

Regional Competitiveness indicators and use of the data for developing strategies

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Regional competitiveness

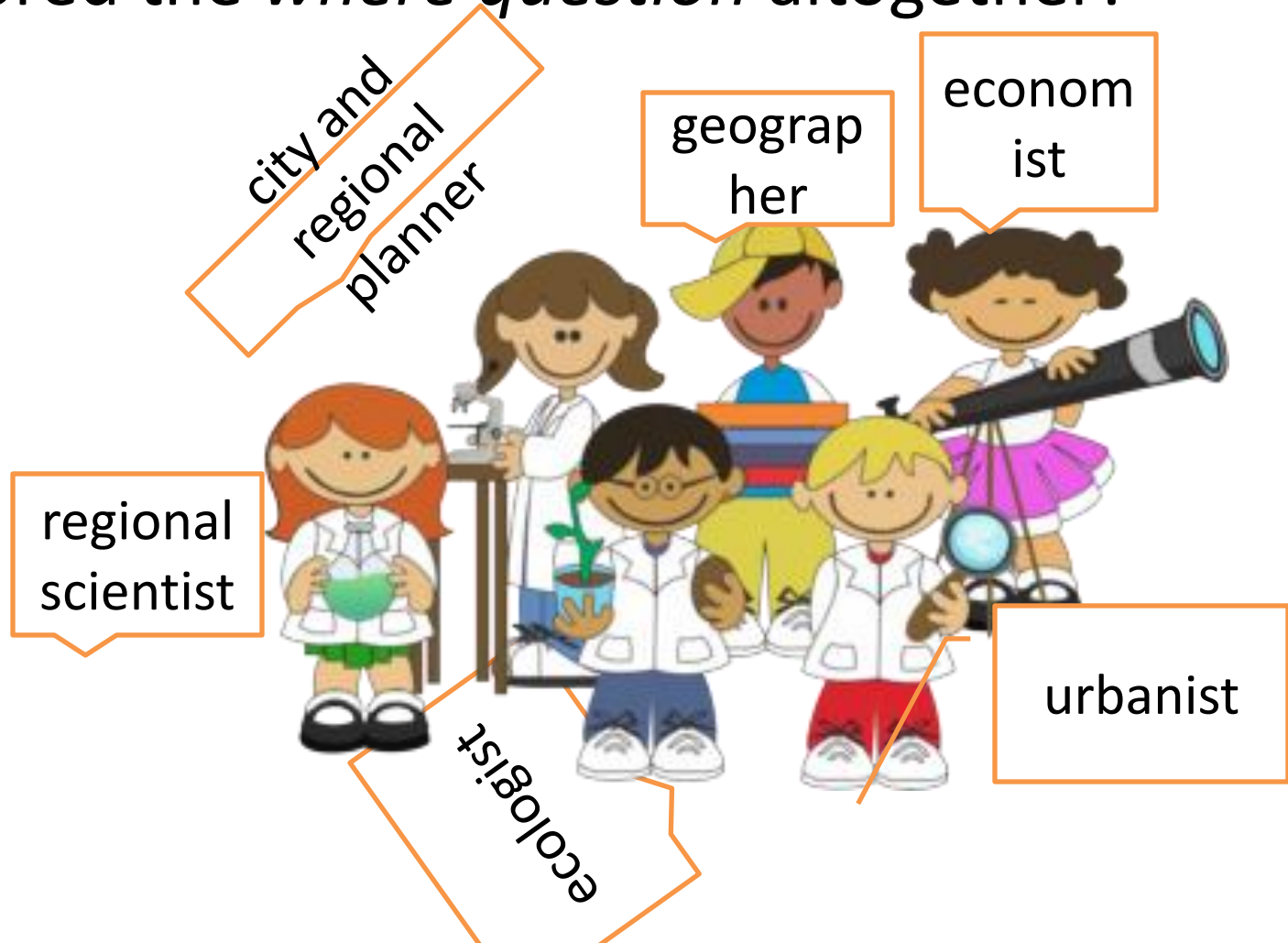
- While the Adam Smith, way back in 1776th presented a Theory of Absolute advantage in his book *An Inquiry into the Nature and Causes of The Wealth of Nations* (1776), which explains the benefits of international trade and represents one of the earliest theories of the concept of competitiveness, it have passed almost 200 years when appeared papers in the scientific literature that analyze regional competitiveness.

Regional competitiveness

- David Ricardo (*On the Principles of Political Economy and Taxation* 1817), through a representative neoclassicists and institutionalists - Marshall (1890), Schumpeter (1911) Coase (1937), Heckscher and Ohlin (Ohlin 1967), Stolper and Samuelson (1941), Theorem of Tadeusz Rybczynski (1955), Keynes's ideology (1936), Myrdal (1957), Rostow (1960), Krugman's New Trade Theory (1979) and hundreds of other authors that have published papers under this topic. Regional competitiveness becomes an object of scientific literature since the 1990s, primarily connected with the names of Michael Porter (1990) and Paul Krugman (1991a, 1991b, 1994).

Regional economy

- Until fairly recently, traditional economists ignored the *where question* altogether!



Location and Multi-national company



Regional competitiveness

- *the competitiveness of the region is ability to be productive and maintain a high standard of living*
- Almost all models of regional competitiveness are based on the measurement of certain factors and their indicators
- Regional competitiveness hat model (Martin 2004), Pyramid model of regional competitiveness (Lengyel 2004), Regional competitiveness tree model (de Vet et al. 2004), Rindex model (Bruneckiene 2008).

Factors and their indicators

	GDP	
The economic factor (Refers to the economic strength of the region. This factor includes the manufacturing, investment and financial performance of the region, as well as the ability of the region to employ citizens and provide adequate wages)	Financial performance	<i>The number of companies with net profit</i> <i>The number of companies with a net loss</i>
	Entrepreneurship	<i>Number of companies</i> <i>Number of entrepreneurs</i> <i>Insolvency of companies exceed 180 days</i> <i>The spread of clusters</i>
	Employment	<i>The number of employees</i> <i>The number of employees in the economy</i>
	The average net wage	
	Investments in capital	<i>Investments in capital assets</i> <i>Capital</i>
The social factor (This factor right shows the ability of the region to provide social and health care to its citizens, as well as living space. The social factor also includes the negative impact of corruption, which reduces the quality of life in the region)	Number of flats and houses	
	The value of residential building	
	Corruption	<i>The prevalence of corruption</i> <i>Average bribe in RSD(Republic Serbia Dinar)</i>
	Investments in health and social care	
	Budget expenditure in health and social care	
Infrastructure (The quality of infrastructure affects not only the quality of life of citizens, but also on the adoption of many investment decisions. This factor includes the most vital parts of infrastructure, measuring the quality of roads, railways, air transport and electric power infrastructure)	The number of medical personnel	<i>The number of doctors and dentists</i> <i>The number of pharmacists</i>
	Length of the roads	
	Investments in infrastructure	<i>Investments in fuels</i> <i>Investment in transportation and storing</i> <i>Investment in informations and communications</i>
	A modern road surface	
	The quality of railways	
	Connectivity of air transport with foreign countries	
	The quality of electricity network	

Factors and their indicators

Innovations

(Innovations are the most important driver of competitiveness in modern economies and their regions and crucial in innovation driven economies. The use of modern technology and the adoption of new knowledge increased productivity and strengthens the competitive position of the region)

The human factor

(The quality of human capital depends largely on the age structure of the population and the quality of education. Those regions that have the highest percentage of the working-age population and highly educated people are able to achieve higher productivity and gain a competitive advantage over other regions)

Geo-natural factor

(The utilization of this factor depends from the size of the territory, climate benefits, the availability of natural resources and its position)

The total number of research papers

Research &
Development

The number of organizations engaged in R & D

Number of employees in R & D

Expenditures for R & D

Investment in innovations

The number of registered patents

Published research papers

The use of modern technology

The population of working age (15-64)

Highly-educated population

Budgetary expenditures in education

Investments in education

Quality of education in schools

The quality of studies at universities

Land area (km²)

The forest area (km²)

The agricultural land (km²)

Geo-climatic
advantages

Advantages of the geographic location

Climate benignity

Hazardous waste

Waste

Total discharged wastewater

Total water supply

Water supply

*Investments in water supply and waste
management*

Factors and their indicators

Informal institutions and the property rights protection
(Informal institutions are „soft“ factors which in most cases can not be measured quantitatively. In some regions this could be a key factor in their development. Protection of property rights is very important for all business entities in the investment decision-making)

Culture and Tourism

(The touristic potential of the region can have a great influence on its competitiveness. The tertiary sector in many regions is the basis of their economic activity. Culture does not have a major impact on the economic position of the region, but affects the satisfaction of many people residing in that territory)

Confidence

Confidence in politicians

Confidence in business institutions

The quality of government services

The safety of property rights

The share of the gray economy in business activities

Judicial independence

The attractiveness of the business environment

The number of cinemas

The number of theaters

The number of libraries

Issued publications

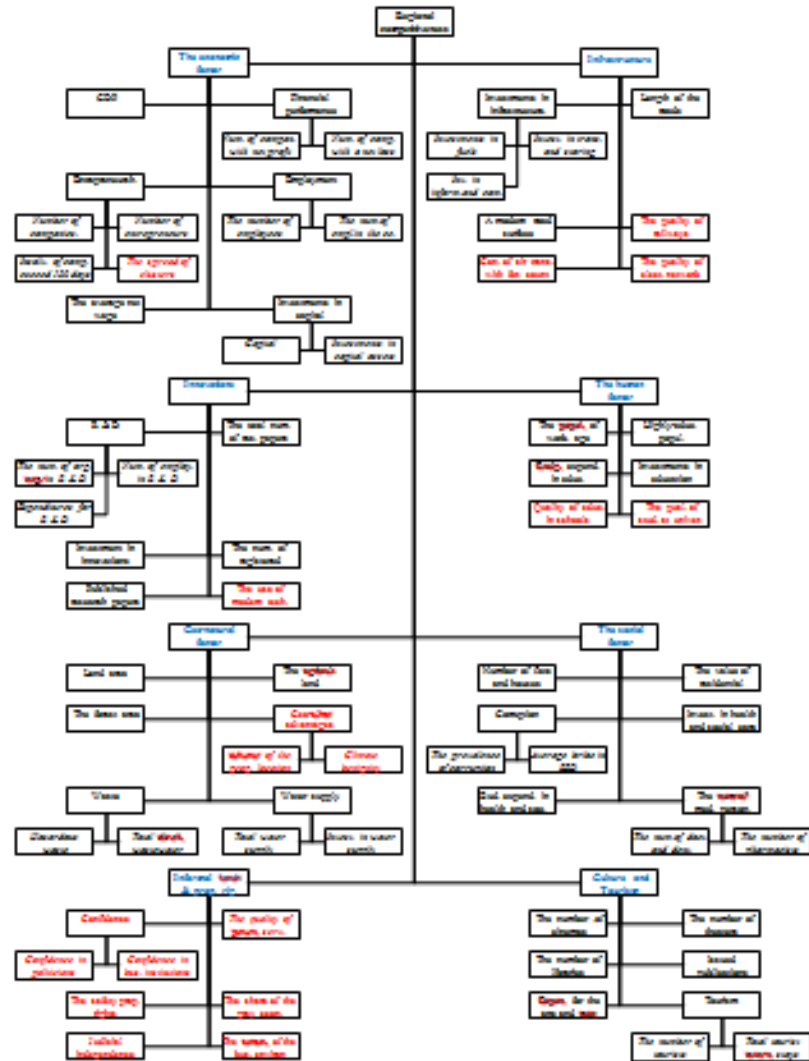
Expenditures for the arts and recreation

Tourism

The number of tourists

Total tourist overnight stays

Factors and their indicators



Factors and their indicators

- Index of regional competitiveness = The economic factor + The social factor + Infrastructure + Innovations + The human factor + Geo-natural factor + Informal institutions and the property rights protection + Culture and Tourism
- Sub index / $\sigma = X_i = [(x_i / X) / (p_i / P)] 100 / \sigma$.
- quotient of the proportion of region i from the indicator X by the proportion of region i from the total population P , multiplied by 100

Results of measurement of factors of regional competitiveness and the value of the index of regional competitiveness in Serbia

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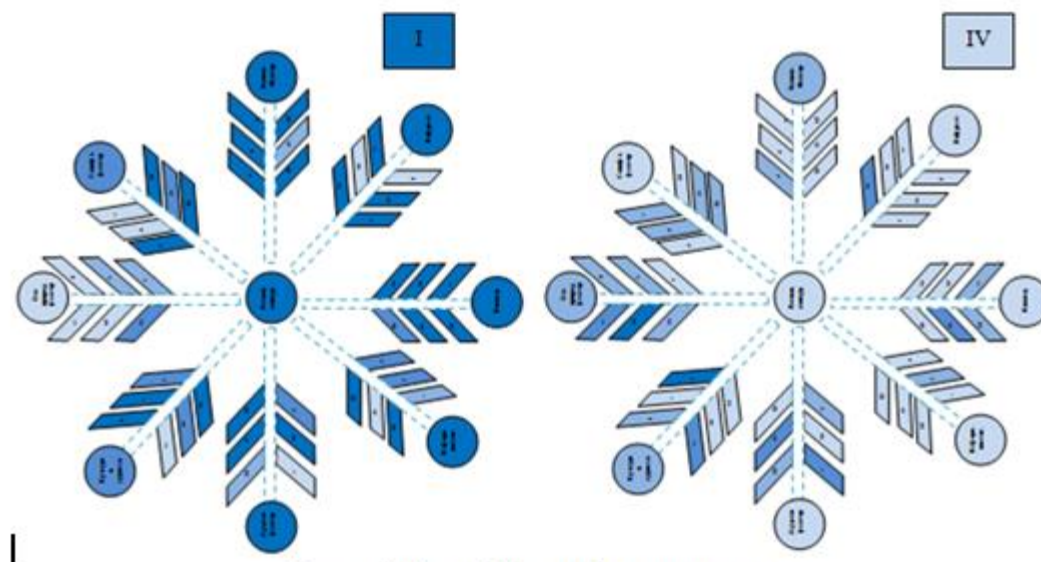
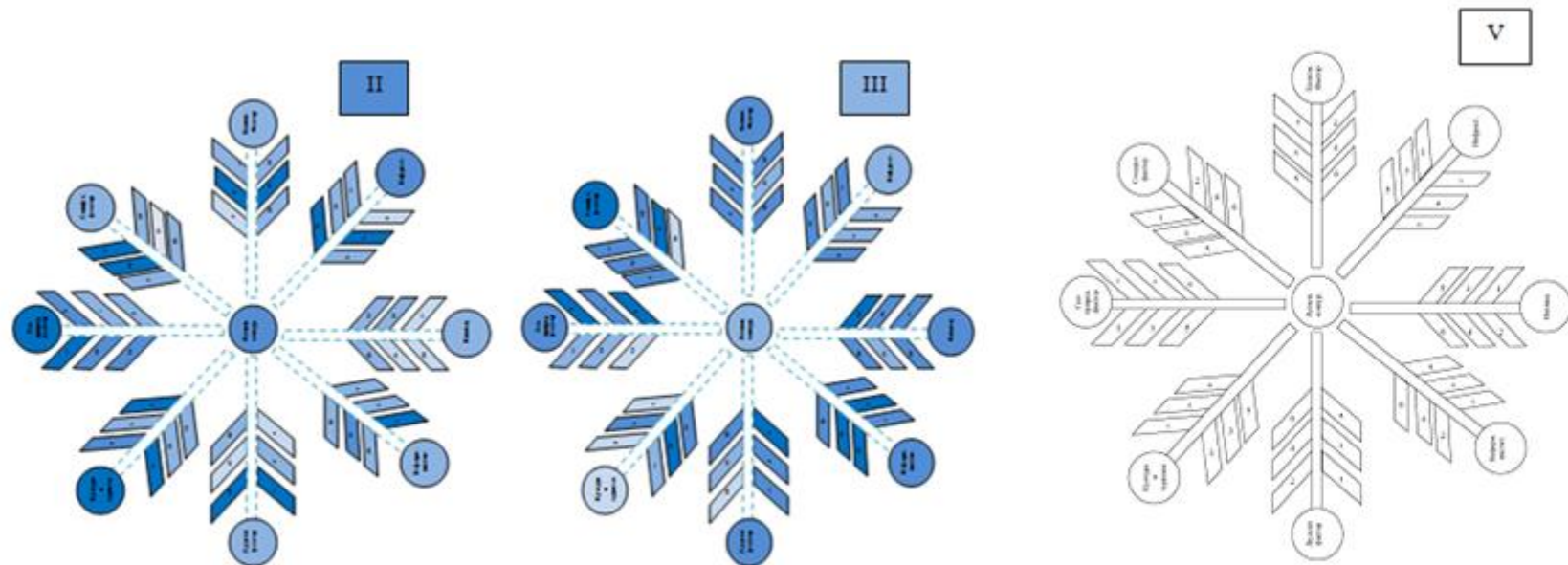
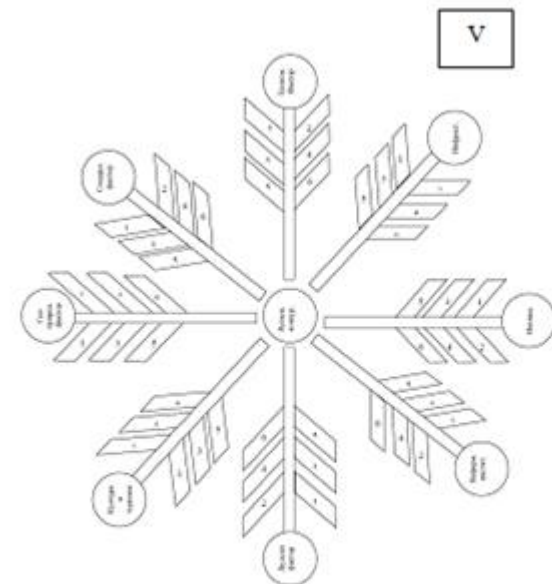


Figure 4. Snowflakes of competitiveness

(a) Belgrade Region and Southern and Eastern Serbia Region



(b) Šumadija and Western Serbia Region and Region of Vojvodina



(c) Kosovo and Metohija Region