SPECIALISATION AS A MACROECONOMIC APPROACH FOR GROWTH IN THE MALOPOLSKA REGION – CASE STUDY OF POLISH REGIONAL SMART SPECIALISATION STRATEGY

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Ewa Okoń-Horodyńska
• The theory behind smart specialisation concept
• Political approach to smart specialisation?
• The starting point: if it has been filled in Malopolska region?
• The strategy is almost ready.....and what's next?
Theory behind Smart Specialisation:

• The beginnings of the theory of Economics - international trade and research on comparative advantages [D. Ricardo, 1821] and it has evolved in various directions

• Concept of National & Regional Innovation System [Freeman 1987, Lundvall 1992, Soete 1997]

• Foundation of the innovation policy and national innovative potencial [Stern, Porter, Furman, 2002]

• Strategic thinking stemming from foresight research [Anderson 1997, Fodor 2003]

• Transformation of traditional economy into KBE [Machlup 1962, Romer 1986, World Bank Methodology]

• Association with the process of application for funds [Forey, David, Hall, 2009], mainly political approach
Political approach to smart specialisation? (normative rationality vs economic rationality)

- Union strategic documents illustrate the smart specialisation concept in various configurations:

- „regions need to redirect funding based on a smart specialization approach and focus on relative strengths where they can become excellent... “ (Innovation Union, p. 23);

- „Starting in 2010: Member States should considerably improve their use of existing Structural Funds for research & innovation projects ... implementing smart specialization strategies” (Innovation Union, p. 23);

- The case of allocation of funds, distribution of public money
The starting point: for following questions must be answered:

- How to construct a path for identifying smart specialisation?
- Should all stakeholders be involved in the process of entrepreneurial discovery of new areas?
- Will the selected specialisations actually contribute to building Knowledge-Based Economy, given the previous experiences, perspective after 2020, need to concentrate support and to account for territorial dimension?
- Is the contemplated intervention plausible (available resources versus number of tasks in the strategy)?
- Is the strategy supra-regional - does it have potential for Open Innovation model and competitive advantage?
- How does the strategy contribute to the implementation of European, national, and regional policies (external intervention cohesion)?
- Is the network of objectives, priorities and indicators transparent and concentrated? Is it possible to assess whether the European Union and own funds are invested effectively?
- How will the strategy be implemented? How to measure, monitor, or update the results? (mechanism for identifying new emerging smart specialisation is needed - openness to the unknown).
The starting point: why and for whom the strategy....
The Logic behind RIS for Malopolska Region: higher education, science and entrepreneurship

PARADIGM OF KNOWLEDGE BASED ECONOMY (KBE)

REGIONAL INNOVATION STRATEGY (RIS)
instrument for filling in gaps in the KBE

THE MAIN OBJECTIVE OF THE RIS
Increasing economic competitiveness and innovation through the implementation of the region’s harmonious policy which focuses on improving the conditions for business, innovation and scientific development of the information society and to stimulate demand for innovation and strengthen ties of cooperation between science and business, particularly in the areas of regional specialisation

PRIORITy 1
Develop of infrastructure of the KBE

PRIORITy 2
Creating demand for innovation

PRIORITy 3
Develop of information society
The process of selection of smart specialisation: idea – the integration of strengths
Process of Selecting Smart Specialization, based on the Developed Methodology

1. Global trends in technology
2. UE Priorities
3. Development policies and strategies (paradigm)
4. Foresight research

Regional proposals for smart specialisation (SS)

Spatial analysis of SS (initial analysis and review of the effects of future development):
1. Inside-regional (inter-discipline, inter-area)
2. Inter-regional (inter-discipline, inter-area)
3. National, international (inter-discipline, inter-area)

SS discipline matrix
SS inter-disciplinary spatial analysis
SS area matrix
SS inter-area spatial analysis

REGIONAL DIAMONT of SS
1. Area of SS
   - field of SS
   - field of SS
   - ...
2. Area of SS
   - field of SS
   - field of SS
   - ...
N - area of SS
   - field of SS
   - field of SS
   - ...

GOAL:
SMART FINANCING => SMART GROWTH
Smart specialisation as to maximize the utilization of creativity (in-depth investigation)

1. Identification of the opportunity or need to be made or a problem to solve
2. Gather all available information relating to an identified opportunity or problem
3. Identification and classification of the correct dimensions of the opportunity or problem, and in particular:
   - Related ideas and/or capability
   - The latest related issues
4. Proposals for alternative ideas and/or solutions for identified opportunities or problems and their analysis
5. Evaluation of proposals including the points 2 and 3
6. Choosing the best ideas and/or solutions
7. Investment, development and implementation of ideas and/or solutions
8. Study of the impact of the idea and/or solutions to the target market
9. Correction, if necessary

(McGowan P., 1987)
Regional Smart Specialisation Diamond: the Lever Towards Innovation and Growth

ICT
9. Touchless computer interface
10. Intelligent Systems
11. Universal access to information
12. Outsourcing and offshoring services

Life science
1. Tissue engineering
2. Drugs and technologies for locally destructive tumors
3. Monitoring and control of diseases progression
4. Treatment process based on the analysis of data
5. Food industry (safe food)

Chemistry
13. Analysis of the patents and business activities, polyamides, acetal copolymers and caprolactam, plastics, plastic made semi-products
14. Raw materials for the production of plastics
15. Mineral fertilisers and chemicals, phosphorus and chromium compounds
16. Feed materials and agricultural and gardening fertilizers

Sustainable energy
6. Renewable technologies and energy saving
7. Innovation in the traditional mining sector, measuring tools, geological surveys
8. Passive buildings

17. Manufacture of basic metals and metal products (except machinery and equipment),
18) Electrical and mechanical engineering,
19) Creative industries
Some evidence:

- Doctoral education compliance with leading research areas
- Research projects by areas
- Specializations
- Doctorate specialities for choosem busines areas
- Magister's specialities for chosen business areas
- Business – education contracts in selected fields
- Patents
- Other forms of IP protection
- Life science
  1. Tissue engineering
  2. Drugs and technologies for locally destructive tumors
  3. Monitoring and control of diseases conditions
  4. Treatment process based on the analysis of data
  5. Food industry (safe food)
- Klaster LifeScience Kraków
- JCI VENTURE
- Selvita
- Taftie
- Research and expertise work for administration and business
- Spin-offs
- World class publications
Some evidence:

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Sustainable energy

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15. Mineral fertilizers and chemicals, phosphorus and chromium compounds
16. Feed materials and agricultural and gardening fertilizers
<table>
<thead>
<tr>
<th>Project Description</th>
<th>Specialisation/Interdisciplinary</th>
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<tbody>
<tr>
<td>The development of the National Synchrotron Radiation Facility SOLARIS</td>
<td>4 specialisations/interdisciplinary</td>
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<tr>
<td>Malopolska Smart Specialisation Parks</td>
<td>4 specialisations/interdisciplinary</td>
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<tr>
<td>Chemical Technology and Development Centre</td>
<td>Chemistry</td>
</tr>
<tr>
<td>“Miękinia” Science &amp; Technology Park</td>
<td>Sustainable energy</td>
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<tr>
<td>Establishment of venture capital fund to reduce the risk of investment in renewable and alternative energy sources</td>
<td>Sustainable energy</td>
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<tr>
<td>Malopolska Center for Energy-Efficient Buildings</td>
<td>Sustainable energy</td>
</tr>
<tr>
<td>Development of Computational Resources for High-Performance Computing Needs of Innovative Research and New Technologies</td>
<td>ICT</td>
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<tr>
<td>Malopolska Medical Information System</td>
<td>ICT</td>
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<td>Modern Police for Malopolska</td>
<td>ICT</td>
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<td>Expansion of the Provision of E-Services in Public Administration of Malopolska Region</td>
<td>ICT</td>
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<td>Increasing the Investment Potential of Malopolska by creation current public records</td>
<td>ICT</td>
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<td>Secure Repository of Knowledge for Malopolska</td>
<td>ICT</td>
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<tr>
<td>“Branice” Science &amp; Technology Park</td>
<td>interdisciplinary</td>
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<tr>
<td>The Logistics Centre - Economic Activity Zone</td>
<td>interdisciplinary</td>
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<tr>
<td>Malopolska Business Centre - Model of Effective Regional Cooperation for Business</td>
<td>interdisciplinary</td>
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<tr>
<td>Malopolska Technology and Development Centre</td>
<td>interdisciplinary</td>
</tr>
<tr>
<td>Centre of Creativity and Design</td>
<td>interdisciplinary</td>
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<tr>
<td>University Centre for Veterinary Medicine (by Jagiellonian University and the University of Agriculture, Department of Small and Large Animals)- Phase II</td>
<td>life science</td>
</tr>
<tr>
<td>Malopolska Biotechnology Centre</td>
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</tr>
<tr>
<td>Malopolska Innovation Festival</td>
<td>associated with 4 specialisations/interdisciplinary</td>
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The project selection is going on... to the end of March

- Malopolska Centre for Translational Medicine (Jagiellonian University) – life science
- „The fire data" (Headquarters of the State Fire Service) – ICT
- National Centre for Research and Application of New Materials and Technologies for Electrical Power, (Academy of Mining and Metallurgy) – electrical and mechanical engineering (new specialisation)
Conditions and possibilities for structural changes in Malopolska region

- Research projects by areas
- Specializations
- Patents
- Spin-offs
- Other forms of IP protection
- Business – education contracts in selected fields
- Doctoral education compliance with leading research areas
- Magister’s specialities for chosen business areas
- Research and expertise work for administration and business
- World class publication

INDUSTRIES (economy, businesses) MALOPOLSKA REGION + external environment

Smart Specialisation Malopolska Region

B1: Academic Entrepreneurship

F2: Malopolska Innovation Vouchers

H5: Systems of multi-channel access to information and services

Models of Structural Changes in Region of Malopolska

- Transformation
- Modernization
- Diversification
- The Foundation of Radical New Field

Structural Changes of the Region: results

- New Sector
- Improved the existing sector
- Extension of current activities (resource of synergies with other activities)
- Niche Business Solution

SCIENCES (Universities, R & D, other...) MALOPOLSKA REGION + external environment

- Improved the existing sector
- Extension of current activities (resource of synergies with other activities)
- Niche Business Solution

CONDITIONS AND POSSIBILITIES FOR STRUCTURAL CHANGES IN MALOPOLSKA REGION

- Improved the existing sector
- Extension of current activities (resource of synergies with other activities)
- Niche Business Solution

MALOPOLSKA REGION AND SCIENTIFIC ENVIRONMENT
“Three-Engine” Strategic Programme for Growth—the Outcome of Smart Specialization Concept

Knowledge Based Economy
Regional Development Engine 1
- Economic and Institutional Regime
- Flourishing of Entrepreneurship

Educated and Skilled Population
- Create, Share and Use Knowledge

Efficient Innovation System of Enterprises
- Research Centers
- Universities
- Think Tanks
- Others...

ICT – Facilitate the Effective Information Exchange and Communication
- Adaptation to the Growing Global Stock of Knowledge
- Adapt it to Local Needs
- Create New Technologies

Dissemination and Processing of Information - Develop New Processing Tools and Applications

Identification of Smart Specialisations
- Models of Structural Changes in Planning Regional Development Engine 2
  - Transformation
  - Modernisation
  - Diversification
  - The Foundation of Completely New Field

Discovering Most Advanced Areas of Regional Economy

Bundles of Dedicated Strategies Implemented Under the Regional Innovation Strategy System
Regional Development Engine 3
- Strategies for Transformation
- Strategies for Modernisation
- Strategies for Diversification
- Strategies for Development a Completely New Field

Specializations
- Master's degree specialisations for selected business areas
- World class publication
- Patents
- Spin-offs
- Other forms of IP protection
- Research projects by area

Doctoral specialisations in selected business areas

Compatibility of education on doctoral level with leading research areas

Business – education contracts in selected fields

Research and experts’ work for administration and business
Closing “the Triangle of Knowledge” in Malopolska Region
Extraordinary effects work on RIS and smart specialization:

- The monitoring system
- System database
- Continuity of measuring innovation

Difficulties in data collection

Deficiencies in databases

The scattering data
Regional Innovation Strategy – Initiatives and International Support

**Vanguard Initiative for New Growth for Smart Specialisation**

**Pros:** Idea: smart specialisation as an opportunity for the development of modern industry in Europe.

Exceptional efficiency initiatives in reaching the key institutions of the EU

**Malopolska** is the only region of Central and Eastern Europe invited to and recognized for its co-initiator

**RIS of Malopolska on the S3 Platform Digital Growth Peer Review**

**Results:** guidelines and recommendations to modify the document
What’ next: Estimating the prospects for regional specialisation by sequential, integrated and complementary programming methods of economic development:

- importance of industries and products in the export of Malopolska
- employment in key areas
- the number of companies interested in doing business in key areas
- implementation capacity creates conditions for the development of regional specialization,
- prospective operators, academia, and other institutions of the regional innovation system,
- evaluation of results of the consultations and reviews of regional economic councils (Malopolska Economic Council, Malopolska Innovation Council, Lesser Poland Province Council Information Society, Lesser companies, academia, and other institutions of the regional innovation system).

Result: The expansion of the list of key areas for regional specialization and define them (linking areas of science to economic activity)
What’s next... Answer to these questions

• whether the current data on the Malopolska economy and science confirms the validity of choice 4 preselected key areas of regional specialization identified in the course of work on RIS?

• whether in light of the economy and science, there are reasons to expand the regional specialisation of the additional key areas raised in the public consultation?

• whether in light of the economy and science, there are reasons to extend the regional specialisation of the other key areas
SCHEM of the MROP 2014-2020

1. CONDITIONS FOR THE KNOWLEDGE BASED ECONOMY
2. DIGITAL MALOPOLSKA
3. ECONOMICALLY ACTIVE MALOPOLSKA
4. ENVIRONMENTALLY FRIENDLY REGIONAL ENERGY POLICY
5. ENVIRONMENTAL PROTECTION
6. REGIONAL HERITAGE
7. MODERN TRANSPORT INFRASTRUCTURE FOR DEVELOPMENT
8. OPEN LABOUR MARKET
9. REGION SOCIALLY COHERENT
10. KNOWLEDGE AND SKILLS OF RESIDENTS
11. REWITALIZATION OF REGIONAL SPACE
12. HEALTH INFRASTRUCTURE
Instead of conclusion:

A) Smart Specialisation selection of the region, RIS (strong rational thinking)

B) Structural change in the region (strong rational thinking)

Problem: Is it possible to get in this way creativity and innovation?

Albert Einstein: „I never made one of my discoveries through the process of rational thinking”