLAS, Expert for Europe and EPRC (2016) *Servizio di valutazione del POR FESR 2007-2013 di Regione Lombardia Rapporto di valutazione conclusivo (2016). Parte Seconda: Gli approfondimenti tematici. Capitolo 4 – La valutazione dell'efficacia delle misure per la collaborazione tra imprese e tra imprese e ricerca*, pp.101-111.

5. SUPPORTING POLICY WITH EVIDENCE BEYOND EVALUATION: GOVERNMENT REVIEWS, AUDIT REPORTS AND MINISTERIAL REPORTS

KEY FINDINGS

Useful evidence for policymakers may also come from sources other than evaluation, for example experts auditions, commissioned literature reviews, audits and governmental reviews.

Examples of these types of sources in the field of interest to this paper are the **Witty Review** in the UK, the **Regional Science and Innovation Audits** also in the UK, the **Dutch Business Monitor** and a recent **French Court of Auditors Report**.

Policymakers draw useful evidence not only from evaluations but also from other sources which include auditions of experts, commissioned literature reviews, audits and government reviews. The following sections provide four examples of these types of evidence related to innovation measures, from the UK, France and the Netherlands.

5.1 United Kingdom: The Witty Review and the Regional Science and Innovation Audits

Albeit not part of regional policy in the strict sense, the support to innovation in the UK, which is delivered through a dedicated agency (Innovate UK), is now aimed at 'building on innovation excellence throughout the UK, investing locally in areas of strength'. This signals an an increased awareness of the importance of place within a policy that remains strongly national and anchored on excellence (funding goes to the best projects, irrespective of place). Innovate UK oversees and funds a network of 'Catapult Centres' across the UK and the agency now plans to develop a regional strategy by working with the Local Enterprise Partnerships in England and with partners in Scotland, Wales and Northern Ireland to identify opportunities for investment related to four identified sector groups and according to regional strengths. This builds on the findings of the Witty Review in 2013 on the role of universities in promoting regional economic growth,[128] and on the update to the UK's science and innovation policy in 2014 which recognised for the first time the importance of place: 'Science and innovation policy has not always recognised the contribution that place can make to fostering and sustaining excellence. Likewise, policies for local growth have not always recognised the contribution that science, research and innovation can make to local and regional economies.'[129]

Alongside this, in the Summer 2015 budget, the Government announced plans for a series of regional Science and Innovation Audits (SIAs), which would invite universities, cities, Local Enterprise Partnership and businesses to map strengths and identify potential areas of strategic focus for

[128] Witty A (2014) Encouraging a British Invention Revolution: Sir Andrew Witty's Review of Universities and Growth https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/249720/bis-13-1241-encouraging-a-british-invention-revolution-andrew-witty-review-R1.pdf (accessed 9 September 2016).

[129] HM Treasury, Department for Business, Innovation and Skills (2014) Our plan for growth: science and innovation https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/387780/PU1719_HMT_Science_.pdf (accessed 9 September 2016).

different regions. [130] This policy was set out in the Government's Productivity Plan which stated that: 'The government will […] invite universities, cities, Local Enterprise Partnerships (LEPs) and business to work with the government to map the strengths of different regions through a series of science and innovation audits'.[131] The audits were launched by the Minister of State for Universities and Science (Jo Johnson), in a speech on 'One Nation Science', in which the Minister talked about taking a more thoughtful approach to place, and asking officials to work with local areas to develop 'audits' mapping local research and innovation strengths. The Minister also launched a study regarding 'Mapping Local Comparative Advantages in Innovation', which sought to 'provide a consistent body of evidence of comparative innovation strengths in the 39 LEP areas to help LEPs and their partners to marshal their innovation assets to best effect using European Structural Funds and other funding streams.'[132] The study involved a literature review, development of a framework and set of indicators, consultation framework with publicly available quantitative and qualitative data, and providing a brief accompanying commentary.[133]

5.2 France: Court of Auditors Report on the 2007-13 CPER

In July 2014, the French Court of Auditors released a report on the 2007-13 generation of CPERs.[134] While not an evaluation in the strict sense, the report comprises a number of conclusions that relate to the effectiveness and efficiency of the scheme, including with specific regards to the innovation measures that are supported under its remits. In particular, the report notes that the multiplication of sectoral programmes - including in the field of innovation, most notably the PIA, the National Innovation Programme which is the main scheme to support innovation as part of national sectoral policy - had gone hand in hand with the reduction in the scope of the CPERs, and that 'synergies and investment-efficiency in relevant sectors remain below expectations'.[135] The Court noted the displacement between the two schemes and that funding allocations to the PIA had the detrimental effect of delaying the implementation of the CPERs (since these rely not only on national funding, as the PIA, but also on funding from the local authorities). The report had a direct impact on policy as five 'Regional partnerships for innovation' (*Partenariat régionaux d'Innovation*) were established with financial support from the PIA (€50 million) and the CPERs as a pilot initiative to test how to harmonise the two scheme and create synergies between them.

5.3 Netherlands: The 'Business policy monitor'

The business policy monitor is an annual report of the Ministry of economic affairs which provides the most recent state of play of business policy. The monitor contains a section on generic innovation

[130] HM Treasury (2015) Summer Budget 2015 https://www.gov.uk/government/publications/summer-budget-2015/summer-budget-2015#executive-summary (accessed 9 September 2016).

[131] HM Treasury (2015) Fixing the foundations: Creating a more prosperous nation, Cm 9098, July 2015, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/443898/Productivity_Plan_web.pdf

[132] Department for Business, Innovation and Skills (2015) Mapping Local Comparative Advantages in Innovation. Framework and indicators. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/468179/bis-15-344-mapping-local-comparative-advantages-in-innovation-framework-and-indicators.pdf (accessed 9 September 2016)..

[133] Department for Business, Innovation and Skills (2015) Mapping Local Comparative Advantages in Innovation. Framework and indicators. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/468179/bis-15-344-mapping-local-comparative-advantages-in-innovation-framework-and-indicators.pdf (accessed 9 September 2016)..

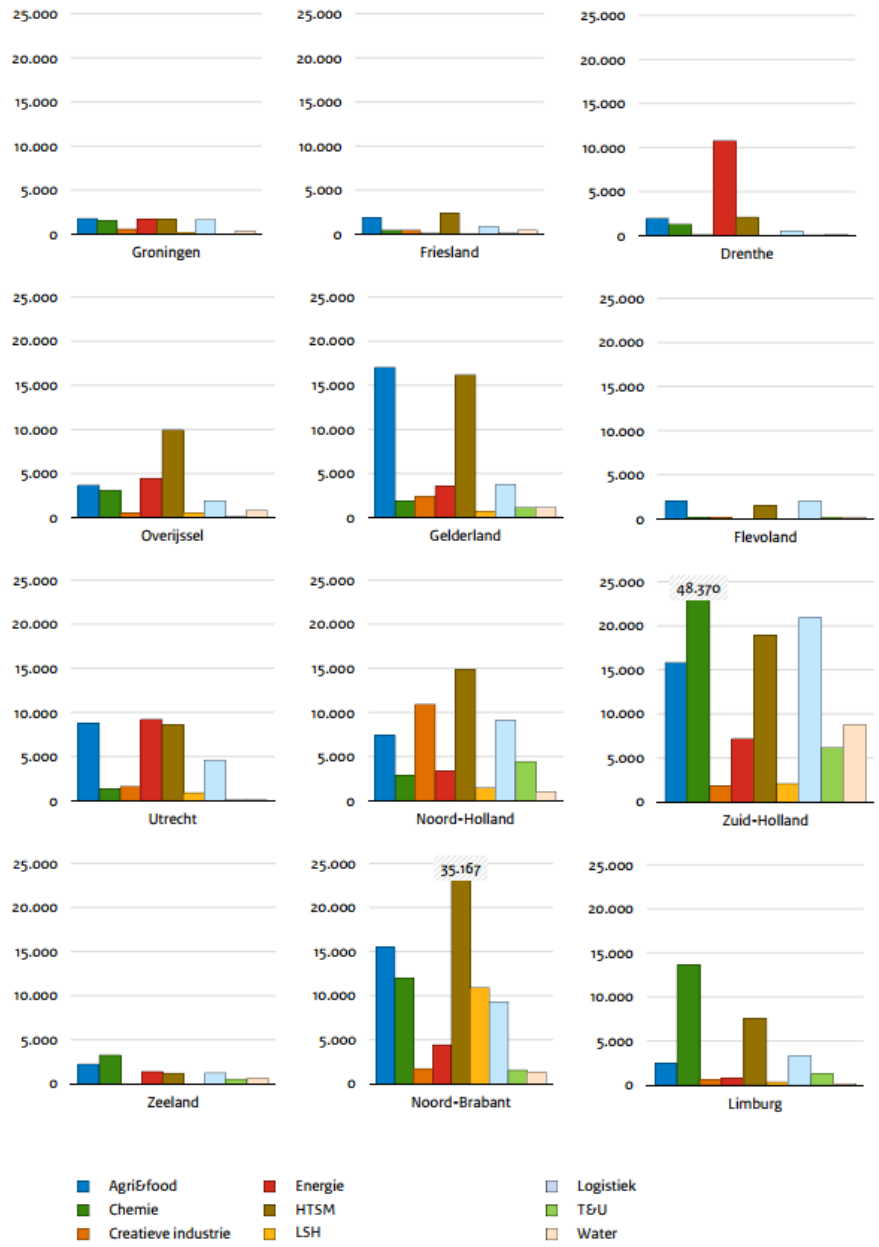
[134] Cour des Comptes (2014), Les Contrats de Projet Etat-Région (CPER), Juillet 2014

[135] *Ibidem*, p.42.

policy as well as the Top Sector approach.[136] The business policy monitor analyses the spatial dimension of innovation policy and the Top Sector approach (see Figure 8).

A recent 'Enterprise policy review' describes the innovation instruments as legitimate and largely effective. It also concludes that the innovation policy is transforming from one that is largely focused on responding to market failures to one that pays more attention to institutional and innovation system improvements. This particularly reflects the current approach in the Top Sector policy where focus of central government is on creating collaborative structures.

Figure 8: Spatial Dimension innovation policy



Source: CBS (2015) Monitor Topsectoren 2015. Legend: production value of each sector; €million.

[136] Monitor Bedrijven Beleid https://www.rijksoverheid.nl/documenten/rapporten/2015/10/05/monitor-bedrijvenbeleid-2015 (accessed 9 September 2016).

6. CONCLUSIONS AND ISSUES FOR DISCUSSION

ISSUES FOR DISCUSSION

- How relevant is the open innovation concept for your country?
- In the absence of wider reforms and policy measures, could the emphasis on innovation in the regional policies of the less developed EU countries and regions exacerbate, rather than treat, the economic gap with the most developed ones?
- If the support for innovation in regional policy is a means to an end, would it be useful to restrict it to designated areas only?
- What is your experience of the evaluation of the regional policy-funded innovation support schemes? How can it be improved?

The paper discussed a number of topics related to innovation support as a component of regional policy. It has reviewed the evolution of the understanding of innovation and its role as a growth factor. It has discussed the increasing prominence gained by innovation support as part of the regional policy packages of a number of countries covered by the study, and the main programmes and schemes implemented to foster innovation. The conclusions and recommendations of a selection of evaluations about such programmes and schemes were also reviewed, alongside with the extent to which the recommendations formulated in the evaluations led to concrete changes.

6.1 Innovation and regional development: competing or mutually reinforcing goals?

European strategic frameworks and rules relating to Cohesion policy, the Europe 2020 strategy and State aids compliance, and the evolution in the understanding of innovation – increasingly viewed as place-bound and occurring in local 'ecosystems' - have led to an increased focus in the regional policies of countries covered by the study on R&D and innovation, and to more systematic efforts to exploit the synergies between regional policy and innovation policy (where both exist). Overall, even in countries where there is little emphasis on innovation as part of regional policy (or little emphasis on regional policy per se), 'place' is becoming a more important part of the sectoral innovation policies, in acknowledgement of the need for local geographies 'to invest in their differentiated strengths', as advocated by the Smart Specialisation Strategies approach.

Somewhat paradoxically, as discussed in Section 3, the above developments have meant that the countries and regions that invest more in innovation as part of their regional policy packages are also those with the lowest innovation and institutional performance, which raises questions about these countries' ability to spend the amounts earmarked for innovation.

The evolution in the way innovation is viewed has also led to a shift from more traditional support (typically grants for RTDI activities) to a more composite set of interventions which include a host of systemic measures aimed at nurturing an innovation-conducive context, and supporting the emergence and exploitation of new ideas (e.g. clusters, competitiveness poles support, innovation platforms). A parallel trend has been the loss of territorial exclusivity, as most innovation-related programmes and schemes that are funded under regional policy are available throughout the national

territory. To an extent this is blurring the boundaries between the pursuit of competitiveness goals versus regional policy goals, and raises questions about performance.

6.2 Smart specialisation and thematic concentration: territorial specificity or one-size fits all?

Current theories see innovation as context- and place-specific. As a result, regions and countries are encouraged to pursue 'smart specialisation' in fields in which they, based on their unique combination of assets, can excel. Yet, at the same time, the assumption underlying the current emphasis on innovation in economic and regional development policies derives from a specific view that sees productivity-induced growth as the main objective of economic policy. This view is informed by the US model of growth, according to which innovation plays a central role in driving productivity.[137] This model, however, relies on high levels of R&D expenditure, and on an effective innovation system characterised by high public expenditure in R&D and systematic knowledge exchange between universities and firms.[138] Not all European member states are equally close to this US-based ideal, however. In particular, the countries of this study that are characterised by the most significant relative economic disadvantage are also those that are farther away from this model (as evidenced by their low innovation performance). They are also the countries that, beyond their regional policy packages, do not devote significant additional financial means to supporting innovation.

This raises two main concerns:

- First, the extent to which the strong regional policy emphasis on innovation – when not matched by additional domestic spending on innovation policy and wider reforms to foster the innovation system (e.g. higher education reforms) - may end up reinforcing the economic gap with the more developed European regions and countries, and
- Second, whether the focus on innovation promoted by European guidelines and policies may be viewed as contradictory, in that it places emphasis on territorial specificity, while at the same time it imposes an interpretation of development that may not suit all EU member states (particularly the less developed ones) in the same way.

6.3 The use of evaluation to enhance effectiveness

The literature on innovation highlights that 'identifying appropriate policy frameworks for promoting innovation and entrepreneurship requires a deep understanding of the innovation process'.[139] The present study has shown that in a number of countries of this study evaluation is integral to the policy process and embedded in the lifecycle of programmes and schemes. Countries covered by the study have undertaken a variety of evaluations about the innovation-related programmes and schemes foreseen in their regional policy packages. These evaluations have been carried out for a variety of aims: from the forward-looking comprehensive appraisal of an entire policy package, to the provision of evidence in support of key decisions relating to policy termination; from the testing of the efficacy of existing instruments, to their reappraisal in the light of changing context conditions; from evaluating the validity of innovative and risky choices, to a plain stock-take of achievements.

[137] Kitson M (2005) *Op. Cit.,* p. 988.

[138] Kitson M (2005) *Op. Cit.;* Hall P and Soskice D (2001) *Varieties of capitalism. The institutional Foundations of Comparative Advantage,* OUP.

[139] McCann (2015), *Op. Cit.,* p. 127

While the diversity of the evaluations reviewed in this paper does not support the elaboration of policy lessons about the programmes and schemes reviewed, since these are largely specific to the programme/scheme in question, the paper shows that policymakers do utilise evaluation findings. Nevertheless, pinning down the full extent of the impact of evaluation activities on policy is not easy, due for example to the unofficial communications that can occur between evaluators and policymakers, and to the political nature of policy decisions. More specifically, the study has not appraised the dynamics and mechanisms that facilitate the transposition of recommendations into practice, nor has it examined cases of evaluations whose recommendations were not taken on board and the reasons for this. An investigation of these processes and dynamics would be a relevant agenda for future research.

EoRPA RESEARCH

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Austria
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Finland
- Työ- ja elinkeinoministeriö (Ministry of Employment and the Economy), Helsinki

France
- Commissariat Général à l'Egalité des territoires (General Commissariat for Territorial Equality, CGET, previously DATAR), Paris

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- Bundesministerium für Wirtschaft und Energie (Federal Ministry for Economic Affairs and Energy), Berlin
- Ministerium für Wissenschaft und Wirtschaft (Ministry of Science and Economic Affairs), Sachsen-Anhalt

Netherlands
- Ministerie van Economische Zaken (Ministry of Economic Affairs), The Hague

Norway
- Kommunal- og moderniseringsdepartementet (Ministry of Local Government and Modernisation), Oslo

Poland
- Ministerstwo Rozwoju (Ministry of Development), Warsaw

Portugal
- Agência para o Desenvolvimento e Coesão (Agency for Development and Cohesion), Lisbon

Sweden
- Näringsdepartementet (Ministry of Enterprise and Innovation), Stockholm

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Disclaimer: It should be noted that the content and conclusions of this paper do not necessarily represent the views of individual members of the EoRPA Consortium.

[140] Gruppo CLAS, Expert for Europe and EPRC (2016) Servizio di valutazione del POR FESR 2007-2013 di Regione Lombardia *Rapporto di valutazione conclusivo (2016). Parte Seconda: Gli approfondimenti tematici. Capitolo 4 – La valutazione dell'efficacia delle misure per la collaborazione tra imprese e tra imprese e ricerca*

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