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A Proposal for Dividing Slovenia into Provinces

ANDREJ POGAČNIK, ALMA ZAVODNIK LAMOVŠEK, SAMO DROBNE

ABSTRACT This paper discusses a model developed for evaluating the division of Slovenia into provinces based on 19 criteria. We used them to evaluate six models of provinces. Due to the similarities between some of the models, this paper presents only the results of the divisions into one, three, six, and fourteen provinces. The quantitative evaluation results show that the division into three provinces seems to be the most appropriate solution. However, if there is a desire to have sufficiently large provinces that are able to independently direct their development in line with the principles of sustainable development and in accordance with the principles of the protection of natural and cultural heritage values, thereby simultaneously responding to the challenges of globalisation and climate change, then we, the authors of this paper, believe that the division of Slovenia into six provinces is the most appropriate solution. These provinces are already small enough so that their population can identify itself with them.

KEYWORDS: • province • region • province model • number of provinces • evaluation of provinces • Slovenia

CORRESPONDENCE ADDRESS: Andrej Pogačnik, PhD, University of Ljubljana, Faculty of Civil and Geodetic Engineering, Department of Geodesy, Jamova 2, 1000 Ljubljana, Slovenia, e-mail: apogacni@fgg.uni-lj.si. Alma Zavodnik Lamovšek, PhD, University of Ljubljana, Faculty of Civil and Geodetic Engineering, Department of Geodesy, Jamova 2, 1000 Ljubljana, Slovenia, e-mail: azavodni@fgg.uni-lj.si. Samo Drobne, MSc, Faculty of Civil and Geodetic Engineering, Department of Geodesy, Jamova 2, 1000 Ljubljana, Slovenia, e-mail: samo.drobne@fgg.uni-lj.si.

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1 Introduction

In Slovenia, territorial division, regionalisation and possible formation of provinces have frequently been a topical issue. By modelling the territorial division of Slovenia, this paper aims at identifying the optimum model of provinces that could, from the viewpoint of spatial planning, ensure meeting the objectives of territorial cohesion (Green Book on Territorial Cohesion, 2008). Taking into consideration the terminology used in this paper, the term province (in Slovene: pokrajina) is used for administrative regions in Slovenia, as laid down in the Constitution.

The following starting points were considered:

- A province is a geographically defined territorial unit that has potential, thanks to its economic, social, spatial and other capacities, to conduct regional development policy in its area, and to influence the coherent regional development of a country, the growth of its development potentials, and stability of development processes.
- A province is an area with its own complete functional and infrastructure systems so that it is developmentally, socially and economically strong enough to ensure sustainable development of its area as well as of the state.
- The connection of functions at the horizontal level (between provinces) will allow co-ordination of spatial planning policy, development policy, and other policies, thereby superseding the vertical management stemming from one centre or its deconcentrated units.
- For reliable operation of a province, the following criteria must be met:
    - good transport links at different levels (at transnational, national, and regional levels),
    - regional centres providing rank-appropriate activities (regional hospital, higher court, university ...),
    - a critical mass of population and economic activities (workplaces),
    - existence and key activities for the province development based on natural resources and economic activities,
    - setting out regional-level source tasks (competencies) to be performed by the provinces in the spatial planning process.

Modelling and evaluation of the Slovene provinces, which are shown in this paper, are based on many studies and research projects by the authors (Pogačnik et al., 2002, Pogačnik et al., 2003, Zavodnik Lamovšek, 2005, Zavodnik Lamovšek, 2007, Prosen et al., 2008, Pogačnik et al., 2009, and others), on important studies by other Slovene authors (Gulič, Praper, 1998, Gajšek, 1999 Ravbar, 1999, Plut, 1999, Vrišer, 1999, Šmidovnik, 2002, Lavtar, 2004, Haček, 2005, Vlaj, 2006, Brezovnik, 2008, and others), and on the current national development documents

(SPRS, 2004, SRS, 2005, RNRP, 2006, regional development programmes, and the like), prepared within the past decade.

1.1 Working Hypothesis

The starting points for the modelling and evaluation of the provinces in Slovenia provide the basic rationale for forming larger provinces that must ensure synergy between the scope, complexity and competition. The best reasons for forming larger provinces lie in the smallness of the Slovene territory and its population due to which the fragmentation into a large number of small provinces loses its purpose. Besides, Slovenia as a whole can only be compared to a typical region in the European Union. Even the division into two (eastern and western provinces) or three provinces (eastern, central, and western provinces) bring about a relative weakness of the Slovene provinces compared to the existing regions in the EU Member States. The division into fourteen or more provinces means both additional weakening of their carrying out characteristic functions and diminished cost-effectiveness of scope. Thus, they are entirely incomparable to other European or cross-border regions.

On the basis of the starting points and findings, the working hypothesis assumes that Slovenia should be divided into larger and stronger provinces that would be able to perform the required functions (competencies), thus being comparable to the areas at the NUTS 3 level (SKTE, 2000) in neighbouring and other European countries.

The set-up hypothesis shows that many spatial systems can be optimised in Slovenia, such as the labour market, energy sector, transport, agriculture, protection against natural disasters, environmental protection, and others. This, however, is a deviation from the standard geographical, historical, administrative/political and other regionalisations. The so-called development regions are brought forward.

2 An Evaluation Method for Region Models

To give grounds for the proposed division of Slovenia into provinces, several models of regionalisation have been developed:

- Slovenia as one province (no division into provinces; Slovenia with its centre in Ljubljana),
- division of Slovenia into three provinces (with centres in Ljubljana, Maribor and Koper),
- division of Slovenia into six provinces (with centres in Ljubljana, Maribor, Koper, Kranj, Celje, and Novo mesto),

- division of Slovenia into eight provinces (with centres in Ljubljana, Maribor, Koper, Kranj, Celje, Novo mesto, Nova Gorica, and Murska Sobota),
- division of Slovenia into 12 provinces (the present statistical regions), and
- division of Slovenia into 14 regions (13 + 1: Ljubljana with a special status; with centres in Ljubljana, Maribor, Koper, Kranj, Celje, Novo mesto, Nova Gorica, Murska Sobota, Vrhnika, Kamnik, Krško, Velenje, Ravne na Koroškem, and Ptuj where the seats of the regional administrations were considered as they are laid down in the Bill on the Establishment of Regions, 2008).

These models were evaluated by using 19 criteria to determine the power, competitiveness and the self-sufficiency level of an area. The satisfaction level of each criterion was evaluated with scores from 1 to 5 where the scores reflected not only the existing state, but also the potential (human, social, economic, natural, and the corresponding cross-border potential) of the province in question:

score 5: It fully meets the criteria; the positive aspects far exceed the negative ones; very favourable.
score 4: It meets the criteria to a large extent; the positive aspects exceed the negative ones; favourable.
score 3: A neutral level of meeting the criteria; the positive aspects are equal to the negative ones; fairly favourable.
score 2: It poorly meets the criteria or it meets them to a small extent; the positive aspects are fewer than the negative ones; unfavourable.
score 1: total inadequacy according to the criteria; the positive aspects, if any, are negligible as compared to the negative ones that are extremely unfavourable.

The criteria to evaluate the population within a province were not implemented separately because they were indirectly included in the evaluation of human resources, the size of a provincial centre, the size of the gravitational area, the number of inhabitants within nature protection areas, etc. In this way, each province was given the same gravity in the evaluation. By considering the correction (weighting) of the number of inhabitants in a province, the values obtained for the central Slovene province (the statistical region or according to the models of division into three, six and eight provinces) would increase even further.

2.1 Province Model Evaluation Criteria

For Slovenia, 19 criteria have been set for evaluating province models:

1. Each province should have its centre, which is, under the ESPON classification, at least a MEGA (Metropolitan European Growth Area), or a FUA (Functional Urban Area) (ESPON 1.1.1., 2004), or the regional centre or conurbation should have at least 50,000 inhabitants, and the region at least 100,000 inhabitants. The optimum is at least 100,000 inhabitants for the city, and at least 800,000 inhabitants for the province. Small provinces in terms of population size and/or those with a too small urban centre are less well evaluated.
2. The province's population should be provided with the best possible access to the functions of the highest level (up to 45 minutes) and to a higher level (30 minutes) such as public administration, hospital, higher education, theatre, sports stadium, banking, etc. Most social services should be located within the province without being dependent on other provinces.
3. Each province should have a university with associated institutes, business incubators, etc. Human and other resources should suffice for top quality of higher education, including the sufficient gravitation of potential students. The university should be well connected with the province's business sector and development needs.
4. Each province should ensure employment possibilities for all age groups in both sexes in different fields, such as services, production, agriculture, tourism, etc. These possibilities stem from conditions of education, available investor resources, favourable business climate, urban centre size, natural conditions of reality, connections with the neighbouring countries, and from abroad…
5. The province's population should have the best possible access to workplaces in production and to the parcels of land on which production capacity can be built. There should be different industrial, production and craft jobs with a maximum share of workplaces with a high added value, with high technology and with minimum environmental load. The province should have at least one large industrial zone, one technological park, and economic zones in sub-regional centres.
6. A province should provide the best options in regional cross-border co-operation and within other international integrations. This means that sufficient competitiveness and a critical mass for successful involvement in Euro regions should be achieved. The province should not fall into the position of the periphery of successful cross-border regions. It should provide those activities and services that are competitive also in the neighbouring countries where synergies can be achieved. The province should have a transport network well connected with the cross-border areas.

7. A province should be formed so that it is not adversely affected by large neighbouring cities (Zagreb, Trieste, Reka, Gorica, and partly Graz) and that no harmful influence of theirs spreads to the province territory. Their influence should be positive. The criteria for this are the following: a sufficient area size, the province centre with appropriate facilities, functions, employment options and opportunities, rural vitality, etc.
8. A province should reflect a balanced relationship between urbanisation areas, urban development, nature protection areas and natural resource areas so that smooth economic development is possible with simultaneous preservation of important habitats and cultural landscapes.
9. A province should integrally include tourist regionalisation. As a whole, it should offer competitive tourist products. The connectivity, particularly between natural conditions for tourism, cultural heritage, services a large town can provide, and appropriate human resources, should be pursued.
10. A province should have options for development and successful agricultural marketing, and development of food processing chains from production of typical products to final marketing. Therefore, the province should connect areas in terms of pedology, climate, hydrology, relief and other kinds of homogeneous spaces. It should offer an appropriate partnership between urban and rural areas. It should have an option of developing special regional food brand names.
11. A province should be formed to be able to largely remediate polluted environments (water, air, and soil pollution) by taking measures to reduce pollution and to remediate degraded areas. The provinces, in which heavily polluted areas are compensated by the areas of preserved environment and where there are sufficient funds and other resources, have priority.
12. A province should have two or more motorway access and exit points. They should be at least within the 30-minute isochrone. The province needs to be connected to central Slovenia with a motorway or with at least an expressway.
13. A province should have the conditions to obtain a high-speed rail station or a station within the 30-minute isochrone. Thus, it can be included in the international and intercity rail connections.
14. A province should have access to an international airport (in Slovenia) at least in the 45-minute isochrone. The airport has to be located within the province, or it needs to be easily accessible if situated in a neighbouring province.
15. A province should have a logistics terminal of international or at least national significance. This can be ensured by a favourable traffic location, a transport network (motorways, railways, airport), and by a port (as a speciality). The location in Pan-European Corridors with their nodes is an advantage.

16. A province should be formed to provide versatile and reliable power supply. Thus, it can produce its own energy as much as possible (hydropower, nuclear, solar, and geothermal energy, biomass and coal for power generation). It has also enough stores of energy to be supplied from several directions. And it is located along international transit connections.
17. A province should have conditions for successful water management, i.e., water use and protection, drinking water supply, flood protection, hydropower use, irrigation, use of reservoirs, tourism, wetland protection, etc. The province that covers an entire river basin has an advantage over the provinces that share hydro systems with other regions, etc.
18. A province should be so formed as to be able to largely reduce the lag in the development of its areas (e.g., in mountainous and peripheral areas, agricultural areas with poor natural conditions, emigration areas, and in old industrial and mining sites) by using their human and financial resources, spatial needs, investment and other incentives. Large and vital provinces that are able to accelerate the development of their problem areas have an advantage.
19. A province should have options for controlling natural disasters according to the size, human resources, funds, and infrastructure networks. Hazard-prone areas should be balanced with safer areas or with the areas where there are different types of hazards that do not occur with the same intensity at the same time. To meet these criteria, all the hazard-prone areas (e.g., river basins, exposed mountain ranges, coastal areas, etc.) must be under control.

In accordance with the chosen criteria, an expert evaluation was carried out by using a cartographic display of the conditions in an area, a development programme analysis, and other state and individual sector documents. Despite the expert work, the evaluation was based on the following analytical indicators:

- province and population size,
- the size and significance of the regional urban centre,
- population size in areas with 45-minute access to province centres and to the highest-level activities (general public services, hospital, higher education, theatre, sports stadium, banking, etc.),
- gravitation into the province centre within the isochrones (45', 30') measured by the number of work and school commuters,
- the main centres with facilities providing services and their accessibility,
- distribution of large production areas (industrial parks), technological parks and incubators – conditions and national development programme,
- the number of publicly-owned apartments (rental apartments) and housing needs; assessment of housing market conditions,
- distribution of universities and higher education centres – conditions and trends,

- population size and area of Natura 2000 sites, drinking water source protection and other nature conservation areas,
- population size in risk areas (flood-prone areas, erosion-prone areas, water deficient areas, and fire-prone areas),
- existing and planned motorways and expressways, and accessibility of entry points,
- planned or eventual high-speed rail lines, and accessibility of railway stations,
- accessibility of the international airports in the state and possible development; accessibility of port(s),
- existing and potential logistics terminals, the possibility of combined transport,
- existing and planned energy production facilities (hydro-electric power stations, nuclear power stations, thermal power stations, wind power plants, biomass power stations, biogas power stations), portable systems (e.g., 400 kV, South Stream gas pipeline), geothermal systems, storage,
- soil quality in connection with restrictions for development of intensive agriculture, agricultural centres, conditions and possibilities of agro meliorations,
- tourist centres and their facilities, natural conditions, connections between tourist areas,
- presentation of economically depressed regions or areas lagging behind in development (depopulation, low GDP, remoteness, poor natural conditions, etc.),
- employment and unemployment (per statistical region), age pyramids, education level, employment structure,
- conditions and trends in permanent in-migration and out-migration,
- conditions and trends in daily work commuting,
- presence of water, air, and soil pollution; large pollution hotspots,
- conditions and options for solid waste management (also thermal treatment of waste, location, and landfill capacity),
- wastewater treatment conditions and needs (the sewage system conditions of the existing and needed wastewater treatment plants).

Five selected indicators (in bold italics above) were also quantitatively processed to check the results obtained. The selection of these indicators was based on options (data availability, diversity of results, indicators not checked so far ...) for an additional empirical justification of the working hypothesis set.

We designed and analysed six models of provinces (with no division, and with divisions into three, six, eight, twelve, and fourteen provinces). Therefore, the sum of all the scores in each model was multiplied by the appropriate factor (depending on the number of provinces) so that the evaluations were balanced.

This gave us the inter-comparability of the results obtained for each division of Slovenia. It enabled us to evaluate individual models and provinces covered by these models. Thus, we determined the order of provinces within each model (except in the case of Slovenia as one province), and, finally, the order of provinces in all models irrespective of their size – also when considering Slovenia as one province.

The evaluation results show that the models of dividing Slovenia into six and eight provinces are very similar, and so are the models of division into twelve and fourteen provinces. Therefore, in this paper, we only show the results for the model of entire Slovenia, and the divisions into three, six and fourteen provinces. With regard to the size and relationships between different proposals for dividing Slovenia, the provinces most relevantly give grounds for the hypothesis set in the introduction that Slovenia needs large and strong provinces. The results of the evaluation of other models (division of Slovenia into eight and twelve provinces) are presented in a work written by Pogačnik et al., 2008.

As mentioned previously, in our approach to evaluating the models of dividing Slovenia into provinces, we did not separately evaluate the population size per province, purchasing power, etc.. However, we did evaluate human resources, the size of the capital of a province, and the size of the gravitational area. Therefore, we estimate that the approach used is appropriate enough for the determination of the most adequate number of provinces and their territorial delimitation. Any possible errors in our evaluation were equated by considering the large number of criteria and indicators, the existing state, possible development, and synergy effects of many factors.

3 The Results of a Quantitative Evaluation of Province Models

3.1 Area and Population Size

The model of three provinces (Figure P-1 in Annex) is rather unbalanced in the light of area and population. The Province of Western Slovenia stands out the most. It is nearly half the size of the other two provinces. This confirms that solely Western Slovenia remains in the division into six provinces (Figure P-2 in Annex). In the model of six provinces, the provinces are more balanced. The only province that essentially stands out is the Central Slovene Province. It has nearly one third of all the population 1 (29.29%) in 21.53% of the area of the entire Slovene territory. In size, it is nearly equal to the Primorska Province with Goriška Brda (21.42%) that has more than a half less population than the Central Slovene Province (12.87%).

In the model of fourteen provinces, the Province of Ljubljana stands out. It has the smallest area size of 1.36% (275 sq km), covering only the City Municipality of

Ljubljana where there are as much as 13.47% (268,287) of total population. On the other hand, the largest among the fourteen provinces in Slovenia is Notranjsko-dolenjska Province (13.67% of area) with an average share of population (7.21%; an average percentage of population per province is 7.14%). The Savinjsko-šaleška Province is the smallest province that has 3.07% of population per 3.48% share of the surface area.

The comparison of the models shows that the imbalance of provinces (in terms of their population and area size) increases with an increase in the number of provinces. The biggest differences lie in the division into fourteen provinces (the differences among the provinces are tenfold or more), and the slightest differences lie in the division into three provinces.

3.2 The Role of Urban Centres in Province Models

The study of the role of small and medium-size towns in the urban network of Slovenia (Prosen et al., 2008) has shown that we have ten medium-size towns in Slovenia (Celje, Izola/Isola, Jesenice, Koper/Capodistria, Kranj, Maribor, Murska Sobota, Nova Gorica, Novo mesto, and Ptuj). They are the centres of national importance in regional areas. In addition, we have Ljubljana that is the only city in the Slovene urban network and the centre of international significance for the country as a whole. Maribor and Koper are also considered to be internationally important.

Aside from the 10 (or 11) medium-size towns in Slovenia, there are also 93 small towns (Prosen et al., 2008). They include the towns that are defined (in The Spatial Development Strategy of Slovenia, SPRS, 2004) as regional centres of national importance. It is characteristic of these towns that they have not developed all the activities needed for a regional centre, or that they have certain economic or other structural problems that restrain their necessary development. The fundamental reason for this lies in an insufficient number of inhabitants in towns and in their hinterland. In other cases, the reason for this can be sought near larger towns that have a negative influence on their development.

The analysis and comparison of the provinces with their urban centres (Figures P-1, P-2, and P-3 in Annex) in all models of dividing Slovenia into provinces show that medium-size towns are most evenly distributed in the division into three provinces. In this case, each province has a central town of international importance and/or at least three medium-size towns. In the case of the division into six provinces, each province has at least one medium-size town, whereas in the provinces of Primorska with Goriška Brda and North-Eastern Slovenia, there are even three medium-size towns in each province. The most severe lack of urban centres is in dividing Slovenia into fourteen provinces in which the province centre is a small town and the rest of the settlement system fails to reflect the

characteristics of the polycentric urban system. This clearly shows that Slovenia is lacking in medium-size towns that would provide the right framework for a polycentric urban network. Individual settlements are frequently too weak to represent the generator of development in a given area. In the light of the role and significance of urban centres, the least appropriate solution is the division into fourteen provinces. The best option is the division into three provinces because this provides the most balanced framework of a polycentric urban network.

3.3 Province Centre Accessibility and the Highest-Level Activities

When analysing the arrangement of activities in an area, we usually classify them into the groups that correspond to the rapidly changing conditions in the society. Changes occur even in agriculture and industry sectors. They undergo changes in the direction of services. The service sector itself is changing even more rapidly. Economic, social and spatial consequences of these changes are profound (Lisec, Prosen, 2008, Fikfak, 2008). When modelling the provinces of Slovenia, we are especially interested in tertiary activities. We attempt to group them in accordance with their main function. The new views of the role and dynamics of services are possible with a higher service differentiation between production (distributive and business) and consumer (personal and social or public) services (Senjur, 1993, SKD, 2002):
M – education,
N – health and social security, and
O – other public, common and personal service activities.

At first glance, the analysis of distribution of public activities in settlements in Slovenia shows that it is fairly balanced, except for some mountainous (Gorenjska) and underpopulated areas (Kočevje, Notranjska). This situation, however, changes when considering the number or share of public activities in these settlements, and the density of built structure. The number of public activities is larger in settlements with high building density, especially in the centres along the Ljubljana–Celje–Maribor–Murska Sobota and the Jesenice–Ljubljana–Novo mesto axes. In the South West, the Koper–Izola–Piran conurbation stands out.

In addition to spatial distribution, the sustained accessibility of public activities for all inhabitants is of extreme importance. That is why we also examined the population size in the areas of 45-minute accessibility to the chosen province centres with regard to the selected division of Slovenia. Irrespective of the division model, all province centres (including the model with fourteen provinces) have at least a minimum representation of public activities of the highest level (higher court, hospital, higher education institutions). By considering the existing national road network (DRSC, 2008 and our own corrections made to the state as at 01/01/2009), we modelled the accessibility to province centres. We were

primarily interested in the population with permanent residence within the areas of 45-minute accessibility to province centres (Figures P-1, P-2 and P-3 in Annex). The results of the accessibility analysis are given in Tables 1, 2, and 3.

Table 1: Size and share of population in the area of 45-minute accessibility to province centres and activities of the highest level when dividing Slovenia into three provinces

No.	Province	Total population		Within 45-minute accessibility		Outside 45-minute accessibility	
		Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
1	Eastern Slovenia	783,744	100	524,880	67.0	258,864	33.0
2	Central Slovenia	951,479	100	678,115	71.3	273,364	28.7
3	Western Slovenia	256,329	100	130,420	50.9	125,909	49.1
	Slovenia total	**1,991,552**	**100**	**1,333,415**	**66.9**	**658,137**	**33.1**

Table 2: Size and share of population in the area of 45-minute accessibility to province centres and activities of the highest level when dividing Slovenia into six provinces

No.	Province	Total population		Within 45-minute accessibility		Outside 45-minute accessibility	
		Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
1	North-eastern Slovenia	467,224	100	397,273	85.0	69,951	15.0
2	Savinjsko-Šaleška	316,520	100	251,423	79.4	65,097	20.6
3	South-eastern Slovenia	177,945	100	168,319	94.6	9626	5.4
4	Central Slovene Province	583,374	100	543,056	93.1	40,318	6.9
5	Gorenjska	190,160	100	182,810	96.1	7350	3.9
6	Primorska	256,329	100	130,415	50.9	125,914	49.1
	Slovenia total	**1,991,552**	**100**	**1,673,296**	**84.0**	**318,256**	**16.0**

Table 3: Size and share of population in the area of 45-minute accessibility to province centres and activities of the highest level when dividing Slovenia into 14 provinces

No.	Province	Total population		Within 45-minute accessibility		Outside 45-minute accessibility	
		Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
1	Ljubljanska	268,287	100	268,287	100	0	0.0
2	Celjska	190,114	100	189,954	99.9	160	0.1
3	Dolenjsko-belokranjska	106,942	100	102,118	95.5	4824	4.5
4	Gorenjska	196,503	100	191,307	97.4	5196	2.6
5	Južnoprimorska	136,675	100	125,233	91.6	11,442	8.4
6	Koroška	74,193	100	73,025	98.4	1168	1.6
7	Kamniško-zasavska	165,142	100	161,768	98.0	3374	2.0
8	Notranjsko-dolenjska	143,602	100	112,485	78.3	31,117	21.7
9	Osrednještajerska (Central Styrian)	236,545	100	236,488	99.9	57	0.1
10	Pomurska	128,802	100	126,110	97.9	2692	2.1
11	Posavska	75,790	100	75,529	99.7	261	0.3
12	Savinjsko-šaleška	61,216	100	60,517	98.9	699	1.1
13	Severnoprimorska	119,654	100	100,107	83.7	19,547	16.3
14	Vzhodnoštajerska	88,087	100	88,004	99.9	83	0.1
	Slovenia total	**1,991,552**	**100**	**1,904,072**	**96.0**	**87,480**	**4.0**

Tables 1, 2 and 3 show the distribution of population in the area of 45-minute accessibility of regional centres. In comparison to the distribution of urban centres, the situation here is reverse. The best results are found in the division of Slovenia into 14 provinces because most inhabitants (96%) are within the 45-minute (or better) accessibility to the province centre. When dividing Slovenia into three provinces, the appropriate accessibility to province centres is provided for 66.9% inhabitants only. However, in the analysis, one needs to consider other urban centres with their appropriate facilities, and the role of the polycentric urban system that must satisfy the needs of the entire population of a province. In Slovenia, there are as many as fourteen centres that correspond to the criterion of the minimum quantity of the highest-level activities thereby also ensuring good accessibility to these activities when dividing Slovenia into three or six provinces.

However, it needs to be noted that when dividing Slovenia into fourteen provinces, at least eight centres fail to achieve the scale, quality, choice, and other modern centre requirements. This indicates that the vast majority of the population

actually gravitates to three or six or to eight large centres, whereas other centres meet only part of the needs for central functions required by their population.

3.4 Nature Protection in Province Models

We were interested in the nature protection areas in each province (natural value areas – NV, ecologically important areas – EPO, and Natura 2000 sites), and in the population size in these areas. This is a rather complex analysis because individual nature protection areas frequently overlap. With this in mind, we had to take into account the areas of overlap between NV and EPO, NV and Natura 2000, and between three areas (NV + EPO + Natura 2000) (Figures P-1, P-2, and P-3 in Annex show the nature protection areas; the overlap between individual areas cannot be seen due to the presentation technique). Tables 4, 5, and 6 show the percentage of the population living in the nature protection areas in the models of dividing Slovenia into three, six, and fourteen provinces.

The analysis of these data is aiming to show that it is extremely important that each province has shares of equitable distribution of nature protection areas and population included in these areas. Equable distribution of nature protection areas is important both from the conservation aspect and from the development aspect (tourism development opportunities, bio-agriculture, etc.).

Table 4: Population share (in percentage) in nature protection areas (NV – natural value areas, EPO – ecologically important areas, and Natura 2000 sites) in dividing Slovenia into three provinces (note: <1 – a very small share)

No.	*Province*	*Total*	*Outside*	*Natura 2000*	*EPO*	*Natural value areas*	*Natura 2000 + EPO*	*Natura 2000 + Natural value areas*	*EPO + Natural value areas*	*Natura 2000 + EPO + Natural value areas*
1	*Eastern Slovenia*	100	86	0	4	1	4	0	1	4
2	*Central Slovenia*	100	86	<1	10	1	2	0	1	<1
3	*Western Slovenia*	100	67	0	13	5	6	0	8	1

Table 5: Population share (in percentage) in nature protection areas (NV – natural value areas, EPO – ecologically important areas, and Natura 2000 sites) in dividing Slovenia into six provinces (note: <1 – a very small share)

No.	Province	Total	Outside	Natura 2000	EPO	Natural value areas	Natura 2000 + EPO	Natura 2000 + Natural value areas	EPO + Natural value areas	Natura 2000 + EPO + Natural value areas
1	North-eastern Slovenia	100	82	0	6	1	5	0	1	5
2	Savinjsko-šaleška	100	91	0	4	1	2	0	0	2
3	South-eastern Slovenia	100	87	0	4	3	3	0	3	<1
4	Central Slovene Province	100	83	<1	13	1	2	0	1	<1
5	Gorenjska	100	93	0	2	2	2	0	<1	1
6	Primorska	100	67	0	13	5	6	0	8	1

Table 6: Population share (in percentage) in nature protection areas (NV – natural value areas, EPO – ecologically important areas, and Natura 2000 sites) in dividing Slovenia into fourteen provinces (note: <1 – a very small share)

No.	Province	Total	Outside	Natura 2000	EPO	Natural value areas	Natura 2000 + EPO	Natura 2000 + Natural value areas	EPO + Natural value areas	Natura 2000 + EPO + Natural value areas
1	Ljubljanska	100	99	0	0	0	1	0	<1	<1
2	Celjska	100	92	0	2	2	1	0	<1	3
3	Dolenjsko-belokranjska	100	87	0	4	1	3	0	4	<1
4	Gorenjska	100	93	0	2	2	2	0	<1	1
5	Južnoprimorska	100	61	0	10	9	5	0	13	2
6	Koroška	100	82	0	12	<1	6	0	<1	<1
7	Kamniško-zasavska	100	96	<1	1	1	1	0	<1	<1
8	Notranjsko-dolenjska	100	39	0	50	1	6	0	4	1
9	Osrednještajerska	100	85	0	8	1	4	0	2	1
10	Pomurska	100	75	0	2	1	5	0	1	17
11	Posavska	100	87	0	5	4	2	0	2	<1
12	Savinjsko-šaleška	100	96	0	3	<1	<1	0	<1	<1
13	Severnoprimorska	100	74	0	14	1	7	0	3	1
14	Vzhodnoštajerska	100	83	0	6	2	9	0	0	<1

Tables 4, 5, and 6 show that in all the three discussed province models, most population lives outside nature protection areas. Those who live in the nature

protection areas are in the areas where there is an overlap of at least two nature protection regimes. Frequent nature protection areas, inhabited by the permanent residents, are those where the Natura 2000 and EPO areas overlap. In many cases, these two areas overlap with natural value areas.

The analysis of nature protection areas reveals that most people live in ecologically important areas. Fewer residents live in the Natura 2000 areas. However, the natural value areas have the smallest number of residents. Similarly, in Slovenia, there is the highest share of ecologically important areas, and there are fewer Natura 2000 areas and natural value areas.

Table 4 shows a more equable distribution of population in the nature protection areas in the model of dividing Slovenia into three provinces. None of the provinces essentially stands out. There is even the same share (14%) of the population living in the nature protection areas in Eastern and Central Slovenia. The only difference lies in the population share per area. In Eastern Slovenia, the population is evenly distributed in the EPO areas and in the areas where EPO areas overlap with the Natura 2000 sites and with the natural value areas (4% of population lives in each area). In Central Slovenia, most population lives in the EPO areas (10%), whereas the total share of the population in the nature protection areas is a bit higher (33%) in Western Slovenia. In this regard, we can ascertain that dividing Slovenia into three provinces has a sufficiently balanced ratio between the nature protection areas and other areas so that smooth economic development and simultaneous preservation of important habitats and cultural landscapes are possible.

The results of dividing Slovenia into six provinces are shown in the same way in Table 5. However, they are less balanced. The Province of Primorska with Goriška Brda and the Central Slovene Province stand out regarding the size of the nature protection areas. This means greater restrictions on the development of various activities, and on exercising individual branches of industry. The advantages of these provinces (primarily Primorska with Goriška Brda) over the others include intensive development of tourism and leisure activities in the natural environment.

Regarding the population size and share in the nature protection areas, the differences are smaller. Except for the Province of Primorska with Goriška Brda where the share of the population living in the nature protection areas is 33%, the share is below 17% elsewhere. In the Savinjsko-Šaleška and Gorenjska provinces, the shares are even smaller than 7%. This also shows a rather high share of urbanised areas because in practically all provinces, the share of the nature protection areas is considerably higher than the share of the population living in these areas.

Table 6 shows the population shares in the nature protection areas when dividing Slovenia into fourteen provinces. In this case, the results show a high imbalance between provinces. The differences are too great between the Notranjska-dolenjska Province, in which as much as 61% of the population lives in the nature protection areas, and the Ljubljana (1%), Celje (2%), Gorenjska (7%), Kamniško-zasavska (4%), and Savinjsko-šaleška (4%) provinces. In other provinces, the population share in the nature protection areas is between 26% and 13%. As in the previous two cases of dividing Slovenia into provinces, the highest population share is also here in the EPO areas in all provinces.

In the light of the population size in the nature protection areas, the division of Slovenia into fourteen provinces is most inappropriate. This is reflected both in a high share of the population living in the nature protection areas in each province and in a high surface area share in the nature protection areas in these provinces, which can essentially influence their development.

The result is better when dividing Slovenia into six provinces. The most balanced situation is shown in the three-province model because it must be capable of ensuring equal development of all the areas in its territory. The research hypothesis section has confirmed that large provinces are able to balance effects of restrictions imposed by nature protection.

3.5 Risk Areas in Province Models

Furthermore, we analysed the population share in risk areas in different province models. A province should be able to deal with the situations emerging from the natural disasters that occur in their territory. Therefore, the risk areas must be balanced with other areas in a province, or else they might be overly affected by natural disasters.

Table 7: Population share (in percentage) in risk areas in the division of Slovenia into three provinces. The overview also includes water protection areas at the national and local levels (note: <1 – a very small share).

No.	Division into three provinces	Water protection areas		Water deficient areas	Fire-prone areas	Erosion-prone areas		Flood-prone areas		
		national level	municipal level			highest intensity	medium intensity	frequent	rare	catastrophic
1	Eastern Slovenia	21	2	16	7	1	17	0	4	4
2	Central Slovenia	25	5	6	7	<1	10	1	3	4
3	Western Slovenia	2	7	53	70	1	42	0	2	2

Table 8: Population share (in percentage) in risk areas in the division of Slovenia into six provinces. The overview also includes water protection areas at the national and local levels (note: <1 – a very small share).

No.	Division into three provinces	Water protection areas		Water deficient areas	Fire-prone areas	Erosion-prone areas		Flood-prone areas		
		national level	municipal level			highest intensity	medium intensity	frequent	rare	catastrophic
1	North-eastern Slovenia	35	1	22	11	2	21	<1	3	2
2	Savinjsko-šaleška	0	2	9	1	<1	11	<1	6	6
3	South-eastern Slovenia	0	6	28	0	<1	5	<1	1	2
4	Central Slovene Province	40	7	2	3	<1	8	1	4	5
5	Gorenjska	0	1	0	27	1	18	0	1	1
6	Primorska	2	7	53	70	1	42	<1	2	2

Table 9: Population share (in percentage) in risk areas in the division of Slovenia into fourteen provinces. The overview also includes water protection areas at the national and local levels (note: <1 – a very small share).

No.	Division into 14 provinces	Water protection areas		Water deficient areas	Fire-prone areas	Erosion-prone areas		Flood-prone areas		
		national level	municipal level			highest intensity	medium intensity	frequent	rare	catastrophic
1	Ljubljanska	84	<1	0	1	0	5	2	5	8
2	Celjska	0	3	14	<1	0	15	<1	9	10
3	Dolenjsko-belokranjska	0	4	36	0	0	2	0	1	1
4	Gorenjska	0	1	0	29	1	18	0	1	1
5	Južnoprimorska	4	8	98	78	1	48	<1	1	1
6	Koroška	0	1	0	6	<1	5	<1	1	1
7	Kamniško-zasavska	0	15	0	3	0	18	0	2	4
8	Notranjsko-dolenjska	7	11	6	2	<1	5	<1	3	3
9	Osrednještajerska	48	<1	15	18	2	15	<1	3	2
10	Pomurska	3	3	31	3	3	23	<1	2	2
11	Posavska	0	8	15	0	<1	12	<1	2	3
12	Savinjsko-šaleška	0	1	0	0	<1	2	0	4	4
13	Severnoprimorska	0	6	2	60	1	36	0	3	2
14	Vzhodnoštajerska	52	2	29	4	0	35	<1	4	3

In the province model analysis, we addressed two sets of risk areas: erosion-prone and flood-prone areas, and fire-prone and water deficient areas. In possible further analyses, it would be reasonable to include earthquake risk areas. Avalanche-prone areas have been excluded from our analysis because they are usually located in the mountains. In our case, they represent too small areas to have a significant

effect on the functioning and development of a province in the case of a natural disaster or upon the occurrence of snow avalanches.

Tables 7, 8, and 9 show data on the population share in risk areas. For illustration purposes, we included the population share in water protection areas. Data show that the population share in risk areas is below 1% in all provinces, irrespective of the model chosen. In terms of development, this piece of information is favourable. It indicates that there are neither major residential nor other building activities in risk areas in which they would represent an overload for the province upon the occurrence of a large disaster. However, there are some provinces where these areas are larger. This is particularly evident in the division of Slovenia into fourteen provinces, and it is least visible in dividing Slovenia into three provinces. Thus, we can make conclusions similar to those made after analysing the population in the nature protection areas. The three-province division again proves to be the most appropriate one for Slovenia, whereas the divisions into twelve and fourteen provinces have turned out the worst.

The risk area analysis has also confirmed the research hypothesis section that an appropriate division of the country into bigger provinces can contribute to more efficient problem solving in the case of natural disasters.

4 Qualitative Evaluation Results of Province Models

During the procedure for evaluating the models of dividing Slovenia into provinces, we first performed the analysis of partial results of the order of provinces within the models of dividing Slovenia into three, six, and fourteen provinces. The analysis results in Table P-1 (in Annex) are based on the evaluation of all the criteria and provinces through individual models of dividing Slovenia. Tables 10, 11, and 12, however, show the ranking of provinces in relation to the points obtained within each model.

Table 10: Ranking of provinces by province evaluation model in dividing Slovenia into three provinces

Ranking by a three-province model	Total number of points
Central Slovenia	87 points
Eastern Slovenia	68 points
Western Slovenia	68 points
Total	**920 points**

Table 11: Ranking of provinces by province evaluation model in dividing Slovenia into six provinces

Ranking by a six-province model	Total number of points
Central Slovenia	88 points
Primorska, Goriška and Notranjska	72 points
North-eastern Slovenia	70 points
Gorenjska	64 points
South-eastern Slovenia	60 points
Savinjsko-šaleška	51 points
Total	**810 points**

Table 12: Ranking of provinces by province evaluation model in dividing Slovenia into fourteen provinces

Ranking by a 14-province model	Total number of points
Ljubljanska	69 points
Celjska	57 points
Dolenjsko-belokranjska	53 points
Gorenjska	67 points
Južnoprimorska	68 points
Koroška	33 points
Kamniško-zasavska	65 points
Notranjsko-dolenjska	43 points
Osrednještajerska	58 points
Pomurska	45 points
Posavska	51 points
Savinjsko-šaleška	42 points
Severnoprimorska	52 points
Vzhodnoštajerska	55 points
Total	**643 points**

The comparison of the points obtained by evaluating the models of dividing Slovenia into provinces shows the adequacy of each division according to the analysis criteria. The results in Table 13 show the somewhat unexpected ranking of entire Slovenia (by the model of dividing the country into one single province) in second place after the three-province model. The reason for this lies in the reduced role of other centres in the urban network, in poorer access of peripheral areas to Ljubljana, in insufficient activation of regional resources, etc. The other two divisions were ranked as expected. The worst solution provided by the expert evaluation turned out to be the division into fourteen provinces.

Table 13: The number of points obtained through the models of dividing Slovenia into provinces

The models of dividing Slovenia into provinces	Total number of points obtained
three provinces	920 points
Slovenia as one province	840 points
six provinces	810 points
fourteen provinces	643 points

Table 14 ranks all provinces by the number of points obtained through different models of dividing Slovenia into provinces. On the one hand, the results show synergies of large provinces and the favourable result of the provinces cleared off the depressed parts or associations with the underdeveloped provinces (e.g., Gorenjska). On the other hand, the bottom of the scale was taken by small problem areas that are not included in a bigger and more successful province (Notranjsko-dolenjska, Savinjsko-šaleška, Koroška). North-eastern Slovenia is ranked unexpectedly high as a statistical region (Mariborsko-ptujska), which is certainly the consequence of the fact that urban concentration, traffic position, etc. are greatly emphasized in the model.

Slovenia as one province ranks in the lower part of the top third of all provinces. This has also been confirmed by the cumulative result among individual models (Table 13). Despite the synergies and competitiveness of the country as a Euroregion, the consequences of centralisation or monocentric development are becoming apparent, e.g., disadvantageous position of its peripheral parts, problems of underdeveloped areas, a large share of Natura 2000 areas, the impact of Zagreb, Trieste, Gorica on border areas, etc. The division of Slovenia into three provinces has turned out to be the best model also in the expert evaluation.

The division of Slovenia into fourteen provinces is the least advantageous among them all because they take nearly all the places in the lower two-thirds of Table 14. In the case of dividing Slovenia into fourteen provinces, the Ljubljana Province ranks best. Thanks to its central position, concentration of activities, population, goods, and capital, the Ljubljana Province still ranks in the upper quarter among all the provinces discussed.

Table 14: The number of the points obtained irrespective of the model of dividing Slovenia into provinces

Rank	Province	Number of points obtained
1	Central Slovenia (6 provinces)	88 points
2	Central Slovenia (3 provinces)	87 points
3	Primorska, Goriška and Notranjska (6 provinces)	72 points
4	Entire Slovenia	70 points
5	North-eastern Slovenia (6 provinces)	70 points
6	Ljubljanska (provinces 13 + 1)	69 points
7	Eastern Slovenia (3 provinces)	68 points
8	Western Slovenia (3 provinces)	68 points
9	Južnoprimorska (provinces 13 + 1)	68 points
10	Gorenjska (provinces 13 + 1)	67 points
11	Gorenjska (6 provinces)	64 points
12	Kamniško-zasavska (provinces 13 + 1)	65 points
13	South-eastern Slovenia (6 provinces)	60 points
14	Osrednještajerska (provinces 13 + 1)	58 points
15	Celjska (provinces 13 + 1)	57 points
16	Vzhodnoštajerska (provinces 13 + 1)	55 points
17	Dolenjsko-belokranjska (provinces 13 + 1)	53 points
18	Severnoprimorska (provinces 13 + 1)	52 points
19	Savinjsko-Šaleška (6 provinces)	51 points
20	Posavska (provinces 13 + 1)	51 points
21	Pomurska (provinces 13 + 1)	45 points
22	Notranjsko-dolenjska (provinces 13 + 1)	43 points
23	Savinjsko-Šaleška (provinces 13 + 1)	42 points
24	Koroška (provinces 13 + 1)	33 points

Final Findings of a Qualitative Evaluation of Provinces

As shown in the empirical results on the analysis of the four models following the selected criteria, there are no clear responses regarding the most appropriate division of Slovenia into provinces. Any response always depends on the monitored indicator and on the evaluation criteria set. Therefore, the analytical part is usually followed by the synthetic part of the research which, based on the method selected (e.g., multi-criteria evaluation, scenario method), gives a comprehensive answer to the questions asked.

In nearly all indicators, the results reveal that the most appropriate division of Slovenia is the division into three provinces. However, the authors of this paper believe that in practice, the middle way will be the most appropriate one, i.e., the division of Slovenia into six provinces. On the one hand, it will allow sufficiently large provinces to be able to independently direct their development in accordance

with the principles of sustainable development and protection of natural values, thereby simultaneously responding to the challenges of globalisation and climate change. On the other hand, these provinces are likely to be small enough to enable the population to identify itself with them.

5 Proposed Division of Slovenia Into Provinces and Discussion

Based on the analysis results and on the evaluation of models of dividing Slovenia into provinces, the three-province model is believed to be the most appropriate one. However, in the case of the need (of the public and/or politics) for a larger number of provinces, the six-province model could also be accepted as appropriate. This confirms the working hypothesis set forth in the introduction. The proposed six provinces (the Central Slovene, Savinjsko-Šaleška, North-eastern, South-eastern, Gorenjska, and Primorsko-Goriška provinces) still provide (possible) political support. They are still justified from the viewpoint of the higher-level functions, urban systems, gravitations, local labour market, population mobility, business and infrastructure connections, environmental protection projects, and large nature protection areas.

Besides, the division of Slovenia into six provinces still maintains critical mass and international comparability. At the same time, these regions reflect historical, physical/geographical, climatic, vegetal, cultural, economic, and other diversity in the Slovene space. There are urban centres (Ljubljana, Maribor, Koper with a littoral conurbation, Celje, Novo mesto, and Kranj) large enough to ensure an appropriate level of functions (university, professional culture, public administration, technological and industrial park, motorway and railway connections, competitive sports) at the level of six provinces in Slovenia.

The authors of this paper set the hypothesis that larger provinces can successfully neutralise the centrifugal forces in the direction of fragmentation into even smaller provinces or in the direction of locally expressed desires for their »own« province (e.g., Maribor versus Murska Sobota, Ptuj, and Ljutomer, Celje versus Velenje, Mozirje, and Slovenj Gradec). At the same time, we want to highlight some more open issues that need to be addressed before the proposal for dividing Slovenia into provinces is professionally well-founded and empirically supported for broader political and later public discussions.

The formation of provinces is not only the question of their territorial delimitation, but it is also closely associated with the division of province competences and with the mode of their funding. Based on the positions, given in the introductory section, which define the need for the formation of a smaller number of larger provinces, it might be possible already at this stage to delimit powers and to form a model for their funding. Thus, the provinces would also get the content, which

would make the territorial delimitation essentially easier. Namely, the size and number of provinces are entirely dependent on their content and purpose.

From the spatial aspect, many empirical studies will have to be performed by including also the future spatial arrangements of national significance (e.g., the third development axis, high-speed rail lines, new economic centres …). The empirical studies presented in this paper are not yet included here due to time constraints faced in carrying out the research. The results will certainly help to resolve the issues such as connecting individual municipalities or other areas to a province (for example, the issue of whether the Municipality of Radeče is to be connected to the Savinjsko-šaleška Province or to South-eastern Slovenia).

In this study, we have not yet dealt with the issue of Ljubljana, the capital of Slovenia, and we have not touched on its possible special status with regard to other provinces either. Since it is largely about a political decision, the state needs to make the decision early enough because it will also strongly influence further proposals for dividing Slovenia into provinces.

Last but not least, one of the unresolved issues is content delimitation in spatial management, which shall fall under the competence of provinces. These decisions will not only influence the functioning of provinces, but also the entire spatial planning system. Spatial planning legislation amendments will be necessary (the regional spatial plan must become a mandatory spatial document that shall provide for an eligible use of space at the province level). The functioning of municipalities shall also be changed; thus, they will be considerably relieved. Therefore, they will be able to provide an efficient implementation of the planned spatial arrangements. The balance of the funds, allocated for the implementation of expensive spatial planning documents and the associated environmental reports, shall be used for control over spatial interventions.

Figure 1: Proposal for dividing Slovenia into six provinces (municipal boundaries are marked in grey)

Notes

[1] Due to the technical preparation of the study and comparison with other data, the population size refers to 2004.

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Annexes

Figure P-1: Synthetic presentation of division of Slovenia into three provinces using selected indicators

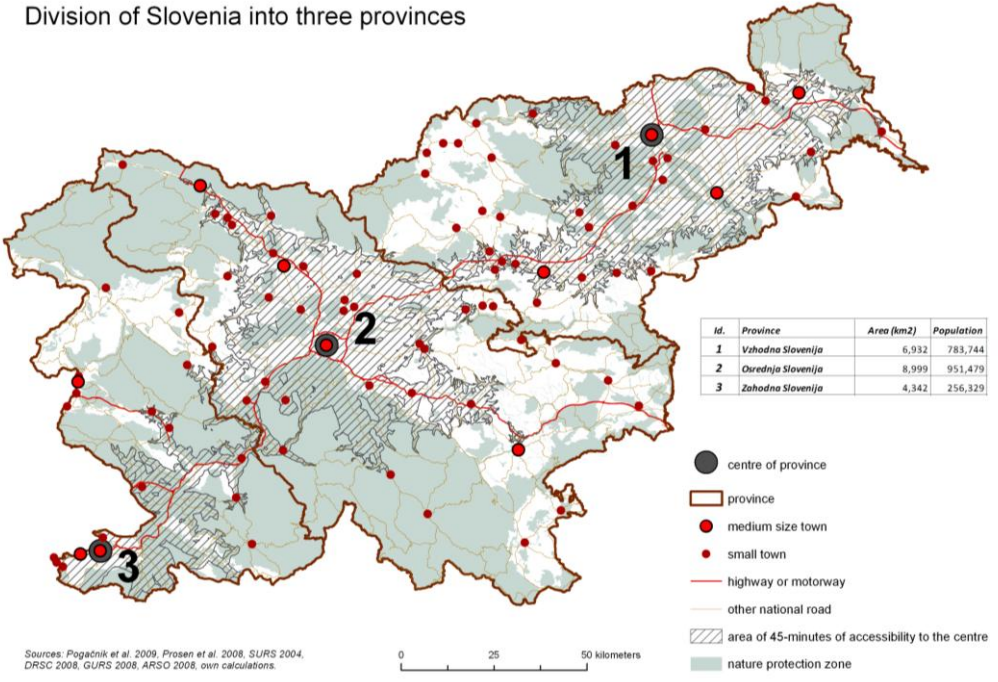


Figure P-2: Synthetic presentation of division of Slovenia into six provinces using selected indicators

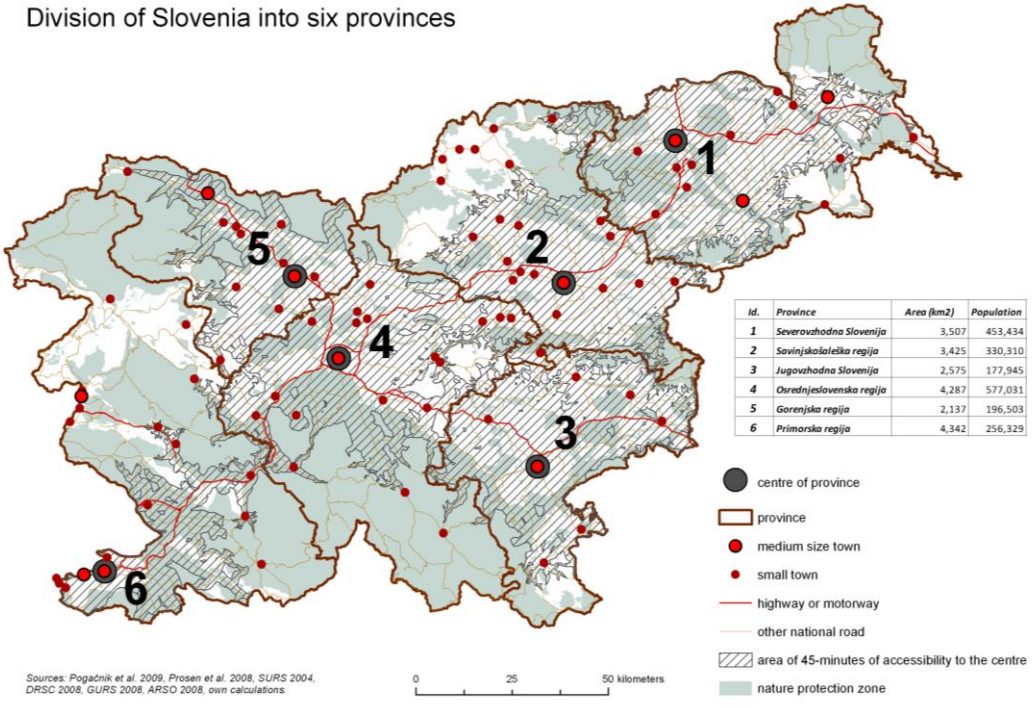
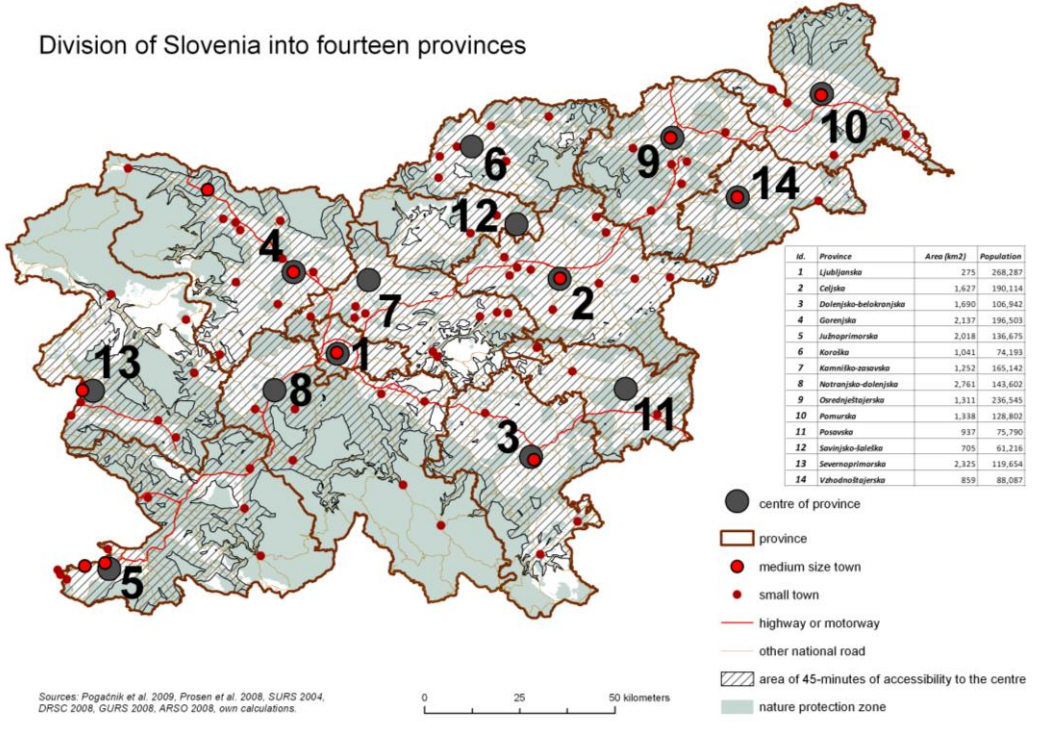


Figure P-3: Synthetic presentation of division of Slovenia into fourteen provinces using selected indicators



Id.	Province	Area (km2)	Population
1	Ljubljanska	275	268,287
2	Celjska	1,627	190,114
3	Dolenjsko-belokranjska	1,690	106,942
4	Gorenjska	2,137	196,503
5	Južnoprimorska	2,018	136,675
6	Koroška	1,041	74,193
7	Kamniško-zasavska	1,252	165,142
8	Notranjsko-dolenjska	2,761	143,602
9	Osrednještajerska	1,311	236,545
10	Pomurska	1,338	128,802
11	Posavska	937	75,790
12	Savinjsko-šaleška	705	61,216
13	Severnoprimorska	2,325	119,654
14	Vzhodnoštajerska	859	88,087

Table P-1: Results of expert evaluation of single models of dividing Slovenia into one, three, six and fourteen provinces

No. of criterion	DEVELOPMENT GOAL AND EVALUATION CRITERION	1 p.	3 provinces			6 provinces						14 (13+1) provinces													
		Entire Slovenia as one Euroregion	Western Slovenia	Central Slovenia	Eastern Slovenia	Central Slovenian province	Zahodno štajerska + Slovenska Koroška	North-eastern Slovenia	South-eastern Slovenia	Gorenjska	Primorska, Goriška and Notranjska	1. Ljubljanska	2. Celjska	3. Dolenjsko-belokranjska	4. Gorenjska	5. Južnoprimorska	6. Koroška	7. Kamniško-zasavska	8. Notranjsko-dolenjska	9. Osrednještajerska	10. Pomurska	11. Posavska	12. Savinjsko-šaleška	13. Severnoprimorska	14. Vzhodnoštajerska
1	MEGA or FUA in the region, size threshold of province of 100,000 and 800,000 inhabitants	5	4	5	4	5	1	4	2	1	3	4	1	1	1	3	1	2	1	3	1	1	1	1	1
2	Access to work places in production, possibility of choice and opening of new workplaces	3	4	4	3	5	3	3	3	3	4	3	3	3	4	4	2	4	2	2	3	2	2	3	2
3	University, its quality, gravitation, research activities	4	4	5	4	5	2	4	2	3	4	5	2	2	2	3	1	4	2	3	1	1	1	3	2
4	Overall potential of region to avoid »brain drain«, out-migration of the young population	4	4	5	3	5	2	4	3	4	5	4	3	2	4	5	1	4	2	3	2	3	2	3	3
5	Quality, scope of functions and accessibility to public functions of higher level	4	3	5	4	5	3	4	3	4	3	5	3	3	4	4	2	5	2	4	2	2	2	3	3
6	Opportunities and competitiveness in cross-border connections in Euroregions	5	4	5	4	5	2	3	3	3	4	3	1	2	2	3	1	2	2	1	3	3	1	3	2
7	Disadvantageous gravitation and influence of cities in the neighbouring country	3	3	5	4	5	4	3	2	4	3	4	4	2	5	1	1	5	3	2	2	1	4	2	3
8	Protected areas in relation to urban areas in terms of surface areas, continuity	2	3	5	4	5	2	4	4	2	4	2	4	5	2	2	3	3	1	5	2	5	3	3	4
9	Possibility of comprehensive tourist services and specific products of the region	4	4	4	3	5	4	3	3	5	5	3	2	2	5	5	3	3	2	2	3	2	1	2	3
10	Possibilities of agricultural development, agro-food processing and forestry	3	3	3	4	4	3	5	3	2	4	1	3	4	3	3	2	3	2	2	4	2	2	4	4
11	Possibility of equalizing development differences in the region, care for depressed parts of the region	4	3	4	2	4	3	3	3	4	2	5	4	3	5	5	1	3	2	2	1	2	2	2	1
12	Accessibility to motorway of expressway	4	4	5	4	5	3	4	4	5	5	5	4	5	5	5	2	5	4	5	4	4	4	4	5
13	Accessibility to high-speed railway station	3	4	5	3	5	2	4	5	3	4	5	4	4	3	3	1	5	3	4	2	4	3	2	3
14	Accessibility to international airport and port	2	2	5	3	5	2	4	2	4	2	5	2	1	4	4	1	5	2	5	1	2	1	1	4
15	Possibilities in terms of logistics, transport services	5	4	4	4	5	2	4	3	3	5	4	2	2	2	5	1	2	2	3	3	3	1	3	2