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**Constructing Regional Advantage and Smart Specialization:
Comparison of Two European Policy Concepts**

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Abstract
This paper discusses two influential policy concepts at the European level that aim to promote economic diversification of regions, that is the Constructing Regional Advantage concept (CRA) and the Smart Specialization concept (SS). Both approaches are in favour of policy intervention but defy 'one-size-fits-all' policies as well as 'stand-alone' policies that create new activities in regions from scratch. Although 'picking-the-winner' policies are rejected, both policy frameworks identify and prioritise 'promising' targets for policy intervention, but they do so differently. The SS concept organizes this identification process through entrepreneurial discovery in which entrepreneurs select the domains of future specialization. The CRA concept focuses on identifying related variety and bottlenecks that prevent related industries in regions to connect and interact. Crucial in both frameworks is the strong involvement of local stakeholders. However, both approaches also agree that rent-seeking behavior, corruption and lock-in are potential threats to effective policy making. To avoid this, both are in favor of an open and inclusive approach and a policy implementation process that is closely monitored. The paper argues that the two policy concepts can provide useful inputs to develop a smart and comprehensive policy design that focuses on true economic renewal in regions and that avoids rent-seeking behaviour of vested players.

Key words: smart specialization, constructing regional advantage, Regional Cohesion Policy

1. Introduction

Recently, policy concepts like constructing regional advantage (European Commission 2006; Asheim et al. 2011), platform policies (Harmaakorpi 2006; Cooke 2007), place-based development (Barca 2009) and smart specialization (Foray et al., 2009; 2011; McCann and Ortega-Argiles 2013; Morgan 2013) have been proposed. A key feature is that knowledge and innovation are considered main drivers of regional development, and that public policy is key in promoting that. Though there are differences between the various policy concepts, what these concepts tend to share is that they account for differential growth potentials of regions, as regions have their own specific industrial and institutional past, and that local stakeholders should be made part of the design and implementation of regional policy.

The objective of this paper is to discuss two policy concepts that have attracted much attention at the European level, that is, the Constructing Regional Advantage (CRA) concept and the Smart Specialization (SS) concept. A key message in both concepts is that it would be wrong to pursue 'one-size-fits-all' policies (Tödtling and Trippl 2005) or develop new economic structures from scratch (Boschma 2009). This implies that effective policy making requires localized action attuned to the specific needs and available resources of regions (Lambooy and Boschma 2001), but this merits more attention. First, we explore and discuss the way the two policy concepts identify regional potentials and select fields of areas for policy intervention, despite the fact that they defy a 'picking-the-winner' approach. We discuss the entrepreneurial discovery process proposed by Hausmann and Roderik (2003) and Roderik (2004) which has been employed by Foray et al. (2009; 2011) to develop the SS concept. Then, we discuss how the CRA approach has incorporated the concept of relatedness and related variety as input for their policy design (Boschma 2011), as related variety defines opportunities of regions to diversify into new industries (Neffke et al., 2011). Second, we discuss the prominent role of local stakeholders in both policy concepts, as these may form both an asset and a potential threat to effective policy on regional development. In that sense, we discuss how local stakeholders are involved in the design and implementation of regional innovation policy in both policy concepts while avoiding rent-seeking behaviour and lock-in.

The paper is structured as follows. Section 2 briefly discusses the main features of the concept of constructing regional advantage (CRA) and the concept of smart specialization (SS). Section 3 discusses how these two policy concepts identify potential targets for policy intervention. We explain that the SS concept puts emphasis on the entrepreneurial discovery process in which entrepreneurs (broadly defined) select the domains of future specialization. Instead, the CRA concept focuses on identifying related variety and bottlenecks that prevent related industries to connect and interact. Section 4 takes a critical look at the strong involvement of local stakeholders in these policy concepts, as local players can both block and contribute to true economic renewal in regions. Section 5 summarizes and concludes.

2. Comparing two policy concepts: Constructing Regional Advantage and Smart Specialization

The Constructing Regional Advantage (CRA) concept was largely developed by geographers[1] to identify possibilities of regions to innovate and develop (European Commission 2006;

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[1] The CRA expert group consisted of Jan Annersted, Bjorn Asheim, Jiri Blazek, Ron Boschma, Danes Brzica, Phil Cooke, Asa Lindholm-Dahlstrand, Jaime del Castillo Hermosa, Philippe Laredo, Marina Moula and Andrea Piccaluga

Asheim et al. 2007; Asheim et al. 2011). This policy concept was born out of a dissatisfaction with Technology and Innovation Policy that had been, and often still is, focused on enhancing Research and Development (R&D), as if R&D policy would benefit every region[2]. Such policy failed to recognize that the innovation process is not a linear process from R&D to innovation, and that R&D (oriented towards high-tech) is heavily concentrated in space, offering development opportunities for only a very selective group of (high-tech) regions.

The CRA concept laid emphasis on collective and interactive learning processes that are context-specific, and operate mainly (but not exclusively) at the regional scale. The CRA concept provided an alternative regional innovation policy model for any type of region, instead of focusing on high-tech regions only. Their view on a knowledge-based economy was much broader defined than scientific knowledge *per se*, and that there are different types of knowledge that should be accounted for in policy (like low-tech and high-tech knowledge, variety in related knowledge specializations, differentiated knowledge bases). Moreover, the CRA concept strongly rejected 'one-size-fits-all' policies (like R&D policy and neo-liberal policies) that are not embedded in particular spatial settings, and it provided a policy model that actively promotes (i.e. constructs) regional development. In that sense, the CRA concept aimed to redefine the European Research Area policy and bring it more in line with Cohesion Policy, to ensure that innovation policy can contribute to economic development in any region, and thus to a more equitable process of regional development (Oughton et al., 2002).

The CRA policy model has been built around concepts like knowledge bases, related variety and policy platforms (European Commission 2006; Asheim et al., 2011). This policy model underlines that the innovation process is strongly shaped by the specific knowledge base of activities (like analytical and symbolic knowledge) and their combinations in regions. Related variety is a key component of the CRA approach. Related variety refers to the variety of industries in a region that are cognitively related (Frenken et al., 2007). When the degree of related variety is higher in a region, the more learning opportunities are available at the local level, and the more knowledge spillovers across industries are likely to occur. The local presence of a wide range of technologically related industries provides local learning opportunities and growth potentials for existing industries as well as local sources of growth for new industries. In this latter respect, related variety may spur diversification and true economic renewal in regions by making new recombinations between industries. The importance of related variety for regional growth and regional diversification has been confirmed in a number of recent studies (e.g. Frenken et al. 2007; Boschma and Iammarino 2009; Neffke et al. 2011; Tanner 2011; Boschma et al., 2012; Colombelli et al 2012; Rigby 2012; Boschma et al. 2013a and b; Essletzbichler 2013; Van Oort et al 2013).

In the CRA framework, tailor-made policies based on relatedness between industries take the region-specific intangible assets as starting point, as these define available options of policies, but these also set limits to what can be achieved (Boschma 2011). Existing specializations and knowledge bases in regions provides options for diversification. When regions lack particular capabilities, policy should refrain from developing those. In that sense, there are limits to what can be learned from other regions, especially when their geographical, industrial and institutional contexts are very different (Hassink and Lagendijk 2001; Howells 2005). Copying of best practices from elsewhere is close to impossible as intangible assets in regions (as embodied in their specific knowledge bases and institutional settings) are the result of long

histories in particular regional contexts. This is not to say that it might not be useful to develop typologies of regions, as regions might face similar challenges, like old industrial regions (see e.g. Tödtling and Trippl, 2005; OECD 2011), but this still requires tailoring of policy to the idiosyncratic needs and resources of the region. Furthermore, the CRA concept focuses on bringing together industries and areas of expertise, also known as trans-sectoral platform policies (Cooke, 2007). Platform policies leave behind a narrow sectoral approach, in which related variety is combined with a system approach by focussing on the dynamics from inter-industry crossovers, especially in relation to new general purpose technologies.

The CRA policy concept has been implemented to some extent by policy makers at the regional level in the EU since the mid-1990s, often implicitly (like in the form of Regional Innovation and Technology Transfer Strategies, Regional Technology Plans and Regional Innovation Strategies, see OECD 2010), but in some cases explicitly, like in platform policy initiatives in the Preseli district in West Wales and the Lahti region in Finland (Harmaakorpi 2006; Cooke 2007; Harmaakorpi et al. 2011). However, the Smart Specialization concept (SS) has attracted far more attention from the policy world, especially at the European scale, where the concept is adopted as a key element in the EU 2020 Innovation Plan and the reformed EU Cohesion Policy. The SS concept was originally designed by the Knowledge for Growth expert group in the framework of the European Research Area (ERA) (Foray et al. 2009) to explain the productivity gap and growth differentials between the US and Europe by means of differences in the dissemination of Information and Communication Technologies. The SS concept was developed in response to Europe's productivity slowdown, and to underline the requirement of countries and regions to specialize in different knowledge-intensive industries that exploit their own capabilities and strengths. Like the CRA concept, the SS concept accounts for differences between territories in terms of technological and industrial competences as key building blocks of any smart growth policy design.

The SS concept is more of a policy concept than the CRA concept, as it explores more in detail the policy process. According to Foray et al. (2011), the key input to the SS concept is the process of entrepreneurial discovery. Smart specialization is "… largely about the policy process to select and prioritise fields or areas where a cluster of activities should be developed, and to let entrepreneurs discover the right domains of future specialization" (p. 7). As in the CRA concept, the SS concept defies a top-down planning strategy of 'picking winners' that imposes (new) specialisations on regions. Instead, it is bottom-up policy that aims to promote search activities by entrepreneurs that identify the potential advantages of general purpose technologies in their own economic domain, as "entrepreneurs …. are in the best position to discover the domains of R&D and innovation in which a region is likely to excel given its existing capabilities and productive assets" (Foray et al. 2011, p. 7).

While the SS concept focused mainly on sectors and technologies, the concept has also begun to gain ground in regional realms. Policy makers have embraced the concept, and the SS concept forms one of the main pillars of the reformed EU Cohesion Policy, which highlights the need for regions to identify and select their own potential sources of innovation and economic growth. In that respect, regions should make "a rigorous self-assessment of a region's knowledge assets, capabilities and competences and the key players between whom knowledge is transferred" (McCann and Ortega-Argiles 2011, p. 3).

Broadly speaking, the CRA concept and the SS concept have a number of principles in common. First, what they share is that knowledge and innovation are driving forces of economic development, and that long-term economic development is about true economic

renewal which is impossible to predict *ex ante*. For this reason, 'picking-the-winner policy' is rejected. Second, what these concepts underline is that history matters. Regions have different growth potentials, as each of them has its own history, as laid down in their industrial, knowledge and institutional structures. Therefore, policy cannot start 'from scratch', as the history of regions defines available options and probable outcomes of policy action (Lambooy and Boschma, 2001). Third, they defy a 'top-down' approach and advocate a 'bottom-up' policy approach to regional development instead. In the SS concept, this is more related to the entrepreneurial discovery process, while in the CRA concept, this has more to do with the specificities of places (and their histories) that are incorporated in a place-based approach (Barca 2009) in which policy efforts are tailored explicitly to the local context[3]. Fourth, policy is generally demand-driven in both approaches, as it is derived from local potentials and local needs. Both concepts would agree that effective policy making requires localized action embedded in, and attuned to the specific needs and available resources of regions. Fifth, both concepts share the view that it would be wrong to apply a 'one-size-fits-all' policy (like copying Silicon Valley, or going for biotech). And sixth, both policy concepts are in favor of strong public intervention, in collaboration with local stakeholders.

Despite these commonalities, the CRA and SS policy approaches also differ in various ways.

First, while the CRA concept has an explicit geographical focus, the SS concept has some of that but still lacks a basic understanding of regional economics. In their seminal paper on smart specialization, McCann and Ortega-Argiles (2011) argue that the SS concept needs to incorporate geographical wisdom because geography impacts on the intensity and nature of the entrepreneurial search process and the possibilities of learning, such as the economic size of regions, their industrial diversity, the degree of related variety in regions, and the degree of connectedness within and between regions. Regions have different potentials, like peripheral and lagging regions tend to be in a disadvantaged position, as they lack the connectedness, the size in terms of market potential, the industrial diversity and a critical mass of capabilities to catch up rapidly, and this is very difficult to rectify by any policy design. Lagging regions lack key elements that a smart specialization policy needs to become effective. In that sense, McCann and Ortega-Argiles (2011) claim that SS policy runs the risk of running counter to the objectives of regional cohesion policy. And regional public bodies have different potentials to intervene successfully and to make the entrepreneurial discovery work, as institutions like social capital and governance structures differ between regions to a considerable degree (Fritsch and Stephan 2005; Charron et al. 2010).

Second, while relatedness is a key concept in the CRA concept, it is not in the SS concept. This has implications for the way regional potentials are identified, as will be discussed further in the next section. This is not to say that the SS concept stands for more specialization as the way to foster growth in regions. On the contrary, the SS concept is primarily interested in stimulating diversification in a particular domain that is perceived as promising. However,

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[3] Barca (2009, p. XVII) sees a tight connection between the place-based development approach and the smart specialization concept: "...A particular case is made for selecting innovation as a core priority. Place-based interventions, building on the strengths and taking account of the weaknesses of previous experience as regards cohesion policy in this area, could complement policies aimed at developing a European Research Area, by selecting in each region a limited number of sectors in which innovation can most readily occur and a knowledge base built up. Through such an approach – defined in the current policy debate as "smart specialisation" - the most could be made of the present diversity of industrial agglomerations and networks, while their "openness" beyond regional or national boundaries would be promoted..."

the CRA concept makes more explicit that the process of diversification is driven by relatedness, as new industries/technologies will emerge and develop when closely related to existing industries/technologies in the region, as explained in Section 3.

Third, both concepts are in favor of a strong involvement of public intervention. However, the SS concept gives a more in-depth and rich description of the policy process. Although it rejects a 'picking-the-winner' policy by the state, economic renewal is not left to the market either (Lagendijk 2011), as both private and public actors are part of the discovery process through which likely winners are selected and prioritized (see Section 3 on that). The CRA concept draws far less attention to the policy process, but instead argues that policy cannot be seen in isolation from its (regional institutional) environment. In that respect, the CRA concept follows a (regional) innovation system approach and focuses more attention on the contextualization of the innovation process and that regions differ in that respect. This is not to say that the SS concept could not take that up, but it is just not its prime focus.

Fourth, both policy concepts give room to the involvement of (local) stakeholders, but they lay emphasis on different aspects. The CRA concept has a richer account of the role of the surrounding environment in which the innovation process is embedded at various spatial scales. Building on the innovation system concept, the CRA concept is keen on describing the specific roles different organizations play in the innovation process, and why it is not self-evident that crucial interactions between complementary players occur. In that sense, the CRA approach also has a better understanding of why it is important to draw on non-local resources to avoid regional lock-in. Having said that, the SS policy concept is more rich in giving a full account of the discovery process to which stakeholders contribute. Moreover, both approaches offer various solutions to avoid and circumvent rent-seeking behavior by vested stakeholders, as will be explained in Section 4.

In sum, the CRA concept and McCann and Ortega-Argiles (2011) claim that relatedness should be a key input to any policy intervention scheme, as it provides a tool to identify unused potentials and a framework to target and select promising activities. The SS concept tends to have a more open policy approach: no potentials and priorities are identified and set beforehand, but these emerge out of the discovery process. We discuss this issue more in detail in the next section when we set out the way the CRA and the SS concepts identify potentials and select fields of areas for policy intervention.

3. how to define regional potentials?

To identify regional potentials for future specialization, the SS concept falls back on the entrepreneurial discovery process, as developed by Hausmann and Roderik (2003) and Roderik (2004). In the policy model of Foray et al. (2011), entrepreneurs should discover and decide which domains of future specialization will be chosen. It should be left to them to scan technological and market opportunities, to identify possible bottlenecks and to articulate obstacles to grow. It is important to stress that entrepreneurs in this framework are more broadly defined than is common. They consist of a range of individuals and organizations (e.g. inventors, firms, higher education organizations) that possess the right knowledge which includes technical and scientific knowledge, but above all, knowledge of market growth potential as "it is this type of knowledge that needs to be activated, mobilized and supported as the main ingredient of a process of smart specialization" (Foray et al. 2011, p. 7).

In the SS policy framework, market forces and entrepreneurship are supposed to take the lead. However, governments play a much more important role than just ensuring property rights and macroeconomic stability (Roderik 2004). Hausmann and Roderik (2003) provide a theoretical underpinning of why the public sector is crucial in a knowledge-based economy, and why"… diversification is unlikely to take place without <u>directed</u> government action" (Roderik 2004, p. 8). They refer to two types of externalities: information and coordination externalities. Information externalities is about market failure that puts a hold to self-discovery, as the search and innovative efforts of entrepreneurs have high social value but also involve high private costs. Entry and imitation are likely to undermine the private returns to entrepreneurship and experimentation, and therefore will reduce self-discovery activity. A way to remedy this is to provide public resources to first entrants. Coordination externalities is about new activities that require huge investments in the surrounding environment (for instance, new institutions) which are not likely to be provided by the private sector.

In the self-discovery process, the private sector and the government have to collaborate strategically as they both have imperfect information, and they have to learn about costs and opportunities (see also Wegner, 1997). According to Foray et al. (2011), the role of policy makers is "… to allow and help economic agents to find their own ways in a decentralized and bottom-up process and then carefully observe what is happening. They have to aggregate the decentralized information generated by entrepreneurial experiments and discoveries, assess the outcome and help the most promising projects to grow" (p. 10). What is crucial in the SS concept is that attention is "… not on policy outcomes (which are inherently unknowable *ex ante*), but on getting the policy process right" (Roderik 2004, p. 3). Consequently, the SS concept puts a lot of emphasis on the nature of the policy process, and how to make that work better. Foray et al. (2011) make a distinction between three phases in the policy process: (1) identification and reinforcement of entrepreneurial discovery; (2) monitoring and assessment; (3) coordination and complementing investment.

This process of entrepreneurial discovery to identify future specializations goes against technocratic approaches that identify beforehand on the basis of scientific techniques which priorities, objectives and targets, and which knowledge and inter-industry crossovers should be stimulated, as this would ignore the essence of entrepreneurial discovery. It is more of an open-ended process in which diversification in related activities is just one option. In sum, it "… is not about telling people what to do, what are the right specialisations, but accompanying emerging trends and improving coordination by providing the necessary public goods (education, training) and creating additional incentives at certain critical bottlenecks to help the new activity to grow" (Foray et al. 2011, p. 6).

Instead, in the CRA policy concept, relatedness is a key input, and it provides a tool to identify (unused) potentials and a framework to target and select promising activities. The CRA concept would agree with the SS concept on the bottom-up process of entrepreneurial discovery and that search processes are myopic because of incomplete information and fundamental uncertainty. But exactly because of this, search processes take place in a context to reduce uncertainty. Therefore, search processes are guided by routines and competences at the organizational level which makes search behavior localized, as Nelson and Winter (1982) put it, but search processes also take place in specific regional contexts. This geographically localized search process tends to favor existing regional specializations, but also has an impact on the way regions diversify over time (Boschma 2004).

The CRA concept builds on the increasing evidence that regions build on their industrial structure when diversifying into new and promising industries. That is, countries and regions tend to expand and diversify into sectors that are closely related to their existing activities (Boschma and Frenken, 2011). Neffke et al. (2011) found evidence that sectors that are related to other sectors in the region are more likely to enter the region, and unrelated sectors had a higher probability to disappear from the region. Boschma et al. (2013a) demonstrated that capabilities at the regional scale are more important for this process of related diversification (or regional branching) than capabilities at the national scale. McCann and Ortega-Argiles (2011) make use of this logic of relatedness to spatialize the SS concept. In that respect, they argue that smart specialization should not aim for more specialization (as this increases the problem of overspecialization and regional lock-in), nor for diversification *per se* (as this runs the risk of new economic activities that are not embedded in the region), but for specialized diversification into related technologies (which generates new economic activities that are rooted and embedded in the region) (Boschma 2009; Neffke et al. 2011).

Like in the SS concept, any region can be made part of such a policy, no matter whether regions are specialized or diversified, or high-tech or low-tech. Having said that, some regions have undeniably more potential than others to diversify into new directions, as regions have different specializations, but also because more urbanized regions are likely to have a higher degree of related variety. When the number of technologically related sectors is higher in a region (i.e., the higher the degree of variety in related sectors), the more learning opportunities will be available at the regional scale, and the more knowledge spillovers will boost regional development. As noted earlier, studies have demonstrated that there is indeed a positive relationship between related variety and regional employment growth, but no studies so far have investigated whether related variety also generates more innovations at the regional level, and what kind of innovations (like radical versus incremental innovations). There are also no studies (yet) that have investigated systematically the extent to which public policy played a role in regional diversification. Longitudinal studies have shown that related diversification takes place in every type of region all the time (Neffke et al., 2011), but we do not know in all these cases whether and how government action played a role. Therefore, it is still premature to say that "… industrial restructuring rarely takes place without significant government assistance" (Roderik 2004, p. 15).

Nevertheless, the CRA concept is about constructing regional advantage consciously and pro-actively, and to highlight the importance of the role of the public sector and public-private collaborations in the economy. Besides market failures, the rationale for policy intervention in the CRA concept is to tackle system failures (Metcalfe, 1994; 2003). A (regional) innovation system approach views such deficits as the core problem of innovation in the EU. The innovation process requires organizations to connect in order to enable flows of knowledge, capital and labor. The problem is that connections are far from self-evident and when missing, these have to be constructed (Boschma 2009). The CRA policy approach aims to bring together activities with possible complementary resources. Therefore, it leaves behind a narrow sector perspective, and focuses instead on inter-industry crossovers.

To exploit regional potentials more fully, and to broaden and renew the industrial structure of regions by making it branch into new related activities, policy should encourage crossovers between related industries that can provide complementary assets. This requires an evidence-based policy program that should first of all collect data and identify the degree of relatedness between industries in the region, and measure and assess whether these related industries are actually connected or not. If not, bottlenecks need to be identified and targeted that prevent

related industries to connect and interact. There are several ways of measuring the degree of relatedness between industries (see e.g. Neffke et al. 2011; Boschma et al. 2012). To measure skill-relatedness between industries is promising, as it identifies the potential to which skills in one industry are useful and relevant in other industries, and it observes whether flows (and thus true connections) occur between industries. To assess whether related industries are actually connected in a region would also enrich the concept of connectivity proposed by McCann and Ortega-Argiles (2011). Doing so, connectivity *per se* is not a blessing for a peripheral region (and may even have adverse effects), while connecting with related activities both within and outside the region might become an asset, as it might bring in new knowledge and resources that are related to existing activities in the region (Boschma and Iammarino 2009). Policy could therefore focus on making connections between related activities in the case bottlenecks prevent knowledge to flow from one activity to another.

Though the CRA concept would defy 'picking-the-winner-policies', this policy requires some policy priorisation, in the sense that related industries could be targeted in regions where they have a strong presence and where potentials of new recombinations are high. However, as said before, the CRA policy concept does not rule out any type of region, as any region has sources of diversification available to a greater or lesser extent. No priorization is needed there, though it is evident that some regions, because of their size and their diversified industrial structure have more potential to successfully diversify in new directions. In this respect, it might be expected that the probability of making new recombinations in a region will increase rapidly with the degree of (related) variety in the region. But this is only true if this is a complete random process in which every activity can be combined with any other activity. In reality, this will be influenced and constrained by, among others, the degree of relatedness between those activities.

To enhance 'related' entrepreneurship may be one policy option in the CRA approach. These type of entrepreneurs often perform better because they build on relevant knowledge and experience acquired in parent organizations in related industries. Since experienced entrepreneurs lay at the roots of new sectors, and they tend to locate near their parents, they may provide a basis for regional innovation policy that aims to diversify regional economies. Targeting these experienced entrepreneurs would not only increase the likelihood of successful policy (as contrasted by policy that supports just any entrepreneur), but would also contribute to the process of regional diversification. But regional innovation policy could also play a role in encouraging labour mobility between related sectors, which makes skills and experience move around across sectors. Since most labour mobility takes place at the regional level, policies promoting it will enhance transfer of knowledge between related sectors within regions. In addition to that, labour inflows from elsewhere might bring in new and related knowledge into the region, from which local firms might benefit economically. Last but not least, networks also provide effective settings through which related knowledge circulates and interactive learning takes place. For instance, policy could consider supporting those research collaboration networks that consist of partners with different but related competences.

In the foregoing, it has become clear that the CRA approach and the SS concept differ in their policy approach, especially with regard to the identification of regional potentials. When discussing both approaches, there is still a policy dilemma that is not really covered by both policy concepts, and that is the question whether the long-term development of regions requires related or unrelated diversification. What the CRA concept learns us that it may not be wise to support any promising discovery, especially when this concerns an industry (or technology) that takes a peripheral position in the industry space of the region concerned, as it

cannot build on any resources available in related industries in the region. Therefore, policy should support discoveries that can actually build on and are embedded in existing related resources at the regional level. However, this means that connections between unrelated industries are not taken up, and that unrelated diversification may not be part of the policy agenda, although it could be argued that regions might need to make a jump into more unrelated activities now and then.

This brings to light a limitation of both the CRA approach and the SS approach. As the CRA concept is focusing primarily on those industry-crossovers that have been defined as technologically related, and the SS concept focuses primarily on developments within a domain, they may be blind to potentials of unrelated diversification. Instead, we might argue that any discovery that is perceived as promising warrants support, also when it connects unrelated activities at the regional scale. What might be attractive of such an approach is that a strict use of relatedness (defined as technological complementarities) or domains (however defined) is left behind, as (technologically) unrelated activities may also be brought together and form new combinations for future growth. A prime example is the current transformation of the tourist industry by making new connections with local industries to which it is technologically unrelated, like the art and design sector, the ICT sector, gastronomical activities, etc., and which makes the tourist industry move to an experience good sector with higher returns. Making these new connections across industries is exactly what platform policies might try to accomplish (Harmaakopi et al. 2011). However, it still is an unsettled empirical question whether long-term regional development requires related or unrelated diversification. Any systematic evidence is currently lacking.

4. Local stakeholders

Both the CRA concept and the SS concept attach great importance to the involvement of local stakeholders and private-public coordination in their policy framework. On the other hand, both policy concepts are aware of the potential dangers of strong involvement of private actors in the design and implementation of regional innovation policy, like rent-seeking behaviour, corruption and lock-in. Lock-in means here that private and public players may form tied and closed networks that limit their access to new information, block newcomers and new ideas and initiatives, and impede institutional changes to support new developments (see e.g. Grabher 1993). In this section, we discuss how both policy concepts on industrial policy deal with these potential problems.

Like the SS framework, the CRA framework defies a top-down approach. Therefore, it relies heavily on local knowledge sources. Crucial in such a policy framework is the strong involvement of local stakeholders, not only when regional potentials are identified, but also during the phase of policy implementation. Local stakeholders are regarded as important sources of information that can be instrumental in setting out the main strengths, weaknesses, potentials and bottlenecks in regions. However, mobilizing and involving local stakeholders is not unproblematic, as local stakeholders do have certain interests that can bias information received from them, and they might dominate the design and implementation of policy programs. This problem of vested interests and rent-seeking behavior is acknowledged by place-based development strategies, but implementing that in practice and relying on information from local stakeholders at the same time is not without pitfalls.

This is especially a problem (or a challenge) in more peripheral regions, with few big players, and quite closed local networks between private and public actors. In that respect, regions differ with respect to the formal governance structures that are available to them, and the informal institutional structures that are favorable or not to such an open entrepreneurial discovery process. This is not to say that in designing and implementing policy, we cannot avoid local interests groups to capture fully the policy domain. The focus in the CRA concept is on how to enhance true economic renewal in regions, not to pick winners and back them, not to secure local vested interests, and not to make strong industries stronger. Therefore, this policy framework is to involve and accommodate economic newcomers, and to connect new and established players, and local and non-local actors, to enable economic renewal and to avoid rent-seeking behavior and regional lock-in (Boschma, 2011).

The SS framework puts a lot of efforts to avoid that the entrepreneurial discovery process is affected by rent-seeking behavior of vested interests and corruption. According to Roderik (2004), "industrial policy is open to corruption and rent-seeking" (p. 17). Roderik talks about the need for more flexible forms of strategic collaboration in this respect, and a trial-and-error approach to policy making to make that happen. McCann and Ortega-Argiles (2011) claim that local elites should be avoided to take control of specialized diversification, as they would undermine newness and variation. The policy process should therefore be completely open and inclusive, and allow for a broad range of stakeholders to participate. However, this is not easy to accomplish, especially in peripheral and sparsely populated regions where local elites might dominate economic and political networks. McCann and Ortega-Argiles (2011) argue that this may be achieved by the use of conditionalities and the concrete specification of outcome indicators (McCann and Barca 2011).

5. Conclusions

This paper has compared and discussed two influential policy concepts, that is the Constructing Regional Advantage concept (CRA) and the Smart Specialization concept (SS). Though the two policy concepts have different origins and histories, and the two have been developed in different bodies of literature, with not much debate and feedback between the two, both policy frameworks appear to have a lot in common, but there are also differences.

Both approaches aim to promote successful diversification in regions, as regions have their own specific industrial and institutional past. Therefore, they defy 'one-size-fits-all' policies as well as policies that aim to create new structures from scratch. Though both policy concepts are not in favour of a 'picking-the-winner-policy' either, they still aim to identify and prioritise potential 'promising' targets for policy intervention. The SS concept organizes this identification process through entrepreneurs (broadly defined) that select the domains of future specialization. The main strength of the SS concept is exactly about focusing on the nature of the policy process. Instead, the CRA concept focuses on identifying related variety and bottlenecks in a region that prevent related industries to connect and interact, as these provide opportunities for regions to diversify into new activities. Moreover, the CRA concept is more keen on taking on board a geographical dimension and the context in which the innovation process takes place, an issue that has been not thoroughly addressed in the SS concept so far (see the excellent critique by McCann and Ortega-Argiles 2013).

So, the CRA framework and the SS concept differ in their policy approach, especially with regard to the identification of regional potentials. However, both approaches still tend to have

a blind spot for unrelated diversification. The CRA concept is focusing primarily on those industry-crossovers that have been defined as technologically related, while the SS concept focuses primarily on discoveries within a domain. Instead, we might argue that any discovery that connects industries or domains that is perceived as promising warrants support, as diversification may also be accomplished by connecting unrelated activities that form new combinations for future growth. However, this also still requires a lot of empirical backing that is not yet available. Therefore, there is more need than ever to take up research questions like whether long-term regional development requires related or unrelated diversification, and to what extent (and how) policy has had any influence on this.

Crucial in both policy frameworks is the strong involvement and engagement of local stakeholders, which are regarded as important sources of information that can be instrumental in identifying strengths and weaknesses in regions, and regional potentials and bottlenecks. However, both policy concepts also agree that rent-seeking behavior, lock-in and corruption are a potential threat to effective policy making. To avoid this potential danger, both policy approaches are in favor of an open and inclusive approach and a policy implementation process that is closely and continuously monitored and flexible in nature. However, it is also fair to say that both policy frameworks still struggle with how to deal with this potential danger of local stakeholders to dominate the policy design (see e.g. Morgan 2013). It is already very difficult in practice to get local stakeholders actively involved in regional smart specialization policy, and therefore, this issue of power and lock-in runs the risk of not being addressed adequately in current policy practices.

In sum, the paper argues that the two policy concepts provides important inputs to develop a smart and comprehensive policy design that avoids rent-seeking behaviour of vested local stakeholders but instead focuses on true economic renewal in regions. Policy should focus on how to enhance true economic renewal, not to pick winners and back them, not to secure local vested interests, and not to make strong local industries stronger. Instead, it is essential to accommodate economic newcomers, and to connect new and established players, and local and non-local actors, to avoid rent-seeking behavior and regional lock-in.

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