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Smart Specialisation Strategies for Sustainable Development¹

Note by the secretariat

I. Introduction

1. The present note presents good practices and policy recommendations on smart specialisation strategies for sustainable development. It is based on the presentations and discussions at the substantive segment of the seventh session of the Team of Specialists on Innovation and Competitiveness Policies (TOS–ICP), held in Geneva on 16 and 17 October 2014.² It reflects and benefits from the experiences of all relevant participating stakeholder groups, including national government agencies, academic institutions, the private sector and international organisations.

2. Following this introduction, the second section sets out the conceptual and methodological principles of smart specialisation strategies. The third section addresses the main design, governance and implementation challenges. The fourth section summarises the main conclusions and recommendations.

II. Conceptual and methodological principles

3. The key elements that distinguish the smart specialisation approach from earlier, more traditional approaches to regional development or industrial policies are that in its design it is based on a so-called “entrepreneurial discovery process” of possible opportunities for developing new comparative advantages, and that in its implementation it

¹ This document is submitted on the above date because of corrections to the formatting of the originally submitted version.

² The presentations can be found at <http://www.unece.org/index.php?id=35927>.



attempts to go beyond getting the framework conditions right, while stopping short of picking winners.

4. Entrepreneurs (innovative firms, research leaders in higher education institutions, as well as independent inventors and innovators) are well positioned to discover the domains in which a region is likely to excel given its existing capabilities and productive assets. In the context of the Smart Specialisation approach, the “entrepreneurial discovery process” essentially refers to a structured dialogue between government agencies and the business community, academic institutions, and other stakeholders. This dialogue aims to identify the region’s key existing strengths and capabilities and to create a shared vision of areas where future comparative advantage could be developed, building on existing strengths and capabilities. As such, smart specialisation strategies take a bottom–up approach.

5. A clear and shared vision of regional development can ensure the continuous and long–term engagement of stakeholders. Analytical evidence should be used to prepare a comprehensive scenario of the regional economy, society, and environment shared by all stakeholders. This scenario is the basis for developing a vision of where the region would like to be in the future and of its main goals. In the pursuit of this shared vision, the government provides targeted policy support for activities designed to support the newly identified comparative advantages.

6. Any strategy needs to be designed based on the best available information. It is therefore important to provide the right incentives for business, academia and other stakeholders to engage in the process of assessing existing capabilities and identifying areas for the development of future comparative advantages based on these existing capabilities. There is also a need for broad public consultation in order to ensure public support and political commitment.

7. The smart specialisation approach is not about which specific set of industries a region should specialise in. Instead, it seeks to establish robust and transparent means for identifying and promoting new activity niches at a regional level that explore and discover new technological and market opportunities and, thereby, open new domains for constructing regional competitive advantages.

8. Thus, rather than offering a method for determining if a hypothetical region has a ‘strength’ in a particular set of activities, e.g. tourism and fisheries, the crucial question is whether that region would benefit from and should specialise in selected Research and Development (R&D) and innovation projects in some lead areas, such as tourism or fisheries.

9. At the same time, smart specialisation is an inclusive policy approach in the sense that it does not have to be focused on high–technology activities or on research–and development–led innovations. It can also accommodate strategies built on technology adoption and adaptation which are highly relevant for less advanced regions and countries.

10. Innovation is inherently locally–embedded in communities, all of which have their own comparative advantages and capabilities. These local assets, institutions, and frameworks are critical to facilitating technological evolution. Building on existing local expertise and regional strengths, partnering with industry to pool resources and share risks, investing in education and a trained workforce, and demonstrating long–term policy commitment are key to the development of new regional innovation clusters.

11. Because they are explicitly based on an analysis of a given region’s existing strengths and capabilities, smart specialisation strategies can be an effective tool for creating “place–based” innovation and regional development policies, i.e. policies tailored to a region's development level and unique circumstances.

12. Place-based growth strategies are important, particularly in an era of increasing constraints in terms of environmental and social sustainability, and a need for inclusive growth.
13. In order to be fully effective, regional smart specialisation strategies should combine the strengthening of local capabilities with measures that ensure linkages with other regions, and the leveraging of outside technologies and capabilities, while taking into account the region's strengths, history and skills profile.
14. In selecting activities for prioritization, it is important to consider whether:
- (a) the activities lead to potential innovations and have spill-over effects;
 - (b) the degree of local collaboration of partners;
 - (c) the significance of the activities for the regional economy;
 - (d) the capacity of the region to maintain successful activities;
 - (e) the proximity to markets; and
 - (f) there is a need for public support or whether the activity would emerge on its own.
15. The success of smart specialisation strategies depends critically on the capacities of regional governments for effective policy design and implementation. Equally important is effective coordination across regions in order to avoid future duplication whereby regions pursue specialisation in similar technologies and markets.
16. While the smart specialisation approach has been put into action so far primarily in the European Union (EU), there are also relevant examples of new and conceptually related approaches to regional innovation-based development policy outside the European Union. This increases the scope for transnational learning.
17. Recent innovation policy in the United States recognises the importance of centres of innovation at the state level. Federal grants provide infrastructure support and act as a catalyst for state-based innovation. State governments have recognized that successful innovation clusters require policy support and cooperation with key partners.
18. Building on local expertise and regional strengths, partnering with industry to pool resources and share risks, investing in education and a trained workforce, and demonstrating long-term policy commitment are the keys for developing new regional innovation clusters.
19. In the EU, a methodology has been established to provide regional and national policymakers with a robust and transparent means for selecting a relevant policy mix which would enable the exploration of new technological and market opportunities and, as a result, lead to the creation and/or strengthening of regional competitive advantages.³ The smart specialisation methodology does not just offer an approach to identifying hypothetical regional strengths in specific areas, it also allows policymakers to understand if their region should specialise in innovation activities in such areas.
20. A solid smart specialisation strategy should be based on an in-depth analysis of the regional economy, society and innovation structure. It should also assess any existing assets as well as the potential for future development. The common principle here is the adoption of a wide view of innovation that spans economic activities and involves many sectors of civic society. The analysis should cover regional assets, such as:

³ <http://s3platform.jrc.ec.europa.eu/documents/10157/267027/RIS3%20Guide.pdf>.

- (a) technological infrastructure;
- (b) linkages with the rest of the world;
- (c) the region's or country's position within the national, regional and global economy; and
- (d) the dynamics of the entrepreneurial environment.

21. Economic differentiation is an important principle behind smart specialisation. The key to successful differentiation is the focus on related variety,⁴ which suggests that a regional economy can build its competitive advantage by diversifying its unique, localised know-how into new combinations and innovations which are close or adjacent to that know-how. The key point is that these new combinations must be feasible or accessible given existing assets, so as to exploit the experience accumulated by regional actors.

22. In addition to specific technological or sectoral priorities, it is important to pay attention to defining horizontal-type priorities, including so-called key enabling technologies, social and organisational innovations.

23. A good smart specialisation strategy should include a mechanism for monitoring and evaluating from the very beginning. A solid monitoring and evaluation framework is critical for policy learning. Monitoring refers to the need to follow the progress of implementation. Evaluation refers to assessing whether and how strategic objectives are met. In order to assess whether or not strategic objectives have been met, it is essential that these objectives be clearly defined in measurable terms at each level of implementation.

24. A good smart specialisation strategy also requires an iterative approach: going through repeated phases of feedback, monitoring, evaluation and learning. Various types of policy intervention will give rise to different results and outcomes. It is also important to distinguish between outputs, results and outcomes. Policymakers should decide on how and when different data is to be collected and reviewed. It should be collected at both the project and programme level.

III. Design, governance and implementation challenges

25. Smart specialisation strategies require new forms of cooperation between state agencies, the business community and other stakeholders. They also require new ways of designing and delivering public policies, thus putting public sector innovation high on the agenda.

26. At the same time, smart specialisation strategies pose specific governance and implementation challenges in terms of identifying the roles and accountabilities of those involved, and mobilizing diverse stakeholders whose time horizons for results may vary.

27. The place-based approach, i.e. developing a strategy based on existing local and regional assets and capabilities, implies a need to introduce a multi-level governance structure for multi-level systems of knowledge, which are about fostering bottom-up development and local capabilities in the wider context.

28. Employing a broad view of innovation implies the need to involve all relevant actors and stakeholders at various levels. The Triple Helix governance model (of industry, academia and the government) is no longer enough in the context of smart specialisation. Both the market and civic society should also be included. Collaborative leadership should

⁴ <http://s3platform.jrc.ec.europa.eu/wikis3pguide/>.

allow each actor to have a role and eventually take the lead in specific phases of the design and implementation of the strategy, according to actors' characteristics, backgrounds, and capacities.

29. Introducing a multi-level governance structure is a common challenge. While national (and in the case of the EU supra-national) level authorities each play their own important role, there is a general agreement that the involvement of the regional authorities is critical for the success of the process.

30. There is no one governance structure that could be recommended across all countries and regions, as each region has its own unique set of problems and possibilities. It is this specific regional context that should determine the combination of stakeholders and actors that need to be involved in the process.

31. The level of political engagement is crucial, and a balance must be struck. Where it is at too high a level (i.e. where politicians are dominating the decision process), there may be a risk of low commitment from other key stakeholders, while a lower (political) level of engagement may imply greater knowledge of substantive issues, but a limited ability to influence key political decisions.

32. National governments should take measures to ensure that national and regional strategies are coherent and complementary and should create a governance structure that is able to monitor implementation at all levels.

33. At the same time, the development of local linkages and knowledge exchanges should take into account and build on global knowledge flows and developments. It should also maximise the opportunities for both intra- and inter-regional knowledge spillovers.

34. A good smart specialisation strategy relies on collaborative leadership where decision-making hierarchies are sufficiently adaptable so as to let a range of actors have a role and take the lead during different phases of design and implementation. While regional approaches can be diverse, they should be focused on how to promote high-quality economic growth and production capabilities that can be used as a sound basis for supporting socially inclusive objectives.

35. One potential pitfall of encouraging all regions within a country (or encouraging countries in general) to use the same "template" for developing their smart specialisation policies is that this might reduce the scope for policy-learning and might lead to regions copying policies and priorities rather than tailoring them to their own circumstances.

36. While the main example of smart specialisation strategies being implemented is in the EU, there are relevant examples of new and conceptually-related approaches to regional innovation-based development policy outside the EU, thus increasing the scope for transnational learning.

37. One example is a recent innovation policy in the United States that recognises the importance of centres of innovation at a state level. As a result, federal grants provide infrastructure support and act as a catalyst for state-based innovation. Similarly to the EU experience, a growing number of state governments recognise that successful innovation clusters require policy support and cooperation with key partners.

A. Entrepreneurial Discovery Process

38. Another policy challenge is linked to the implementation of the so-called entrepreneurial discovery process, i.e. the process of identifying areas for prioritisation and resource allocation by asking entrepreneurial actors to indicate potential areas for future regional development.

39. Entrepreneurial knowledge involves much more than just science and technology. It combines and relates these factors to knowledge of market growth potential, likely competitors and the entire set of inputs and services required for launching a new business activity. The synthesis and integration of this previously dispersed and fragmented knowledge should help to create a vision for opportunities in existing or new sectors. It is this type of knowledge that must be activated, mobilised and supported as the main ingredient in a process of smart specialisation.

40. Entrepreneurs are defined as those individuals and organisations best placed to uncover areas of innovation in which their region is more likely to succeed. Without strong participation by entrepreneurs, a smart specialisation strategy is more likely to fail because it is more likely to lack the entrepreneurial knowledge that is required for its success. The entrepreneurial discovery process can help identify that which a country or region does best in terms of R&D and innovation. This generally occurs through experimentation in new activities that are related to existing areas of strength. Regions should, therefore, proactively involve entrepreneurial actors in strategy design and offer incentives for risk-taking.

41. Creating a genuine entrepreneurial discovery process can be a challenge. But it is essential, as other forms of analysis and stakeholder involvement cannot make up for the absence of real business interest. It is, therefore, necessary to inform “real” business actors of the smart specialisation approach and to explain why they should be interested in engaging in it.

42. Lack of trust between government and the business sector has been identified as a possible cause of why entrepreneurial actors might not engage.

43. There is also a growing recognition of the importance of the social learning approach. The government does not have innate wisdom. Some entrepreneurs are better at making intuitive decisions while the authorities are sometimes more meticulous and careful. Both the state and private sector can lack information, and they must collaborate. They must learn together in a trial-and-error process of experimentation. This is the “embedded state”, where state institutions form part of a network of institutions, as opposed to a hierarchy. Such embeddedness should be seen as an important characteristic of “good” government.

44. This requires the public sector itself to also become more innovative.⁵ Among the challenges for public sector innovation is that it requires more policy experimentation in environments where there is often a very limited tolerance of failure. Another challenge is that policy learning requires “speaking truth to power”, as the system feeding information back to public authorities on whether policy initiatives have the intended impact is often somewhat limited.

B. Cross-border Cooperation and Coordination

45. In order to identify new opportunities for smart specialisation, regions and countries need to examine their positions within European and global value chains.

46. Based on this examination, smart specialisation strategies should be coordinated not just with national priorities and programmes, but also with regions across borders, because no region has a complete and comprehensive knowledge of all the cooperation possibilities at regional, national and European levels in their smart specialisation areas.

⁵ See also ECE/CECI/2015/5 on Public Sector Innovation.

47. This requires a pro-active approach to trans-regional cooperation, including on related issues such as administrative responsibilities, risks and jurisdiction.

48. However, a recent analysis of various smart specialisation strategies drafted in the EU-13 countries indicates that many transformative agendas prepared by regions in these countries tend to be inward-looking and do not employ a strategic approach to trans-regional collaboration.

49. International networks are increasingly important for production and innovation, and these should play a more central role in smart specialisation strategies. In order to understand cooperation opportunities at this level, regional authorities should try to map their regional capabilities and infrastructures and subsequently match them with the offers and demands of stakeholders within their smart specialisation areas. Thus, more investigative work should be carried out to explore and map companies, research centres (including universities), research infrastructure, clusters, networks, etc. in the regions. Based on this research, contacts can then be made and areas for cooperation can be identified.

50. Dedicated platforms could prove useful in facilitating trans-regional and transnational cooperation. One possible framework for coordination between regions is a “Learn – Connect – Demonstrate – Upscale” approach, currently employed by the Vanguard Initiative regions.⁶

51. However, an inclusive dialogue is not always sufficient for meaningful collaboration. Cooperation does not always lead to better outcomes and so should not be an objective on its own. One possible way of ensuring that cooperation is meaningful and results-driven is to create programmes where all participants, including different government levels and the private sector, contribute to the funding.

IV. Main conclusions and recommendations

52. Smart specialisation is a new approach to innovation policy and economic development. It is a strategy in which governments design and deploy their policy instruments on the basis of market signals with the ultimate aim to leverage existing capabilities, assets and competencies in the enterprise sector in order to promote innovation and generate new comparative advantages.

53. While smart specialisation strategies are a good example of increasingly sophisticated innovation policy making, it too has its share of challenges. In addition to the issue of governance, barriers for successful implementation of these strategies include low quality institutions, macroeconomic instability, and distortions in product, labour and financial markets.

54. Nevertheless, smart specialisation is an innovative policy approach, which can also be useful in countries and regions outside the EU as it promotes clear self-awareness of the existing evidence, recognises key bottlenecks and missing connections and links. Conceptually, smart specialisation is an inclusive policy approach in the sense that it does not have to be focused on high-technology activities or research-and-development-led innovations. It can also accommodate strategies built on technology adoption and adaptation which are highly relevant for less advanced regions and countries.

55. A good smart specialisation strategy should be place-based, building on specific regional and national assets and resources and on their unique socio-economic situations.

⁶ Further information can be found at www.s3vanguardinitiative.eu.

Setting priorities should not be a top-down, picking-the-winner process. It should be an inclusive process of stakeholder involvement centred around the 'entrepreneurial discovery process' that is an interactive process in which market players and the private sector discover and produce information about new activities, and the government assesses the outcomes and empowers those actors most capable of realising a region's potential.

56. The success of smart specialisation strategies and their effective design and implementation depend critically on the capacities of regional governments. The smart specialisation approach is an open process with room for experimentation and an acceptance of the accompanying risk of failure. A broad-based, open and continuous approach helps ensure the "embeddedness" or continuity of policy initiatives, increasing the likelihood that they will have a lasting impact even after direct public support comes to an end.

57. Coordination of strategies and resulting activities across regions within countries and across borders is important in order to prevent the duplication of publicly-funded innovation efforts among regions through the pursuit of specialisation in similar technologies and markets. To be effective, regional strategies should combine the strengthening of local capabilities with measures that ensure linkages with other regions, and the leveraging of outside technologies and capabilities. This process should be carried out with an eye on the outside world, forcing regions to be ambitious but realistic about what can be achieved while linking local assets and capabilities to external sources of knowledge and value chains.
