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MEASURING THE IMPACT OF THE RECESSION ON SLOVENIAN STATISTICAL REGIONS AND THEIR ABILITY TO RECOVER

MERJENJE VPLIVA RECESIJE IN SPOSOBNOSTI OKREVANJA SLOVENSKIH STATISTIČNIH REGIJ

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Measuring the impact of the recession on Slovenian statistical regions and their ability to recover

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ABSTRACT: The 2009 global economic crisis also affected the economic development of Slovenia's statistical regions. Its impact can be measured in terms of the intensity of stress, and post-shock development can be measured in terms of the intensity of recovery. The study of regional economic resilience belongs to the concept of evolutionary economic geography and is based on an analysis of selected indicators that define the socioeconomic composition of the regions. In terms of shock impact and intensity of recovery, the regions are divided into four types with ascribed socioeconomic characteristics.

KEY WORDS: economic geography, regional planning, resilience, recession, recovery, statistical regions, Slovenia

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1 Introduction

The recession first affected the economies of developed countries and their regions in 2007 and gradually spread around the entire globe (Lorber 2010), causing researchers and other actors of economic and regional development to focus even more intensely on how the negative impacts of the economic recession can be mitigated or even avoided. The expression »resilience« has become established in international literature, which according to Christopherson, Michie and Tyler (2010) describes a response to a threat by seeking adaptation. Resilience after natural disasters and negative economic impacts (such as recessions) is studied in order to reduce vulnerability and improve society's response to these changes.

Martin (2012) believes that a regional economy's adaptive capacity during a recession depends on what this economy was like before that recession. Some economies subject to disturbances can recover faster than others.

This article establishes how the shock caused by the recession has affected Slovenia's statistical regions, how they are recovering, and how their socioeconomic structure influences both of these aspects.

The goal is to theoretically define regional resilience during the recession using selected statistical indicators and to present a methodology for measuring the impact of shock and the ability to recover. Based on the findings of the study of Slovenia's statistical regions, it is possible to determine which regions are more resilient in responding to external shocks.

The onset of a crisis anywhere around the globe can threaten the entire world's financial system and economy. The adoption of the euro was crucial to the development of financial markets in Europe because it created the world's second-largest financial market (Fettich 2009). The crisis moved from the U.S. to Europe, and shifted from the financial sector to the global economy. The economy does not grow evenly and is characterized by rises and falls. The Slovenian economy is strongly attached to the EU, and consequently its cyclicity positively correlates with EU economic cycles (Lavrač 2008). The period between joining the EU and the onset of the global financial crisis was the most successful for Slovenia in terms of annual economic growth and exports (Lorber 2010). The GDP of the most-developed Central Slovenia Statistical Region was 2.18 times higher than the GDP of the least-developed Mura Statistical Region (Lorber 2011).

2 Regional resilience

According to Swanstrom (2008), the number of published papers on resilience in the Social Science Citation Index (SSCI) saw an annual increase of 400% from 1997 to 2007. Between 1969 and 2007, ecological articles on resilience predominated, whereas after 2007 psychological and psychiatric articles have prevailed (Janseen 2007); articles on recessions and natural disasters are also increasing. According to Christopherson, Michie and Tyler (2010), the concept of resilience has become popular due to an increased sense of (economic, political, and environmental) risk and the perception that globalization has made places and regions more permeable to the effects of what were once believed to be external processes. Economic and environmental crises gradually increase the perceived sense of vulnerability and stimulate the search for new paths to resilience.

This study is closely linked to evolutionary economic geography, which highlights the developmental dimension of the economy. According to the evolutionary approach, resilience is a dynamic process (Martin 2012). Regional economic resilience is defined as the ability of a regional economy to withstand, absorb, or overcome an external economic shock (Economic crisis … 2012; Raco and Street 2012) and to recover from it relatively quickly (Augustine et al. 2013). Regions whose economic growth does not change during recessions are shock-resistant, and regions that do not reach the same level of development as before the shock are non-resilient (Hill, Wial and Wolman 2008). According to Augustine et al. (2013), the majority of regions recover along with the national economy. Effective resilience planning can be observed with communities that are organized in such a way that they suffer minimal consequences in the event of shock (Tobin 1999) and can recover as quickly as possible.

The economic recession of an individual region can be caused by a downturn in the national economy, a downturn in industries that made up an important part of the region's export base, and local events that disrupt economic growth (Augustine et al. 2013). Why do certain regions manage to maintain a high quality of life for their residents whereas others fail (Christopherson, Michie and Tyler 2010)? How does socioeconomic structure influence regions' ability to respond to change and recover from shock?

3 Measuring the impact of the recession on regions

3.1 Bases for measuring regional resilience

Resilience measurements focus on the socioeconomic conditions in the region, the impact of shock, vulnerability, response to shock, adaptive capacity, recovery, and resilience. Maru (2010) claims that it is not easy to measure regional resilience and agrees with Brand and Jax (2007) that resilience is primarily a descriptive concept. Literature analysis shows that related methodology has been developed in parallel with resilience theory.

Outside Slovenia, not only economists but also geographers responded quickly to the economic changes caused by the recession by carrying out research. They conducted studies for various spatial units (international, regional, and local comparisons), and hence these studies differed in terms of research questions, methodology, and indicators included. They calculated a vulnerability intervention index (Naude, McGukkuvray and Russouw 2008), sensitivity index (Martin 2012), and regional resilience (Economic crisis … 2012; Hill, Wial and Wolman 2008; The index … 2011; Briguglio et al. 2008; Graziano 2013; Rizzi and Dallara 2011; Resilience capacity … 2013; Foster 2010). To date, no one has measured resilience in Slovenia, but there have been some geographical studies on the recession and natural hazards (e.g., Lorber 2010, 2011; Kušar 2012; Komac et al. 2013).

Various quantitative methods (e.g., regression, correlation, and discriminant analyses, descriptive statistics, factor analysis, principal component analysis, and cluster analysis) and qualitative methods (e.g., interviews for individual case studies) were used to calculate vulnerability and resilience, and to explain differences in the regional development before, during, and after the recession.

3.2 Measuring the intensity of shock and ability to recover

Based on a literature overview (Naudé, Gillivray and Rossouw 2008; Briguglio et al. 2008; Economic crisis … 2013; The index of economic … 2011), three indicators were selected to measure the intensity of shock and the ability of regions to recover. These three indicators show that the impact of the recession differs in terms of intensity and timeframe. The GDP per capita shows changes in the economy, whereas the registered unemployment rate and the gross income tax base show changes in society caused by the recession. The main indicator of an economic downturn is the GDP, which is the sum of gross value added on the basic prices of all industries and the net tax on products (SI-STAT 2013). The impact of the recession on the gross income tax base, which is an indicator that shows economic development, can be observed in 2009. It provides information on purchasing power because it shows the extent of funds that are actually available to people (Pečar 2008). The delays in publishing these data are also worth mentioning in this regard. The impact on the registered unemployment rate (measured by the statistical region of one's place of residence), which is the percentage of registered unemployed people among employed people recorded by the place of residence of both (SI-STAT 2013), is the one that is most delayed; after the recession, Slovenia has not yet experienced a drop in the registered unemployment rate, which was the highest in 2013. Recovery or a reduction in the number of employees during extraordinary events such as recessions takes place later than the recovery of the GDP. A typical delay can be observed in both the increase in the number of the unemployed and the return to a lower rate. It has been shown that an area that preserves the initial GDP rate and simultaneously experiences a rapid decrease in the employment rate cannot be perceived as resilient by the local population (Economic Crisis … 2013).

Shock can be calculated for each of the three indicators described above (data available on the SI-STAT web portal of the Slovenian Statistical Office or at the Slovenian Institute for Macroeconomic Analyses and Development, UMAR) using the following formula (Foster 2010):

$$\text{Shock} = \frac{(T_0 - T_{-1})}{(T_{-1} \times 100)}$$

where T_0 is the year in which the greatest downturn due to shock was recorded, and T_{-1} is the year before signs of the recession began to show. Slovenian data are used to check when the impact of the recession was the greatest for each indicator separately. The lower the calculated value of the intensity of shock, the more the region is subjected to shock.

Recovery can be calculated using the following formula:

$$\text{Recovery} = \frac{(T_0 - T_{+2})}{(T_{+2} \times 100)}$$

where T_0 is the year when the greatest downturn due to shock was recorded, and T_{+2} is the year of recovery or the year that the last data available refer to. The lower the value of the calculated intensity of recovery, the better the region has recovered.

For all of the indicators above, the year before the changes occurred is 2008 (T_{-1}), and the year of shock/recession is 2009 (T_0). The year of recovery varies (e.g., T_{+2} = 2011, T_{+4} = 2013). It is evident from the quarterly GDP per capita data that Slovenian GDP peaked in 2008, which is why this year was used as the base year (T_{-1}); Slovenia hit the bottom the following year, and so 2009 was used as T_0. According to the Slovenian Statistical Office (Podnar 2014), after eight consecutive drops in the GDP, growth was again recorded in the last quarter of 2013. Based on the data available, 2011 was used as the year of recovery in terms of GDP per capita (intermediate phase) because after that it again fell by € 437.8 in 2012 (SI-STAT … 2013). This is a case when there is some recovery, but that is again followed by an economic downturn, and one cannot yet speak of the end of the recession (Podnar 2014).

With the indicator registered unemployment rate, a minus sign is added in the calculation because this indicator, unlike the other two, shows the opposite value (the greater the unemployment, the worse the region): it represents a negative phenomenon because lower unemployment is more favorable for the region. There has been no recovery in unemployment yet and therefore only the shock can be calculated. The highest unemployment rate after the recession was recorded in 2013. In calculating the recovery for the gross income tax base, the last available data (i.e., for 2011) are used.

The value of shock was calculated for the GDP per capita, registered unemployment rate, and gross income tax base. Based on these values, regions are divided into four equally large classes through the calculation of quartiles (Sagadin 2003), and every class is assigned scores (Nared 2002) ranging from –2 to + 2. Three regions with the lowest values (i.e., the strongest impact of shock) are scored + 2, three regions with strong shock are scored 1, regions with moderate shock are scored –1, and regions with the highest values (i.e., the weakest shock) are scored –2. The sum of the scores of all the variables for an individual statistical region represents the total value of shock. The maximum value for an individual region is twice the number of indicators: if three indicators are used, the region can achieve a maximum score of 6. The higher the value calculated, the greater impact of shock on the region.

The same procedure was used to calculate recovery, in which a higher value of the sum implies that the region has recovered better.

In terms of the intensity of shock and ability to recover, the statistical regions were then divided into four groups according to the number of scores achieved.

Table 1: Regions divided by the intensity of shock and recovery for individual indicator

Quartile	Shock	Recovery	Score
Quartile 1	Strongest	Best	2
Quartile 2	Strong	Good	1
Quartile 3	Moderate	Poor	–1
Quartile 4	Weakest	Poorest	–2

In order to determine the characteristics of all four types of regions, the following indicators – which best define the rate of economic development, specialization, export orientation, and social structure of regions – were selected based on the overview of literature on resilience (The Index … 2011; Economic crisis … 2013; Resilience capacity … 2013; Naudé, Gillivray and Rossouw 2008; Marrocu and Paci 2012; Vaarst Andersen and Lorenzen 2005; Boschma and Fritsch 2009; Creative Industries … 2011; Hill, Wial and Wolman 2008).

The values of individual indicators were obtained directly from the statistical data and were adjusted to 1,000 inhabitants. This makes the data comparable between statistical regions. The data were also used to calculate the share or ratio of specialization (Vrišer 1997), which shows the extent of homogeneous or heterogeneous structure of industry in a specific place in relation to the national average. It is estimated

Table 2: Indicators defining the socioeconomic structure of regions (SI-STAT . . . 2013; Statistični register . . . 2012; Pečar 2014.).

- Number of businesses per 1,000 inhabitants
- Number of workers per business
- Gross investment per capita [EUR]
- Specialization ratio [%]
- Regional gross value added on basic prices by industry (processing industries, construction, trade, accommodation and food service activities, and transport) [Mio EUR]
- Number of R&D employees among all employees
- Share of construction employees among all employees [%]
- Share of inhabitants with a creative profession among all employees by place of residence [%]
- Number of employees in creative activities by place of residence among all employees by place of residence [employed]
- Share of net revenues from sales on international markets in total revenues [%]
- Aging index
- Share of job vacancies [%]
- Share of employed people in the entire population by place of residence [%]
- Labor migration index
- University graduates (undergraduate) by statistical region of one's place of residence per 1,000 inhabitants
- Natural change of population: rate of natural increase per 1,000 inhabitants
- Net migration rate per 1,000 inhabitants
- Net internal migration rate (between statistical regions) per 1,000 inhabitants
- Number of people over 15 years old with no education or that did not finish primary school per 1,000 inhabitants
- Number of people over 15 years old with a university degree (first, second, or third cycle) per 1,000 inhabitants

by individual industries, in which a regional and national employee structure by industry is first worked out and then the positive differences of the regional industry shares that exceed the national (Slovenian) average are added up. The sum of positive surpluses is then divided by 100 (Müller 1976).

An average of every indicator described above was calculated for all four groups of regions (divided by shock and recovery). This makes it possible to determine what kind of socioeconomic structure a region should have in order for the shock to have a smaller impact on it and for the region to be able to recover faster and more intensely.

Data for 2011 are included in the study due to accessibility; the only exception is the gross value added on basic prices by industry, for which data for 2008 (the state before the impact of the recession) are used for comparison.

4 Results and discussion

Based on the GDP per capita data, Table 3 shows that the Mura Statistical Region was the most resilient to shock. Its GDP was affected the least by the recession (it recorded the smallest shock) compared to other statistical regions, which was also the result of the fact that it already had the lowest GDP per capita before the recession. It was followed by the Lower Sava and Coastal–Karst statistical regions. In terms of the GDP per capita, the shock was the strongest in the Upper Carniola, Carinthia, and Southeast Slovenia statistical regions. This is shown in figure 1, which demonstrates how strongly the recession affected individual statistical regions and how they recovered. Based on the calculated values of the intensity of shock and recovery of the GDP shown, it can be concluded that during the period studied only the Mura Statistical Region returned to the (already low) state before the recession. Other regions are lagging behind in their recovery.

Recovery has not yet been observed in relation to registered unemployment rate as an indicator; it continues to be extremely high and therefore only the shock can be calculated. Unemployment data show that the rate was the highest in 2013, which is why this year was used to calculate the shock in relation to unemployment.

In terms of the registered unemployment rate (2008–2013), the recession had the strongest impact on the Central Slovenia, Inner Carniola–Karst, and Gorizia statistical regions, whereas the weakest shock was recorded in the Mura, Drava, and Savinja statistical regions. In the Mura Statistical Region, the unemployment rate was the highest even before the financial crisis and so the reduction was not that substantial (the lowest value of shock); however, the absolute unemployment rate is still higher than in other statistical regions. Regions and countries deal with the consequences of recessions long after they are officially over.

Table 3: Calculated shock and recovery for gross GDP per capita (SI-STAT . . . 2013).

		T_{-1}	T_0	T_{+2}				
	Statistical region	GDP 2008	GDP 2009	GDP 2011	Shock (08–09)	Shock, GDP scores	Recovery (09–11)	Recovery, GDP scores
	SLOVENIA	18420	17415	17620	–5.4560261		–1.16	
1	Mura	11909	11463	11929	–3.7450668	–2	–3.91	2
2	Drava	15473	14574	14696	–5.8101209	1	–0.83	–1
3	Carinthia	14288	13085	13640	–8.4196529	2	–4.07	2
4	Savinja	16479	15513	16156	–5.8620062	1	–3.98	2
5	Sava	12291	11614	11800	–5.5080954	–1	–1.58	1
6	Lower Sava	15579	14940	15061	–4.1016753	–2	–0.80	–1
7	Southeast Slovenia	17478	16091	16294	–7.9356906	2	–1.25	1
8	Central Slovenia	25942	24780	24695	–4.4792229	–1	0.34	–1
9	Upper Carniola	15733	14317	14764	–9.0001907	2	–3.03	1
10	Inner Carniola–Karst	13277	12635	12498	–4.8354297	–1	1.10	–2
11	Gorizia	17633	16480	16354	–6.538876	1	0.77	–2
12	Coastal–Karst	19842	18964	18838	–4.4249572	–2	0.67	–2

The higher the GDP score, the greater the intensity of shock (column 7) and the intensity of the region's recovery (last column).

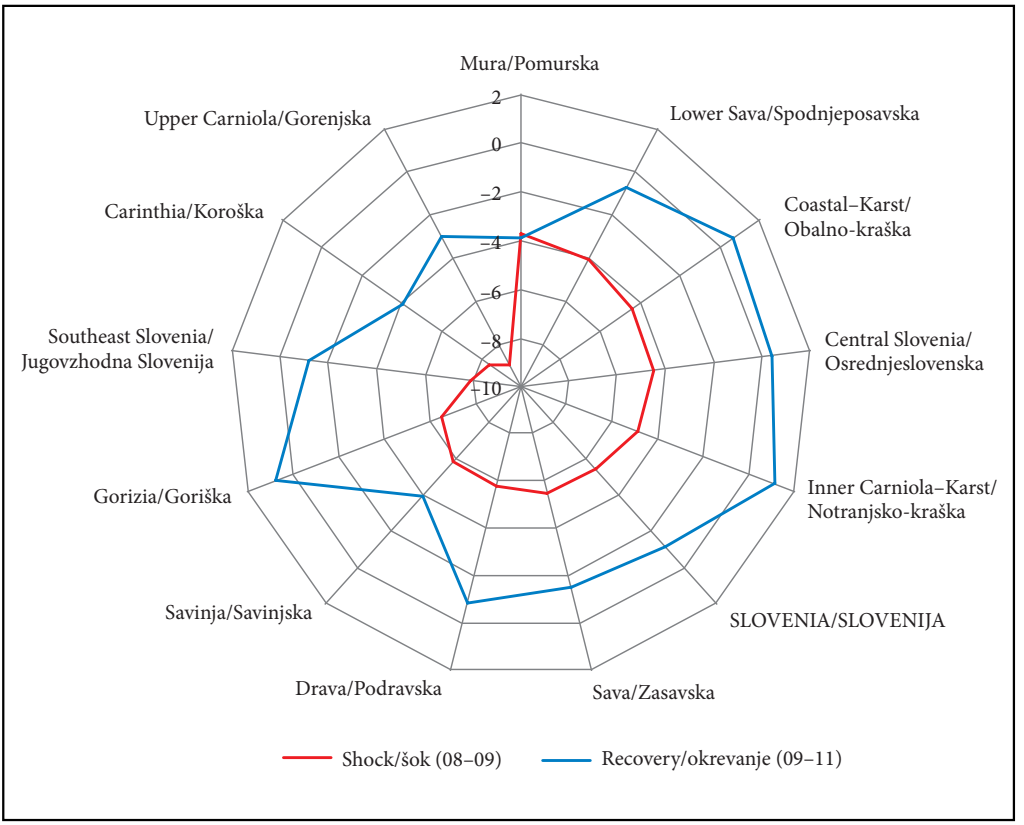

Figure 1: Value of shock and intensity of recovery of the gross value added calculated for Slovenian statistical regions (SI-STAT . . . 2013).

The gross income tax base (EUR) experienced the greatest decrease in the Central Slovenia, Upper Carniola, and Drava statistical regions, and the smallest in the Mura, Lower Sava, and Inner Carniola–Karst statistical regions.

Table 4 shows that based on the shock and recovery calculated, the highest scores were achieved by the Mura and Lower Sava statistical regions. This means that they were the least affected by the recession. They are followed by the Coastal–Karst Statistical Region. The shock affected the Upper Carniola, Gorizia, and Southeast Slovenia statistical regions the most.

Standing somewhere in the middle are the remaining regions: the Carinthia, Savinja, and Central Slovenia statistical regions.

Table 4: Shock calculated for Slovenian statistical regions.

Statistical region	Shock, GDP scores	Shock, unemployment scores	Shock, income tax scores	Shock, total scores
SLOVENIA				
Mura	–2	–2	–2	–6
Drava	1	–2	2	1
Carinthia	2	–1	–1	0
Savinja	1	–2	1	0
Sava	–1	–1	–1	–3
Lower Sava	–2	–1	–2	–5
Southeast Slovenia	2	1	1	4
Central Slovenia	–1	2	2	3
Upper Carniola	2	1	2	5
Inner Carniola–Karst	–1	2	–2	–1
Gorizia	1	2	1	4
Coastal–Karst	–2	1	–1	–2

The higher the score, the greater the intensity of shock. The sum of scores of the three indicators selected is provided in the last column.

Recovery can only be calculated for two indicators: GDP per capita (EUR) and gross income tax base per capita (EUR) because there has not yet been any recovery in relation to the (annual) registered unemployment rate by statistical region of one's place of residence. The maximum score is 4 (because two variables are included). The results show that the Mura and Carnithia statistical regions recovered the best, followed by the Savinja and Southeast Slovenia statistical regions. The Inner Carniola–Karst and Coastal–Karst statistical regions recovered the least, followed by the Gorizia and Central Slovenia statistical regions.

Table 5: Recovery calculated for Slovenian statistical regions

Statistical region	Recovery, GDP scores	Recovery, income tax scores	Recovery, total scores
SLOVENIA			
Mura	2	2	4
Drava	–1	–1	–2
Carinthia	2	2	4
Savinja	2	1	3
Sava	1	1	2
Lower Sava	–1	–1	–2
Southeast Slovenia	1	2	3
Central Slovenia	–1	–2	–3
Upper Carniola	1	1	2
Inner Carniola–Karst	–2	–2	–4
Gorizia	–2	–1	–3
Coastal–Karst	–2	–2	–4

The higher the score, the greater the intensity of recovery. The sum of the scores of the indicators selected is provided in the last column.

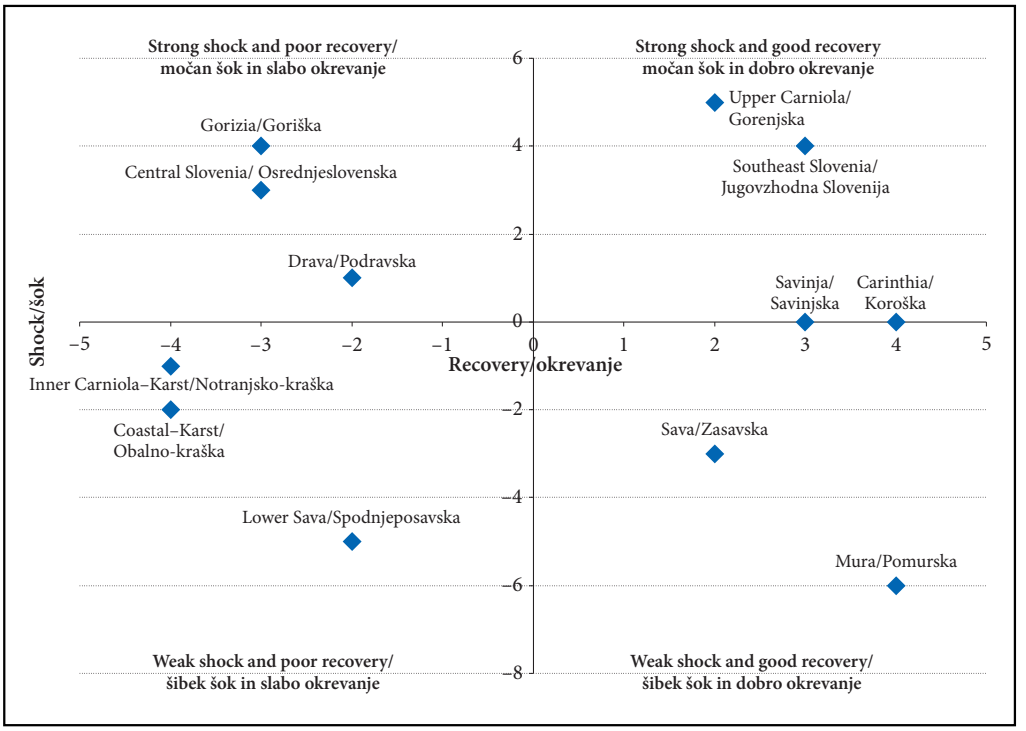

Figure 2: Slovenian statistical regions by intensity of shock and intensity of recovery.

Resilience depends on the shock suffered by an individual region and on the level of recovery that this region has achieved. Figure 2 shows that the Mura Statistical Region experienced a weak impact of shock (low total score) and good recovery, which means that this region is the most resilient. The Gorizia and Central Slovenia statistical regions are the least resilient.

Regions that experienced a strong impact of shock and good recovery typically have the highest export rate, a high rate of natural increase, and a high rate of inhabitants moving to other statistical regions because they have a negative internal migration rate per 1,000 people. In 2008, more than half of the gross added value of regions that experienced a strong shock was created in activities that experienced the greatest downturn due to the recession: construction, processing activities, and trade, accommodation and food service activities, and transport. Because these activities experienced the greatest decline (35% in the Central Slovenia Statistical Region by 2011), the regions that depended the most on them also experienced the greatest economic downturn and no recovery has yet been recorded. In this type of region, the share of construction employees among all employees was the lowest in 2011, when many employees were made redundant.

Compared to other types of regions, regions with a strong impact of shock and poor recovery typically have the largest number of businesses per 1,000 inhabitants, the largest number of job vacancies, the highest share of R&D employees, the highest share of people with a university degree and at the same time the lowest share of people with no education or that did not finish primary school, the highest share of inhabitants with a creative profession, and at the same time the smallest number of employees in creative activities by place of residence. More than half of economic activities in the Central Slovenian Statistical Region, which belongs to this group of regions, is based on activities that experienced the greatest downturn during the recession.

Compared to the other three groups of regions, regions with a weak impact of shock and good recovery typically have the smallest number of businesses per 1,000 inhabitants, the smallest share of gross investment per capita, the smallest share of employed people, a low share of R&D employees, and an above-average

number of employees in creative activities by place of residence. Population aging and moving to other statistical regions and other countries (a negative rate on natural increase and a negative net migration rate) are also typical. The population's educational structure is not very promising (a lower number of college graduates than elsewhere).

Regions with a weak impact of shock but poor recovery typically have a fairly high specialization ratio (with predominantly small enterprises), a high export rate, high shares of gross investment per capita, and a low share of R&D employees. This group of regions has an above-average share of inhabitants that did not finish primary school. Employed people typically work in the region where they reside, and the net migration rate and the internal migration rate (between statistical regions) are above average, meaning that people move into these regions.

5 Conclusion

This study discussed resilience and presented a methodology for calculating the intensity of shock and intensity of recovery. Three indicators were selected based on a literature overview that best define the impact of the recession (i.e., gross domestic product per capita, registered unemployment rate, and gross income tax base) and were used to calculate the impact of shock and the intensity of partial recovery of Slovenian statistical regions (full recovery has not been achieved yet). Based on these results, the regions were divided into four types. The Upper Carniola and Southeast Slovenia statistical regions experienced a strong shock and recovered well, whereas the Gorizia, Central Slovenia, and Drava statistical regions also experienced a strong shock, but their recovery was poor. The Mura and Sava statistical regions managed to recover well after experiencing a weak shock, whereas the Lower Sava, Coastal–Karst, and Inner Carniola–Karst statistical regions recovered poorly. The recession had a smaller impact on regions that already had low economic growth and a high unemployment rate prior to the financial crisis.

The pre-crisis socioeconomic characteristics of regions influence the intensity of shock and intensity of recovery of individual types of regions. Based on an analysis of the socioeconomic indicators defined, it was determined that a heterogeneous economic structure is more favorable during recessions because in this case the economy depends not only on individual activities. The situation was also more favorable in regions where small enterprises predominate. In contrast to the findings in literature published to date, regions with a weak shock impact have a poorly educated workforce and the smallest share of R&D employees. The highest shares of inhabitants working in a creative profession are typical of regions that experienced a weak shock and recovered well, which also corresponds with the finding by Kozina (2013), who reports that a large concentration of creative individuals contributes to greater economic growth.

Based on a calculation of the impact of shock and the intensity of recovery, a methodology for calculating resilience should be developed and policy recommendations for providing this methodology should be prepared. More detailed analyses of how the economic structure affects regional resilience will be needed in the future because it is only by knowing all the facts connected with regional resilience to recessions that regions can appropriately respond to them and avoid them or survive their impact to the best possible extent.

6 References

Augustine, N., Wolman, H., Wial, H., McMillen, M. 2013: Regional economic capacity, economic shocks, and economic resilience. Internet: http://brr.berkeley.edu/wp-content/uploads/2013/05/Augustine-resilience-capacity2.pdf (28. 1. 2014).

Boschma, R. A., Fritsch, M. 2009: Creative class and regional growth: empirical evidence from seven European countries. Economic geography 85-4. DOI: http://dx.doi.org/10.1111/j.1944-8287.2009.01048.x

Brand, F. S., Jax, K. 2007: Focusing the meaning(s) of resilience: Resilience as a descriptive concept and a boundary object. Ecology and society 12-1.

Briguglio, L., Cordina, G., Farrugia, N., Vella, S. 2008: Economic vulnerability and resilience. United Nations research paper 55. Internet: http://www.wider.unu.edu/publications/working-papers/research-papers/2008/en_GB/rp2008-55/_files/79432653132595540/default/rp2008-55.pdf (27. 6. 2012).

Christopherson, S., Michie, J., Tyler, P. 2010: Regional resilience: theoretical and empirical perspectives. Cambridge journal of regions, economy and society 3-1. DOI: http://dx.doi.org/10.1093/cjres/rsq004

Creative industries economic estimates 2011. Internet: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/77959/Creative-Industries-Economic-Estimates-Report-2011-update.pdf (24. 2. 2014).

Economic crisis: resilience of regions, 2012. Internet: http://www.espon.eu/export/sites/default/Documents/Projects/AppliedResearch/ECR2/ECR2_inception_report.pdf (21. 1. 2013).

Economic crisis: resilience of regions, 2013. Internet: http://www.espon.eu/export/sites/default/Documents/Projects/AppliedResearch/ECR2/ECR2_Revised_Interim_Report.pdf (27. 8. 2013).

Fettich, N. 2009: Vpliv ameriške finančne krize na evropski finančni sistem. Diplomsko delo, Ekonomska fakulteta Univerze v Ljubljani. Ljubljana.

Foster, K. A. 2010: Regional resilience: how do we know it when we see it? Internet: http://www.regional-institute.buffalo.edu/Includes/UserDownloads/Foster%20DC%20Presentation%20v2%20May%202010.pdf (18. 12. 2013).

Graziano, P. 2013: Vulnerability and resilience of the economic, social and environmental dimensions of Italian provinces. Regional studies association European conference 2013. Internet: http://www.regionalstudies.org/uploads/Graziano2013.pdf (14. 2. 2014).

Hill, E. W., Wial, H., Wolman, H. 2008: Exploring regional economic resilience. Internet: http://escholarship.org/uc/item/7fq4n2cv#page-1 (27. 6. 2012).

Janssen, M. A. 2007: An update on the scholarly networks on resilience, vulnerability, and adaptation within the human dimensions of global environmental change. Internet: http://www.ecologyandsociety.org/vol12/iss2/art9/ (7. 2. 2014).

Komac, B., Lapuh, L., Nared, J., Zorn, M. 2013: Nove razvojne perspektive. Regionalni razvoj 4.

Korhonen, J. 2001: Some suggestions for regional industrial ecosystems – extended industrial ecology. Eco-management and auditing 8. DOI: http://dx.doi.org/10.1002/ema.146

Kozina, J. 2013: Življenjsko okolje prebivalcev v ustvarjalnih poklicih v Sloveniji. Doktorska disertacija, Filozofska fakulteta Univerze v Ljubljani. Ljubljana.

Kušar, S. 2012: Izbrani prostorski učinki globalne finančne in gospodarske krize v Ljubljani. Urbani izziv 23-2. DOI: http://dx.doi.org/10.5379/urbani-izziv-2012-23-02-004

Lavrač, V. 2008: Globalna finančna kriza in članstvo v EMU. Globalna finančna kriza in slovensko gospodarstvo. Ljubljana.

Lorber, L. 2010: Global crisis – an opportunity for completion of structural transformation of Slovenian economy. Folia geographica 40-15.

Lorber, L. 2011: Recent transformation of economic inequality in NUTS 3 regions in Slovenia. Geoadria 16-2.

Marrocu, E., Paci. R. 2012: Education or creativity; what matters most for economic performance? Economic geography 88-4. DOI: http://dx.doi.org/10.1111/j.1944-8287.2012.01161.x

Martin, R. 2012: Regional economic resilience, hysteresis and recessionary shocks. Journal of economic geography 12-1. DOI: http://dx.doi.org/10.1093/jeg/lbr019

Maru, Y. T. 2010: Resilience regions: clarity of concepts and challenges to systemic measurement. SCIORP working paper 4.

Müller, J. H. 1976: Methoden zur regionalen Analyse und Prognose. Hannover.

Nared, J. 2002: Razvitost slovenskih občin in nadaljnje razvojne perspektive. Geografski vestnik 74-2.

Naudé, W., McGillivray, M., Rossouw, S. 2008: Measuring the vulnerability of subnational regions. WIDER Research Paper 54.

Pečar, J. 2008: Regije 2008 – izbrani socioekonomski kazalniki po regijah. Internet: http://www.umar.gov.si/fileadmin/user_upload/publikacije/dz/2008/dz13-08.pdf (30. 7. 2012).

Pečar, J. 2014. AJPES – Podatki iz bilance stanja in izkaza poslovnega izida družb za leta od 2000–2012, izračuni UMAR. Ljubljana.

Podnar, A. 2014: Bruto domači proizvod. Internet: http://www.stat.si/videoizjave.asp (10. 3. 2014).

Raco, M., Street, E. 2012: Resilience planning, economic change and the politics of post-recession development in London and Hong Kong. Urban studies 49. DOI: http://dx.doi.org/10.1177/0042098011415716

Resilience capacity index, 2013. Internet: http://brr.berkeley.edu/rci/ (28. 8. 2013).

Rizzi, P., Dallara, A. 2011: The local impact of the crisis in a sustainable perspective: the Italian case. Regional Studies Association Annual International Conference 2011 Papers. Newcastle. Internet: http://www.regional-studies-assoc.ac.uk/events/2011/april-newcastle/papers/Rizzi.pdf (5. 3. 2012).

Sagadin, J. 2003: Statistične metode za pedagoge. Maribor.

SI-STAT podatkovni portal, 2013. Internet: http://pxweb.stat.si/pxweb/Database/Regije/Regije.asp (20. 12. 2013).

Statistični register delovno aktivnega prebivalstva. Statistični urad Republike Slovenije. Ljubljana, 2012.

Swanstrom, T. 2008: Regional resilience: a critical examination of the ecological framework. IURD Working paper 7. Internet: http://escholarship.org/uc/item/9g27m5zg (7. 2. 2014).

The index of economic resilience, 2011. Internet: http://www.yorkshirecities.org.uk/assets/files/Publications/Final%20Report%20final.pdf (27. 6. 2012).

Tobin, G. A. 1999: Sustainability and community resilience: the Holy Grail of hazards planning? Environmental hazards 1. DOI: http://dx.doi.org/10.1016/S1464-2867(99)00002-9

Vaarst Andersen, K, Lorenzen, M. 2005: The geography of the Danish creative class, a mapping and analysis. Internet: http://www.academia.edu/441896/The_Geography_of_the_Danish_Creative_Class_A_Mapping_and_Analysis (24. 2. 2014).

Vrišer, I. 1997: Metodologija ekonomske geografije – Metode, viri in bibliografija na primeru Slovenije. Ljubljana.

Merjenje vpliva recesije in sposobnosti okrevanja slovenskih statističnih regij

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IZVLEČEK: Svetovna gospodarska kriza je leta 2009 vplivala na gospodarski razvoj slovenskih statističnih regij. Njen vpliv merimo z jakostjo šoka, razvoj po šoku pa z jakostjo okrevanja. Raziskava gospodarske prožnosti regij sodi pod koncept evolucijske ekonomske geografije in temelji na analizi izbranih kazalnikov, ki opredeljujejo družbeno-gospodarsko sestavo regij. Glede na vpliv šoka in jakost okrevanja so regije razdeljene na štiri tipe, ki so jim pripisane družbeno-gospodarske lastnosti.

KLJUČNE BESEDE: ekonomska geografija, regionalno planiranje, prožnost, recesija, okrevanje, statistične regije, Slovenija

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1 Uvod

Recesija, ki je leta 2007 oziroma leto kasneje sprva vplivala na gospodarstva razvitih držav in njihovih regij, se je nato razširila po celem svetu (Lorber 2010) in povzročila, da so se raziskovalci in ostali akterji gospodarskega in regionalnega razvoja še intenzivneje začeli ukvarjati z vprašanjem, kako te negativne vplive gospodarskega nazadovanja ublažiti oziroma se jim celo izogniti. V svetovni literaturi se je uveljavil termin prožnosti, ki po mnenju Christophersona, Michie in Tylerja (2010) opisuje odgovor na povzročeno nevarnost z iskanjem prilagoditve. Prožnost po naravnih nesrečah in negativnih gospodarskih vplivih (kot je recesija) raziskujemo z namenom zmanjšanja ranljivosti in izboljšanja odziva družbe na te spremembe.

Martin (2012) meni, da je sposobnost prilagajanja regionalnega gospodarstva v času recesije odvisna od lastnosti gospodarstva pred recesijo. Nekatera gospodarstva, ki so podvržena motnjam, so sposobna okrevati hitreje kot druga.

Namen tega članka je ugotoviti, kako je šok zaradi recesije vplival na slovenske statistične regije, kako okrevajo in kako družbeno-gospodarska sestava regij na oboje vpliva.

Cilj prispevka je poleg teoretične opredelitve prožnosti regij v času recesije s pomočjo izbranih statističnih kazalnikov predstaviti metodologijo, s katero lahko merimo vpliv šoka in sposobnost okrevanja.

Na podlagi rezultatov raziskave za slovenske statistične regije smo ugotovili, katere regije so prožnejše na zunanji šok.

Izbruh krize kjerkoli na svetu lahko ogrozi finančni sistem in gospodarstvo celega sveta.

Kriza se je iz ZDA preselila v Evropo in iz finančnega sektorja v svetovno gospodarstvo. Za razvoj finančnih trgov v Evropi je bil izrednega pomena sprejem evra, ki je ustvaril drugi največji finančni trg na svetu (Fettich 2009). Gospodarstvo ne raste enakomerno, saj je zaznamovano z vzponi in padci. Slovensko gospodarstvo je močno navezano na EU, posledično je cikličnost slovenskega gospodarstva v pozitivni korelaciji z gospodarskimi cikli Evropske unije (Lavrač 2008). Za Slovenijo je bilo najbolj uspešno obdobje po priključitvi v Evropsko unijo do začetka svetovne finančne krize glede na letno gospodarsko rast in izvoz (Lorber 2010). BDP najrazvitejše Osrednjeslovenske statistične regije je bil 2,18 krat višji kot BDP najmanj razvite Pomurske statistične regije (Lorber 2011).

2 Prožnost regij

Swanstrom (2008) je ugotovil, da je število člankov o prožnosti v Social science citation index (SSCI) od 1997 do 2007 naraščalo za 400 odstotkov letno. Med leti 1969 in 2007 so prevladovali ekološki članki o prožnosti, po letu 2007 pa prevladujejo psihološki in psihiatrični članki (Janseen 2007), v porastu pa so tudi članki s področja recesije in naravnih nesreč. Christopherson, Michie in Tyler (2010) ugotavljajo, da je koncept prožnosti postal priljubljen zaradi povišane občutljivosti na zaznavanje tveganja (tako gospodarskega kot političnega in okoljskega) ter prepričanja, da globalizacija vpliva na večjo prepustnost vplivov, ki so nekoč veljali za zunanje. Gospodarska in okoljska kriza stopnjujeta zaznan občutek ranljivosti in spodbujata k iskanju novih poti, ki vodijo do prožnosti.

Raziskava je tesno povezana z evolucijsko ekonomsko geografijo, ki poudarja razvojno razsežnost gospodarstva. Evolucijski pristop zagovarja, da je prožnost dinamičen proces (Martin 2012). Regionalna gospodarska prožnost je sposobnost gospodarstev regij, da se uprejo recesiji oziroma jo premagajo ali absorbirajo šok (Economic crisis … 2012; Raco in Street 2012) ter da v relativno kratkem času okrevajo po recesiji (Augustine s sod. 2013). Regije, katerih gospodarska rast se ob recesiji ne spremeni, so odporne na gospodarski šok *(shock-resistant*). Regije, ki po šoku ne dosežejo stopnje razvoja pred šokom, pa so neprožne (ang. *non-resilient*; Hill, Wial, Wolman 2008). Augustine s sodelavci (2013) ugotavlja, da ko okreva nacionalno gospodarstvo, okreva tudi večina regij. Učinkovito načrtovanje prožnosti imajo skupnosti, ki so organizirane tako, da so ob šoku posledice minimalne (Tobin 1999) in da so v čim krajšem času sposobne okrevati.

Do gospodarskega nazadovanja posamezne regije lahko pride zaradi nazadovanja nacionalnega gospodarstva, nazadovanja v dejavnostih, ki so za regijo predstavljale pomemben del izvoza in zaradi krajevnih dogodkov, ki so prekinili gospodarsko rast (Augustine s sod. 2013). Christopherson, Michie in Tyler (2010) so se spraševali zakaj so nekatere regije sposobne ohraniti visoko kakovost življenja za svoje prebivalce, medtem ko druge niso? V članku bomo ugotovili, kakšna družbeno-gospodarska sestava vpliva na sposobnost regij, da se odzovejo na spremembo in se opomorejo od nje.

3 Merjenje vpliva recesije na regije

3.1 Izhodišča merjenja prožnosti regij

Pri merjenju prožnosti nas zanimajo: družbeno-gospodarske razmere v regiji, vpliv šoka, ranljivost (ang. *vulnerability*), odgovor na šok (ang. *response*), prilagoditvena sposobnost (ang. *adaptive capacity*), okrevanje (ang. *recovery*) in prožnost (ang. *resilience*). Maru (2010) ugotavlja, da merjenje prožnosti regij ni enostavna naloga in se strinja z Brandom in Jaxem (2007), da je prožnost predvsem opisni koncept, čeprav so poleg teorije prožnosti običajno razvijali tudi s tem povezano metodologijo.

V tujini so se poleg ekonomistov tudi geografi z raziskavami hitro odzvali na gospodarske spremembe, ki jih je prinesla recesija. Raziskave so bile narejene za različne prostorske enote: meddržavna, regionalna in lokalna; zato se med njimi posledično razlikujejo tudi raziskovalno vprašanje, metodologija proučevanja in vključeni kazalniki. Računali so indeks ranljivosti (ang. *vulnerability intervention index*) (Naude, McGukkuvray in Russouw 2008), odpornost in občutljivost (ang. *sensitivity index*) (Martin 2012) ter prožnost regij (Economic crisis … 2012; Hill, Wial in Wolman 2008; The indeks … 2011; Briguglio s sod. 2008; Graziano 2013; Rizzi in Dallara 2011; Resilience capacity index 2013; Foster 2010). V Sloveniji še ni nihče računal prožnosti, na področju geografije so o recesiji in naravnih nesrečah pisali Lorberjeva (2010, 2011), Kušar (2012) in Komac s sodelavci (2013).

Pri izračunu ranljivosti, odpornosti in prožnosti so za pojasnjevanje razlik v regionalnem razvoju pred, med in po recesiji uporabljali naslednje kvantitativne (regresijsko, korelacijsko, diskriminančno analizo, opisne statistike, faktorsko analizo, metodo glavnih komponent, metodo razvrščanja v skupine) in kvalitativne metode (npr. intervju za študije primera).

3.2 Merjenje jakosti šoka in sposobnosti okrevanja

Na podlagi analize literature (Naudé, Gillivray in Rossouw 2008; Briguglio s sod. 2008; Economic crisis … 2013; The Index of Economic Resilience 2011) smo opredelili tri kazalnike, ki merijo jakost šoka in sposobnost okrevanja regij. Vpliv recesije se na teh treh izbranih kazalnikih kaže v različni intenziteti in časovnem zamiku. Medtem ko bruto družbeni proizvod (BDP) na prebivalca kaže spremembe zaradi recesije v gospodarstvu, kažeta stopnja registrirane brezposelnosti in bruto osnova za dohodnino spremembe v družbi. Pokazatelj gospodarskega nazadovanja je BDP, ki je enak vsoti bruto dodane vrednosti v osnovnih cenah vseh dejavnosti in neto davkov na proizvode (SI-STAT 2013). Vpliv recesije na bruto osnovo za dohodnino na prebivalca je viden leta 2009. S tem kazalnikom ugotavljamo ekonomsko razvitost, saj podaja informacijo o kupni moči prebivalstva in prikazuje, s kolikšnimi finančnimi sredstvi prebivalstvo dejansko razpolaga (Pečar 2008). Omembe vreden je tudi zaostanek pri objavljanju tega podatka. Stopnja registrirane brezposelnosti merjena po statističnih regijah prebivališča in prikazana glede na stalno prebivališče delovno aktivnih prebivalcev in registriranih brezposelnih oseb (SI-STAT 2013), je vidna najkasneje. Tako Slovenija po recesiji še ni doživela znižanja. Območje, kjer se je ohranila prvotna stopnja BDP-ja in ki je hkrati imelo hitro znižanje zaposlenosti, z vidika lokalnega prebivalstva ne moremo oceniti kot prožno (Economic Crisis … 2013).

Za vsakega od treh zgoraj omenjenih kazalnikov (SI-STAT … 2013; Pečar 2014) izračunamo šok z enačbo:

$$\text{šok} = \frac{(T_0 - T_{-1})}{(T_{-1} \times 100)}$$

kjer je T_0 leto, ko je bilo zaradi šoka zaznano največje nazadovanje, T_{-1} pa leto, preden so se začeli kazati znaki recesije. Za vsak kazalnik posebej smo na ravni podatkov za Slovenijo preverili, kdaj je bil vpliv recesije največji. Nižja kot je izračunana jakost šoka, bolj je regija podvržena šoku. Okrevanje smo izračunali z enačbo:

$$\text{okrevanje} = \frac{(T_0 - T_{+2})}{(T_{+2} \times 100)}$$

kjer je T_0 leto, ko je zaradi šoka prišlo do največjega nazadovanja, T_{+2} pa leto okrevanja oziroma zadnji dostopni podatek. Za vse zgoraj opisane kazalnike smo vzeli za izhodišče leto 2008 (T_{-1}), leto šoka/recesije 2009 (T_0), leto okrevanja od recesije (npr: $T_{+2} = 2011$, $T_{+4} = 2013$) pa se razlikuje od kazalnika do kazalnika.

Tako je bil na ravni Slovenije BDP na prebivalca najvišji leta 2008, zato smo to leto vzeli za izhodišče (T_{-1}), naslednje leto 2009 pa je bil najnižji (v indeksu označeno s T_0). BDP je po osmih zaporednih padcih ponovno narasel v zadnjem četrtletju leta 2013 (Podnar 2014). Glede na kazalnik BDP na prebivalca smo vzeli 2011 kot leto okrevanja (vmesna faza), saj je BDP na prebivalca leta 2012 ponovno padel za 437,8 € (SI-STAT … 2013) in še ne moremo govoriti o koncu recesije (Podnar 2014).

Pri kazalniku stopnja registrirane brezposelnosti smo dodali negativen predznak, saj je obraten od ostalih (nižja brezposelnost je za regijo ugodnejša). Stopnja brezposelnosti je bila po recesiji najvišja leta 2013. Do okrevanja brezposelnosti še ni prišlo, zato smo izračunali le šok.

Pri izračunu okrevanja za bruto osnovo za dohodnino smo uporabili zadnji dostopni podatek, ki je za leto 2011.

Regije smo razdelili glede na kvartile izračunanih vrednosti (Sagadin 2003), razredom pa smo pripisali vrednost od –2 do 2 (Nared 2002). Regijam z najnižjimi vrednostmi, ki pomenijo najmočnejši vpliv šoka, smo pripisali 2 točki (preglednica 1). Seštevek vseh spremenljivk za posamezno statistično regijo pa je skupna vrednost šoka. Najvišja vrednost za posamezno regijo je dvakratnik števila kazalnikov, višja skupna vrednost odseva večji vpliv šoka na regijo. Enako smo izračunali tudi okrevanje, pri čemer višja vrednost skupnega seštevka pove, da je regije bolj okrevala. Regije smo nato glede na jakost šoka in sposobnost okrevanja razdelili v štiri skupine.

Preglednica 1: Regije glede na jakost šoka in intenzivnost okrevanja za posamezen kazalnik

kvartil	šok	okrevanje	točke
1 kvartil	najmočnejši šok	najboljše okrevanje	2
2 kvartil	močan šok	dobro okrevanje	1
3 kvartil	blag šok	slabo okrevanje	–1
4 kvartil	najblažji šok	najslabše okrevanje	–2

Družbeno-gospodarske lastnosti štirih tipov regij smo opredelili z naslednjimi kazalniki, ki opredeljujejo stopnjo gospodarske razvitosti, usmerjenost specializacije, izvozno usmerjenost in družbeno sestavo regij (The index … 2011; Economic crisis … 2013; Resilience capacity … 2013; Naudé, Gillivray in Rossouw 2008; Marrocu in Paci 2012; Vaarst Andersen in Lorenzen 2005; Boschma in Fritsch 2009; Creative industries … 2011; Hill, Wial in Wolman 2008).

Preglednica 2: Kazalniki, ki opredeljujejo družbeno-gospodarsko sestavo regij (SI-STAT … 2013; Statistični register … 2012; Pečar 2014).

- število podjetij na 1000 prebivalcev [‰]
- število oseb, ki delajo na podjetje [osebe/podjetje]
- bruto investicije na prebivalca [EUR]
- koeficient specializacije [%]
- bruto dodana vrednost v osnovnih cenah po dejavnostih (predelovalne dejavnosti, gradbeništvo in trgovina, gostinstvo, promet) [Mio EUR]
- vsi zaposleni v raziskovalno-razvojnih dejavnosti med delovno aktivnim prebivalstvom [zaposleni]
- delež zaposlenih v gradbeništvu med delovno aktivnim prebivalstvom [%]
- delež prebivalcev z ustvarjalnim poklicem med delovno aktivnim prebivalstvom po kraju bivanja [%]
- zaposleni v ustvarjalnih dejavnostih po kraju bivanja glede na delovno aktivno prebivalstvo po kraju bivanja [zaposleni]
- delež čistih prihodkov od prodaje na tujih trgih v prihodkih skupaj [%]
- indeks staranja [%]
- stopnja prostih delovnih mest [%]
- delež delovno aktivnih prebivalcev med prebivalci po kraju bivanja [%]
- indeks delovne migracije [%]
- diplomanti visokošolskega dodiplomskega izobraževanja po statistični regiji stalnega prebivališča na 1000 prebivalcev [‰]
- naravno gibanje prebivalstva – naravni prirast na 1000 prebivalcev [‰]
- selitveni prirast s tujino na 1000 prebivalcev [‰]
- selitveni prirast med statističnimi regijami na 1000 prebivalcev [‰]
- prebivalstvo staro 15 ali več let brez izobrazbe, z nepopolno osnovnošolsko na 1000 prebivalcev [‰]
- prebivalstvo staro 15 ali več let z visokošolsko izobrazbo (1., 2. in 3., stopnja) na 1000 prebivalcev [‰]

Izračunali smo tudi koeficient specializacije (Vrišer 1997), ki pokaže heterogenost panožne sestave industrije glede na državno povprečje (Müller 1976).

Povprečje vsakega zgoraj zapisanega kazalnika smo izračunali za vsako od štirih skupin regij. Posledično smo ugotovili kakšna mora biti družbeno-gospodarska sestava regije, da ima šok na določeno regijo manjši vpliv in da je zmožna hitrejšega in intenzivnejšega okrevanja.

V raziskavo so zaradi dostopnosti vključeni podatki za leto 2011, le za bruto dodano vrednost v osnovnih cenah po dejavnostih so za primerjavo uporabljeni podatki za leto 2008 (stanje pred recesijo).

4 Rezultati in razprava

Na podlagi podatkov za BDP na prebivalca je bila najbolj prožna Pomurska statistična regija, kar je posledica najnižjega BDP-ja na prebivalca pred recesijo. Sledita ji Spodnjeposavska in Obalno-kraška statistična regija (preglednica 3). Glede na BDP na prebivalca je bil šok najmočnejši v Gorenjski in Koroški statistični regiji ter v statistični regiji Jugovzhodna Slovenija. Le to je grafično prikazano na sliki 1, ki prikazuje kako močno je recesija vplivala na posamezne statistične regije in kako so okrevale. Na podlagi jakosti šoka in okrevanja BDP-ja se je le Pomurska statistična regija vrnila na (že tako nizko) stanje pred recesijo. Ostale regije pri okrevanju relativno zaostajajo.

Preglednica 3: Šok in okrevanje glede na bruto družbeni proizvod (BDP) na prebivalca (SI-STAT . . . 2013).

		T_{-1}	T_0	T_{+2}				
	statistična regija	BDP na prebivalca 2008	BDP na prebivalca 2009	BDP na prebivalca 2011	šok (2008–2009)	šok točke BDP	okrevanje (2009–2011)	okrevanje – točke BDP
	SLOVENIJA	18420	17415	17620	–5,4560261		–1,16	
1	Pomurska	11909	11463	11929	–3,7450668	–2	–3,91	2
2	Podravska	15473	14574	14696	–5,8101209	1	–0,83	–1
3	Koroška	14288	13085	13640	–8,4196529	2	–4,07	2
4	Savinjska	16479	15513	16156	–5,8620062	1	–3,98	2
5	Zasavska	12291	11614	11800	–5,5080954	–1	–1,58	1
6	Spodnjeposavska	15579	14940	15061	–4,1016753	–2	–0,80	–1
7	Jugovzhodna Slovenija	17478	16091	16294	–7,9356906	2	–1,25	1
8	Osrednjeslovenska	25942	24780	24695	–4,4792229	–1	0,34	–1
9	Gorenjska	15733	14317	14764	–9,0001907	2	–3,03	1
10	Notranjsko–kraška	13277	12635	12498	–4,8354297	–1	1,10	–2
11	Goriška	17633	16480	16354	–6,538876	1	0,77	–2
12	Obalno-kraška	19842	18964	18838	–4,4249572	–2	0,67	–2

Višja vrednost točk BDP-ja pomeni večji šok (7. stolpec) in hitrejše okrevanje (9. stolpec).

Slika 1: Vrednost izračunanega šoka in jakost okrevanja bruto dodane vrednosti za slovenske statistične regije (SI-STAT . . . 2013).
Glej angleški del prispevka.

Do okrevanja kazalnika stopnja registrirane brezposelnosti sploh še ni prišlo, zato smo izračunali le šok. Iz podatkov brezposelnosti je razvidno, da je bila najvišja leta 2013, zato smo za računanje šoka upoštevali to leto.

Glede na registrirano stopnjo brezposelnosti (2008–2013) je recesija imela največji vpliv na Osrednjeslovensko, Notranjsko-kraško in Goriško statistično regijo, najmanj pa na Pomursko, Podravsko in Savinjsko statistično regijo. Pri Pomurski statistični regiji je bila brezposelnost že pred krizo najvišja, zato ni prišlo do tolikšnega znižanja, absolutna vrednost brezposelnosti pa je še vedno višja kot v ostalih statističnih regijah. S posledicami recesije se regije in države soočajo še potem, ko je recesija uradno že mimo.

Bruto osnova za dohodnino na prebivalca (EUR) je doživela največji upad v Osrednjeslovenski, Gorenjski in Podravski statistični regiji, najmanjši pa v Pomurski, Spodnjeposavski in Notranjsko-kraški statistični regiji.

Na podlagi izračuna šoka in okrevanja sta največ točk dosegli Pomurska in Spodnjeposavska statistična regija (preglednica 4), ki ju je recesija najmanj prizadela, sledi jima Obalnokraška statistična regija. Šok je najbolj prizadel Gorenjsko statistično regijo in Goriško statistično regijo ter statistično regijo Jugovzhodna Slovenija.

Preglednica 4: Izračun šoka za slovenske statistične regije.

statistična regija	šok točke BDP	šok točke brezposelnost	šok točke dohodnina	šok točke skupaj
Pomurska	−2	−2	−2	−6
Podravska	1	−2	2	1
Koroška	2	−1	−1	0
Savinjska	1	−2	1	0
Zasavska	−1	−1	−1	−3
Spodnjeposavska	−2	−1	−2	−5
Jugovzhodna Slovenija	2	1	1	4
Osrednjeslovenska	−1	2	2	3
Gorenjska	2	1	2	5
Notranjsko-kraška	−1	2	−2	−1
Goriška	1	2	1	4
Obalno-kraška	−2	1	−1	−2

Višja kot vrednost točk pomeni večji vpliv recesije. Zadnji stolpec prikazuje seštevek točk izbranih kazalnikov.

Okrevanje smo izračunali le za BDP na prebivalca (EUR) in bruto osnovo za dohodnino na prebivalca (EUR), zato je najvišja vrednost štiri. Najbolj sta okrevali Pomurska in Koroška statistična regija, sledita jim Savinjska statistična regija in statistična regija Jugovzhodna Slovenija. Najslabše sta okrevali Notranjsko-kraška statistična regija in Obalno-kraška statistična regija, sledita jima Goriška in Osrednjeslovenska statistična regija.

Preglednica 5: Okrevanje slovenskih statističnih regij glede na bruto domači proizvod na prebivalca (EUR) (BDP) in bruto osnovo za dohodnino na prebivalca (EUR).

statistična regija	okrevanje točke BDP	okrevanje točke dohodnina	okrevanje točke skupaj
Pomurska	2	2	4
Podravska	−1	−1	−2
Koroška	2	2	4
Savinjska	2	1	3
Zasavska	1	1	2
Spodnjeposavska	−1	−1	−2
Jugovzhodna Slovenija	1	2	3
Osrednjeslovenska	−1	−2	−3
Gorenjska	1	1	2
Notranjsko-kraška	−2	−2	−4
Goriška	−2	−1	−3
Obalno-kraška	−2	−2	−4

Višja kot vrednost točk pomeni večjo intenzivnost okrevanja. Zadnji stolpec prikazuje seštevek točk izbranih kazalnikov.

Slika 2: Slovenske statistične regije glede na jakost šoka in intenzivnost okrevanja.
Glej angleški del prispevka.

Prožnost je odvisna od intenzivnosti šoka, ki ga je regija utrpela, in od jakosti in hitrosti okrevanja. S slike 2 je razvidno, da je bil vpliv recesije na gospodarsko nazadovanje in porast brezposelnosti pri Pomurski statistični regiji nizek, okrevanje pa hitro. Ta regija je najbolj prožna, najmanj pa sta prožni Goriška in Osrednjeslovenska statistična regija.

Za regije, na katere je šok močno vplival in so dobro okrevale, je značilno, da imajo najvišji izvoz in visok naravni prirast. Zanje je značilno odseljevanje v druge statistične regije. Več kot polovica bruto dodane vrednosti

regij, ki so doživele močan šok, je bila leta 2008 proizvedena v dejavnostih, ki so zaradi recesije najbolj nazadovale: gradbeništvo, predelovalne dejavnosti s trgovino ter gostinstvo in promet. Ker je prišlo pri teh dejavnostih do največjega upada (tudi v Osrednjeslovenski statistični regiji za 35 % do leta 2011), so najbolj nazadovale regije, ki so bile od nje najbolj odvisne, v njih pa še ni prišlo do okrevanja. V tem tipu regij je bil najnižji delež zaposlenih v gradbeništvu leta 2011, saj je prišlo do odpuščanja zaposlenih.

Za regije, na katere je šok močno vplival in so slabše okrevale, je glede na ostale tipe regij značilno največje število podjetij na 1000 prebivalcev. Imajo tudi največ prostih delovnih mest, najvišji delež zaposlenih v raziskovalno-razvojnih dejavnosti, najvišji delež prebivalcev z visokošolsko izobrazbo in hkrati najnižji delež prebivalcev brez izobrazbe oziroma z nepopolno osnovnošolsko izobrazbo ter najvišji delež prebivalcev z ustvarjalnim poklicem, a hkrati najnižje število zaposlenih v ustvarjalnih dejavnostih po kraju bivanja. Več kot polovica gospodarske dejavnosti Osrednjeslovenske statistične regije, ki sodi v to skupino, temelji na dejavnostih, ki so v času recesije doživele največje nazadovanje.

Za regije, na katere je šok malo vplival in so okrevale, je značilno, da imajo glede na ostale tri skupine najmanjše število podjetij na 1000 prebivalcev, najnižje bruto investicije na prebivalca, najnižji delež delovno aktivnih prebivalcev in nizek delež zaposlenih v R-R dejavnosti ter nadpovprečno število zaposlenih v ustvarjalnih dejavnostih (po kraju bivanja). Značilna sta tudi staranje prebivalstva in odseljevanje v druge statistične regije ter tujino. Izobrazbena sestava prebivalstva je neugodna (nižje število diplomantov kot drugje).

Za regije, na katere je šok malo vplival, a so počasi okrevale, so značilni specializacija podjetij (prevladujejo manjša podjetja), velik izvoz, visoke bruto investicije na prebivalca in nizek delež zaposlenih v raziskovalno-razvojnih dejavnosti. V tej skupini je nadpovprečen delež prebivalcev z nepopolno osnovnošolsko izobrazbo. Za delovno aktivne prebivalce je značilno, da so v večji meri zaposleni v regiji bivanja, selitveni prirast s tujino in med statističnimi regijami pa je nadpovprečen, kar pomeni, da se ljudje priseljujejo v te regije.

5 Sklep

V raziskavi je predstavljena prožnost regij in metodologija izračuna jakosti vpliva recesije in intenzivnosti okrevanja po njej. S pomočjo treh na podlagi literature opredeljenih kazalnikov, ki najbolje opredeljujejo vpliv recesije (BDP na prebivalca, stopnje registrirane brezposelnosti in bruto osnove za dohodnino), sta bila izračunana vpliv šoka in jakost delnega okrevanja slovenskih statističnih regij. Regije smo uvrstili v štiri tipe. Statistični regiji Gorenjska in Jugovzhodna Slovenija sta doživeli močan šok in dobro okrevali, medtem ko je bilo ob močnem šoku okrevanje slabše pri Goriški, Osrednjeslovenski in Podravski statistični regiji. Pomurski in Zasavski statistični regiji je uspelo po šibkem šoku dobro okrevati, Spodnjeposavski, Obalno-kraški in Notranjsko kraški statistični regiji pa slabo. Recesija je manj vplivala na regije, ki so že pred krizo imele nižjo gospodarsko rast in visoko brezposelnost.

Na jakost šoka in intenzivnost odziva posameznega tipa regij vplivajo družbeno-gospodarske značilnosti regije pred recesijo. Na podlagi analize opredeljenih družbeno-gospodarskih kazalnikov smo ugotovili, da je heterogena gospodarska sestava v času recesije bolj prožna, saj gospodarstvo ni odvisno le od posameznih dejavnosti. Bolj prožne so tudi regije, kjer prevladujejo manjša podjetja. V nasprotju z do sedaj objavljeno literaturo je spoznanje, da imajo regije, na katere je šok šibko vplival, slabše izobraženo delovno silo in najnižji delež zaposlenih raziskovalno-razvojnih dejavnostih. Največji delež prebivalcev z ustvarjalnim poklicem imajo regije, ki so doživele šibek šok in dobro okrevanje, kar potrjuje ugotovitev Kozine (2013), da večja koncentracija ustvarjalcev pripomore k večji gospodarski rasti.

Na podlagi izračuna vpliva šoka in jakosti odziva je treba razviti metodologijo izračuna prožnosti ter pripraviti priporočila odločevalcem za zagotavljanje le te. V prihodnje bodo dobrodošle podrobnejše analize, kako gospodarska sestava regij vpliva na prožnost regij. Regije se lahko primerno odzovejo in prenesejo vplive recesije, če poznamo dejavnike in ukrepe, ki vplivajo k njihovi prožnosti.

6 Viri in literatura

Glej angleški del prispevka.