GEOGRAPHY OF THE "COMBINATION EFFECT": HOW HOLDING TWO SECOND-ORDER ELECTIONS AT THE SAME TIME CONTRIBUTES TO TURNOUT

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Abstract
The big issue for democratic societies is to get as many people as possible to vote. Low voter turnout is particularly typical of second-order elections. There are several ways to increase voter turnout. One way is to hold several elections on the same day, as happened in 2022 in Slovakia. Regional and municipal elections were held on the same day, and the question arises of how this combination changed the voter turnout in the Slovak regional elections. This paper aims to conduct a geographical analysis of regional elections in Slovakia in 2017 and 2022. Based on this analysis, it answers whether there has been an increase in voter turnout as an effect of holding elections simultaneously, and it identifies types of municipalities where this increase has occurred. The analysis employs methods of spatial analysis (Moran's I criterion, the univariate and bivariate local indicator of spatial autocorrelation). The results show that the most significant increase in voter turnout occurred in the municipalities where there was the most significant difference in turnout between the 2017 regional elections and the 2018 municipal elections. The results also show that the 2022 regional elections resemble more closely the 2018 and 2022 municipal elections regarding the spatial distribution of voter turnout. Thus, the analyses confirm that the increase in turnout in the 2022 regional elections was also due to the combination of these elections with the municipal elections. However, it should also be noted that this increase is spatially differentiated, which gives room for further geographical analyses.

Key words
Turnout, second-order elections, regional elections, spatial analysis, Slovakia.

INTRODUCTION

"Vote!" is heard from candidates on all sides of the political spectrum before elections. Geography of electoral turnout, or the different levels of mobilisation of voters from different regions and social groups, can significantly influence the outcome of an election. Despite the key role of elections in democratic societies and repeated attempts at mobilisation of voters, voter turnout shows a downward trend since the 1980s, observed both globally and in most regions of the world (Franklin, 2004, Solijonov 2016). The decline in turnout in post-socialist countries of Central and Eastern Europe has been faster than in established European democracies (Solijonov 2016). Low turnout rates have been considered a "serious democratic problem" by both politicians and political scientists (Lijphart, 1997, p. 1).

Electoral participation is even weaker in the second-order elections, which do not elect legislative bodies, compared to the first order elections (Reif and Schmitt, 1980). Several strategies have been attempted to increase voter turnout in second-order elections. One of them is to hold multiple elections at the same date (Mattila, 2003; Schakel and Dandoy, 2014; Leininger et al., 2018). The aim of the paper is to analyse the effect of this strategy in the elections of the members of regional assemblies ("regional elections") in Slovakia.

The turnout in the regional elections in Slovakia has not exceeded 30 % since the introduction of these elections in 2001. This changed only in 2022, when, for the first time, the regional elections were held at the same time as the municipal elections, resulting in the rise in participation to 44 % (see tab. 1). Clearly, the combination of the two second-order elections was a successful strategy to achieve higher voter turnout. What is not known, however, is the geography of the "combination effect", or the spatial differences in the turnout increase due to holding regional elections simultaneously with the municipal elections. Knowledge of the geography of the "combination effect" can be useful for understanding voter behaviour and, potentially, for the formulation of further strategies aimed at increasing electoral participation.

The aim of the paper is to describe, analyse and interpret the geography of turnout increase in the 2022 regional elections in Slovakia, as compared to the previous regional elections, where the turnout was considerably lower. The map of turnout is complex, as is any map of electoral results. It may be influenced by the socio-economic structure of voters and by the geographical factors such as issue voting or neighbourhood effect (REF). It is differentiated both horizontally (differences between municipalities and regions) and vertically (differences across settlement hierarchy). Each elections produce a different map of outcomes. Particularly important for the objective of the article is the analysis of the relation between turnout in the regional elections and turnout in the other second-order elections with which these elections were combined, i.e. the communal elections.

To understand the complexity of factors influencing the map of voter turnout in regional elections, and its increase due to combination effect, four related questions are investigated in the following analysis.

First, the vertical differentiation of the increase in turnout is analysed, investigating the distribution of the increase in turnout among the population size categories of municipalities. In which size categories of municipalities was the combination effect most profound?

Second, the horizontal differentiation of the increase is described, with the particular attention paid to the changes in regional elections turnout maps between 2017 and 2022. In which regions was the change most significant?

Third, and most importantly for the objective of the paper, the relation between turnout in municipal elections and increase in regional elections turnout will be investigated. Was this increase (as a proxy for the combination effect) more significant in municipalities and regions with low or high participation in municipal elections? How close is the relation between the level of turnout in both types of elections, when analysed geographically?

The following section introduces the literature review about voter turnout, second-order election theory and how this theory explains the turnout rate. The third section summarisesthe history of regional elections in Slovakia and the evolution of turnout in these elections. That is followed by a section introducing the data and methods used in this paper. The next chapter presents the results of the analyses, and the last chapter summarises the paper's results.

TURNOUT IN SECOND-ORDER ELECTIONS

The factors influencing turnout became the focus of several analyses in political science, sociology, and geography (Reif and Schmitt, 1980; Pacek et al., 2009; Schulz-Herzenberg, 2019). Despite the growing number of studies of turnout in second-order elections, some types of elections have been studied more than others. Most papers dealt with turnout in the European Parliament elections or municipal elections (e.g., Reif and Schmitt, 1980; Lefevere and van Aelst, 2014; Leininger et al., 2018; Schmitt et al., 2020). By contrast, participation in regional elections, i. e. elections to meso-level representative bodies between the local and national levels rarely becomes the subject of research (Henderson and McEwen, 2015; Avdic and Avdic, 2023).

The low attention paid to regional elections stands in contrast to the rising significance of regional assemblies, and regional elections, in recent decades (Schakel 2011). The geographical research on regional elections and turnout in regional elections focused mainly on an international comparison (Schakel 2011, 2015). There have been few geographically focused studies attempting to capture

the spatial distribution of turnout in regional elections at the municipal-level detail, and changes in turnout over time.

As recently as 2016, Plešivčák et al. (2016) claimed that there has been no long-term and systematic geographical research on voter turnout in Slovakia. Most authors address the issue of turnout only as a secondary part of an analysis of elections in Slovakia (e.g., Madleňák, 2012; Kostelecký and Krivý, 2015; Rybář et al., 2017). Only few articles so far focused their primary attention at the geography of turnout in Slovakia; the major exceptions are Mikuš and Gurňák (2014), Kevický (2020a), Kevický (2020b), Kevický and Daněk (2020). However, except for the first paper, these authors analysed the geography of turnout in the parliamentary elections, i.e. the first-order elections. Mikuš and Gurňák (2014) examined voter turnout in second-order elections, including regional elections, but their analysis was geographically limited to the particular region of Košice. No systematic research on the spatial distribution of voter turnout in regional elections has yet been undertaken.

The second-order election theory is the most widely used conceptual framework for interpretation of turnout and results of regional elections. The theory builds on a premise that there is a hierarchy in voters' view of the importance of elections, with national elections considered first-order elections, and all other elections, including European, municipal, or regional elections, considered secondary (Reif and Schmitt, 1980; Marsh, 1998; Koepke and Ringe, 2006). Turnout is usually low in second-order elections because the stakes are lower in the eyes of voters, than in the first-order elections. Voters who turn out to vote in second-order elections often use their vote as an expression of satisfaction with the national-level politics (Reif and Schmitt, 1980). Therefore, political parties that participate in the national government tend to weaken in second-order elections if voters are dissatisfied with the national politics. Conversely, opposition, minor, or new political parties often gain votes of dissatisfied voters (Rybář and Spáč, 2017). The secondary status is reinforced by lower attention paid to second-order elections from politicians, party activists, and media, and by usually only a moderate campaign before the elections.

A strategy to raise voter turnout in second-order elections is to hold these elections on the same day as other elections. Several studies (Boyd, 1989; Schakel and Dandoy, 2014; Vetter, 2015) confirmed that turnout increased when second-order elections were held at the same time as first-order elections. The turnout of second-order elections can also be increased when elections are combined with other second-order elections, characterized by a slightly higher turnout (Mattila, 2003; Rallings and Thrasher, 2005; Leininger et al., 2018). This was the case of regional elections in Slovakia in 2022.

REGIONAL ELECTIONS IN SLOVAKIA

Since 1970, Slovakia was divided into four regions (Western Slovakia, Central Slovakia, Eastern Slovakia, and Region of Bratislava) led by the formally elected Regional Peoples' Councils. Elections were organised and always won by the Communist Party of Slovakia, with no opposition parties allowed to compete before 1989 (Rybář and Spáč, 2017). The Regional Peoples' Councils, as bodies of executive power at the regional level, were dismantled in 1990, to be replaced by eight regions, called *higher territorial administrative units*, in 1996. However, these were governed by the regional branches of the central government with no self-governing bodies. Regional assemblies as bodies of regional self-government were established for the above-mentioned eight regions after complex negotiations in 2001 (Rybář and Spáč, 2017). The competencies of regional assemblies are secondary to the national executive, but they enjoy autonomy in the wide range of policies such as education, health, transport or regional policy.

Six competitive elections of regional assemblies' members were held since 2001. The plurality system is used in regional elections in Slovakia. Voters do not choose political parties but individual candidates, who may be members of a political party or independent candidates. Each of the eight self-governing regions is divided into several constituencies in which the voter chooses a certain number of candidates, depending on the population size of the constituency. The number of constituencies varies between 7 (Region of Trnava) and 24 (Region of Bratislava). The candidates who receive most of the votes in the given constituency are elected.

The influential position of the chairman of the self-governing region was elected in the two-round system till 2013. It was replaced by the one-round system in 2017. Another change, more important for the development of voter turnout, also came into force in 2017: the term of office of the regional assemblies was extended from four to five years so that the regional elections could be held regularly at the same time as the municipal elections, which has been organised every four years since 1992. That happened for the first time in 2022.

Only about a quarter of voters participated in the first regional elections in 2001. The turnout was even lower in the next three elections (see Table 1). Looking in the map of turnout in these early elections, the above-average turnout was observed regularly in the regions where the candidates from political parties representing the Hungarian-speaking population stood for election. An increase in voter turnout occurred in 2017, when a plurality system of regional chairman election was introduced. It resulted in an increase in turnout from 20 to 30 percent at the national level. The highest turnout was observed in the Region of Banská Bystrica, where the contest between a liberal candidate and the national leader of the populist radical right People's Party Our Slovakia attracted to ballots 40 % of voters.

Another increase in voter turnout occurred in 2022, when the election of regional assembly members was combined, for the first time, with municipal elections. This change resulted in participation of 44 % of voters in regional elections, only two percent less than was the turnout in the municipal elections. Turnout in both types of elections was very similar not only at the national level, but also in the individual regions (see Figure 1). This was a strong manifestation of the "combination effect".

Tab. 1 Voter turnout in regional elections in Slovakia

Region	2001	2005	2009	2013	2017	2022
Region of Bratislava (BA)	24 %	14 %	19 %	22 %	31 %	39 %
Region of Trnava (TT)	34 %	15 %	20 %	17 %	25 %	43 %
Region of Trenčín (TN)	22 %	12 %	21 %	17 %	26 %	45 %
Region of Nitra (NR)	35 %	28 %	22 %	18 %	27 %	43 %
Region of Žilina (ZA)	23 %	16 %	24 %	22 %	34 %	49 %
Region of Banská Bystrica (BB)	24 %	19 %	27 %	25 %	40 %	45 %
Region of Prešov (PO)	26 %	19 %	26 %	22 %	29 %	48 %
Region of Košice (KE)	22 %	19 %	23 %	18 %	27 %	40 %
Slovakia (SR)	26 %	18 %	23 %	20 %	30 %	44 %

Notes: The highest and the lowest values in the individual elections are highlighted. Voter turnout in the years 2001-2013 refer to the first round of elections.
Data source: Statistical Office of the Slovak Republic 2022

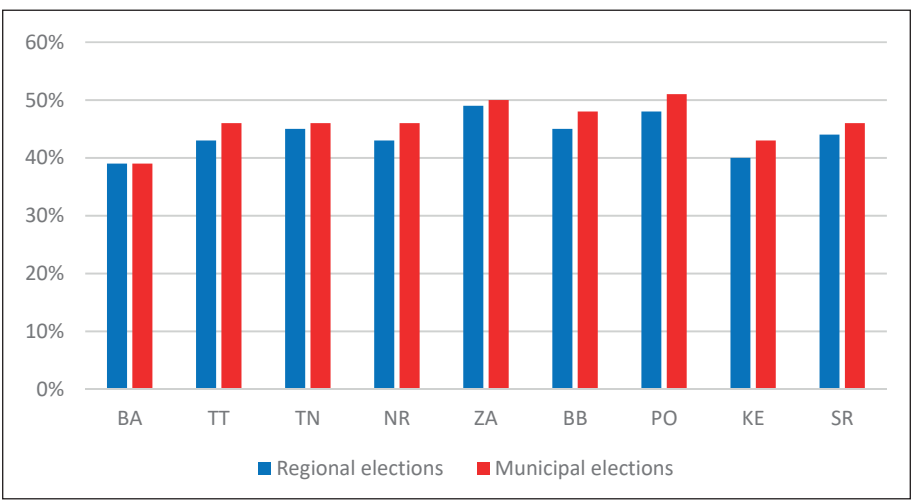

Fig. 1 Voter turnout in the regional and municipal elections in 2022 in the regions of Slovakia (for explanation of abbreviations see table 1)
Data source: Statistical Office of the Slovak Republic 2022

DATA AND METHODS

While the simple comparison of the regional elections turnout in 2017 and 2022 clearly confirms the presence of the "combination effect", at both the national and regional levels (Tab. 1), a closer look at geography of this effect provides a more complex picture. This picture was discerned using the municipality-level data on turnout in regional and municipal elections.

The dependent variable, analysed in this contribution, was calculated as a difference between regional elections turnout in 2022 and 2017. Since this difference was positive in all but few Slovak municipalities we call it increase. This variable it considered a proxy for the combination effect, because it directly compares turnout in the regional elections held at the same time as municipal elections (the 2022 elections) with those held independently (the 2017 elections). The geography of the dependent variable is visualised in the Figure 2.

Figure 2 shows that the smallest increase in voter turnout was observed in the municipalities of the Region of Banská Bystrica. It is an effect of high mobilisation of voters by the nationalist leader Marián Kotleba in the 2017 regional elections. Low values of the combination effect were also in the largest Slovak cities. In contrast, high values of the combination effect were not significantly spatially concentrated.

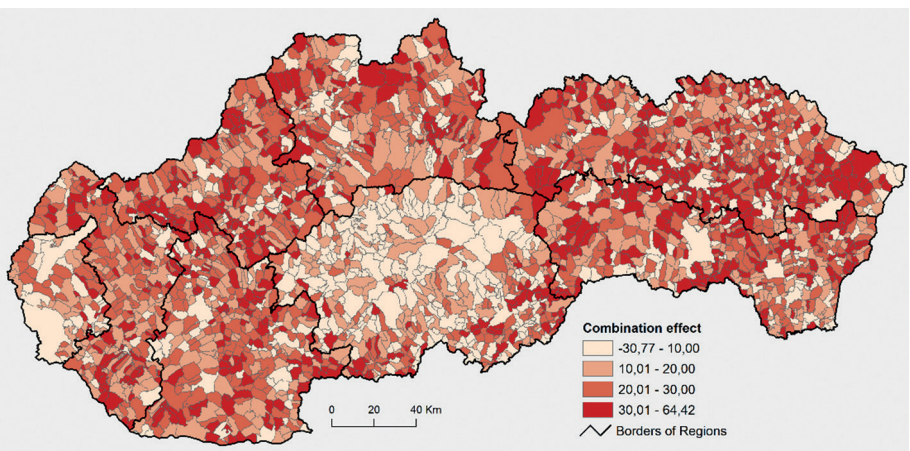

Fig. 2 The difference in voter turnout between 2022 and 2017 regional elections

The methods selected to analyse the geography of the turnout increase correspond to the research questions, outlined in the Introduction.

First, the distribution of the turnout increase across population size categories of municipalities (the vertical differentiation of the increase) was analysed using a simple tabulation (see Table 2). The municipalities of Slovakia were divided into

ten standard categories based on the number of inhabitants in 2022. The average turnout in regional and municipal elections was calculated for each size category.

Second, the spatial autocorrelation using Moran's I statistic (Cliff and Ord, 1981) was used to explore the geographical differences in turnout between the 2017 and 2022 regional elections. Values close to zero indicate spatial independence; the higher the values, the higher the spatial dependence of the variable. The type of matrix used in the analysis plays an essential role in calculating Moran's I criterion. Method of continuous matrices, based on the distance between spatial units and assuming that the intensity of interactions decreases with distance (Maškarinec, 2014), was used in construction of spatially weighted matrices. Fixed distance of 10 km between spatial units (Slovak municipalities) was used in the analysis. The value of 10 kilometres was chosen on the basis of previous research (Spurná, 2008; Maškarinec, 2014; Kevický, 2020b). The distance was measured from the geometric centre of the municipality.

Moran's I is an overall measure of the linear association whose single value is valid for the entire study area (all Slovak municipalities). Since this paper aims to explore the regional differences in the "combination effect", a local indicator of spatial association (LISA) was calculated to gain a more detailed insight into the presence of spatial clusters of municipalities with either high or low turnout. The univariate LISA was calculated for each municipality. It provides information about the degree and nature of clustering around each observation (municipality) by determining the contribution each observation makes to the overall global statistic (Shin and Agnew, 2007). The univariate LISA values identify positive spatial dependence (high values surrounded by similarly high values or low values surrounded by similarly low values) or spatial outliers (high values surrounded by low values or low values surrounded by high values). The results of the univariate LISA are presented in table 3 and figures 3 and 4.

Third, a simple regression analysis was used to measure the statistical dependence of the dependent variable (increase in regional elections turnout) on a single independent variable: turnout in the 2022 municipal elections. Standardised regression coefficient describes the nature of the statistical relation between dependent and independent variables, and adjusted R square value quantifies the percentage of variability in dependent variable explained by the independent variable.

Fourth, bivariate LISA was used to analyse differences in spatial distribution of turnout in three pairs of elections: the 2017 regional elections vs the 2022 regional elections, the 2017 regional elections vs the 2018 municipal elections, and the 2022 regional elections vs the 2022 municipal elections. While the univariate LISA results show the clustering of municipalities in a single election, bivariate LISA indicators can compare spatial differences between pairs of elections (Anselin, 1995). The bivariate LISA was calculated similarly as the univariate LISA, but the

mutual spatial autocorrelation between the turnout in two elections was analysed in this case. That allows for the comparison of clustering between pairs of elections. The results of the bivariate LISA are presented in table 5 and in pictures 5, 6 and 7.

The data were collected at the level of municipalities (2 889 administrative territorial units). The source of data on voter turnout was the Statistical Office of the Slovak Republic (2022).

RESULTS

First, the combination of regional and local elections significantly changed the distribution of turnout across size categories of municipality. In the 2017 regional elections, the average turnout in individual size categories ranged from 27 to 38 per cent (see Table 2). The distribution of turnout formed a U-curve, with low values in small and medium-sized towns and large rural municipalities (municipalities with population 1 000 to 50 000) and higher values in both small rural municipalities (population below one thousand) and larger towns and cities (population 50 000+). This distribution changed significantly in 2022. In contrast to the previous regional elections, the average turnout values were trending downward with increasing population size of municipality (high turnout in small municipalities, low turnout in cities) - see table 2. This distribution across size categories thus became similar to the distribution of turnout in the municipal elections (both 2018 and 2022 elections).

Tab. 2 Voter turnout in regional and municipal elections in the population size categories of Slovak municipalities

Municipal size category (population number)	Regional elections			Municipal elections	
	2017	2022	Difference	2018	2022
1 - 199	38 %	50 %	12 p.p.	63 %	62 %
200 - 499	34 %	50 %	16 p.p.	61 %	59 %
500 - 999	30 %	51 %	21 p.p.	60 %	59 %
1 000 - 1 999	29 %	49 %	20 p.p.	57 %	55 %
2 000 - 4 999	27 %	45 %	18 p.p.	54 %	51 %
5 000 - 9 999	30 %	44 %	14 p.p.	49 %	45 %
10 000 - 19 999	28 %	40 %	12 p.p.	43 %	40 %
20 000 - 49 999	28 %	37 %	9 p.p.	40 %	37 %
50 000 - 99 999	36 %	40 %	4 p.p.	41 %	40 %
100 000+	31 %	35 %	4 p.p.	39 %	35 %

Data source: Statistical Office of the Slovak Republic 2022

Important for the objective of the paper is the finding that the bigger the difference in turnout between the 2017 regional elections and 2018 municipal elections the higher increase in turnout in the 2022 regional elections. The analysis shows convincingly that the combination effect was the biggest in those size categories of municipalities where the turnout used to be very low. At the same time, the lowest increase was observed in bigger towns and cities where turnout in municipal elections used to be is low. It shows that the effect of combining two second-order elections has significant influence on turnout, but this effect is distributed unevenly, with rural municipalities gaining more from the change in the electoral law than the cities.

Second, Moran's I score was computed for voter turnout in regional elections held in 2017 and 2022, and municipal elections held in 2018 and 2022 (see Table 3). The high Moran's I score indicates the considerable level of systematic spatial clustering in the 2017 regional elections. In contrast, Moran's I score declined significantly in the 2022 regional elections, bringing the level of spatial clustering closer to the values achieved in the municipal elections. A weak spatial variation of voter turnout is typical for municipal elections in Slovakia.

Tab. 3 Moran's I score for voter turnout in regional and municipal elections

	2017	2018	2022
Regional elections	0.341	-	0.109
Municipal elections	-	0.060	0.058

The reduction in spatial clustering is also evident in the comparison of the LISA analysis results for regional elections in 2017 (Figure 3) and 2022 (Figure 4). Figure 2 shows a high spatial concentration of municipalities with either high or low voter turnout in the 2017 regional election, with significant clustering occurring in several parts of the country. Clusters of high voter turnout were situated mainly in the Region of Banská Bystrica and the northern and northeast parts of Slovakia, while clusters of low turnout were situated mainly in the west and southwest. The figure 3 shows a significantly lower level of spatial concentration in 2022. The cluster of positive autocorrelation in central Slovakia (the Region of Banská Bystrica) has disappeared, while the clusters of negative autocorrelation in the west, southwest and east have disintegrated and became smaller. The cluster in the northeast (the Region of Prešov) has expanded and became the most spatially extensive.

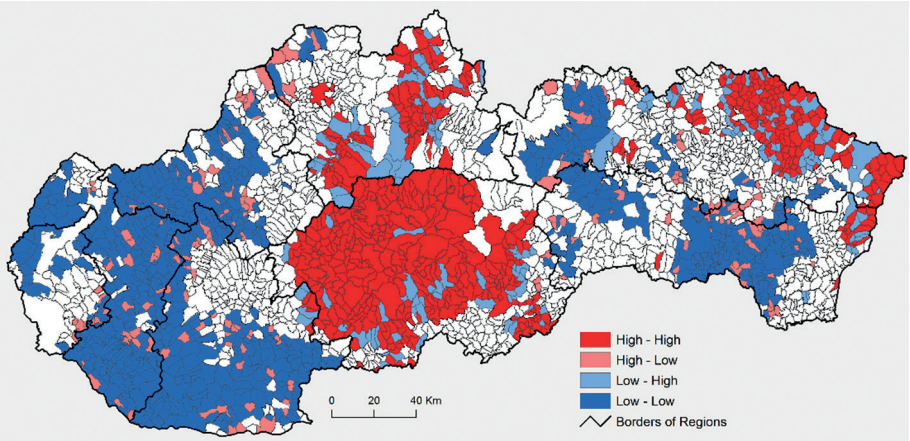

Fig. 3 LISA cluster map of voter turnout in the 2017 regional elections

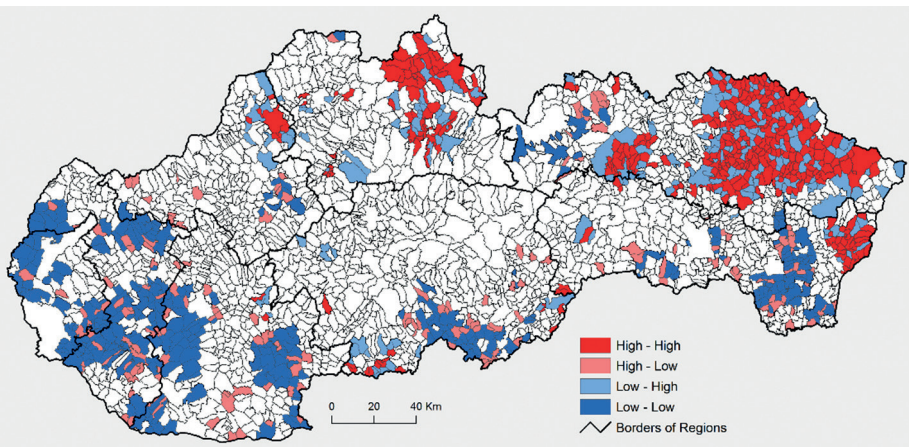

Fig. 4 LISA cluster map of voter turnout in the 2022 regional elections

How voter turnout in the 2022 municipal elections did affected the increase in turnout in regional elections? The results of a simple weighted regression, with the increase in regional elections turnout between 2017-2022 standing as the dependent variable and the 2022 municipal elections turnout as independent variable, show that the independent variable was able to explain one-third of the variability of dependent variable. When bivariate LISA is applied on these two variables (see Figure 5), it can be seen that high combination effect and high voter turnout were mainly in the north-eastern part of Slovakia while municipalities with low voter turnout and low combination effect cluster mainly in the south-western part of Slovakia.

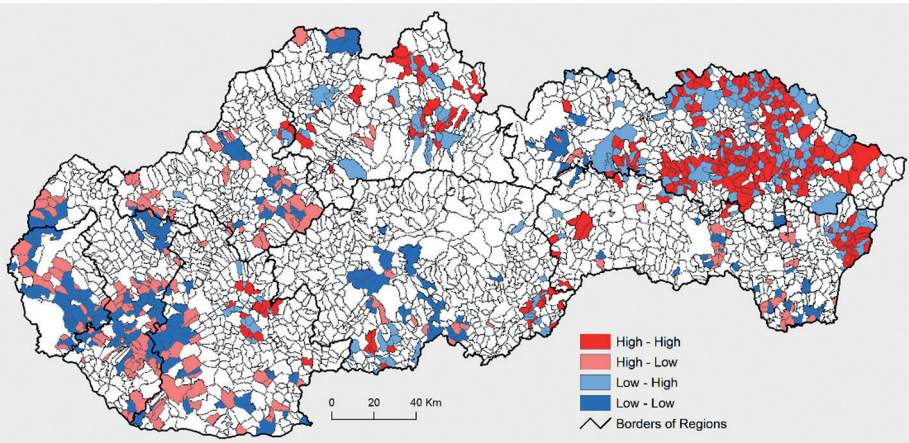

Fig. 5 Bivariate LISA cluster map of the difference in voter turnout between 2022 and 2017 regional elections with voter turnout in 2022 municipal elections (The first word in the legend indicated the values of the first variable, and the second word the values of the second variable. For example, the Low - High means that combination effect was low, while it was high in the 2022 municipal elections.)

The previous analysis confirmed that the increase in regional elections turnout is affected by the turnout in municipal elections. However, how close are regional and municipal elections to each other in terms of spatial distribution of turnout? A comparison of bivariate Moran's I scores for voter turnout in regional and municipal elections across years provides an answer (see Table 4). The bivariate Moran's I score is higher for the pair of regional and municipal elections in 2022 than for the pair of the same elections held four/five years earlier. This implies that high or low turnout in regional and municipal elections is more concentrated in the same locations. Thus, few municipalities have opposite turnout values in regional and municipal elections. It is noticeable that spatial outliers have disappeared in the Region of Banská Bystrica (see Figure 6 and 7).

Tab. 4 Bivariate Moran's I score for voter turnout in regional and municipal elections

	Moran's I score
2017 regional / 2018 municipal	0,059
2022 regional / 2022 municipal	0,073

Data source: Statistical Office of the Slovak Republic 2022

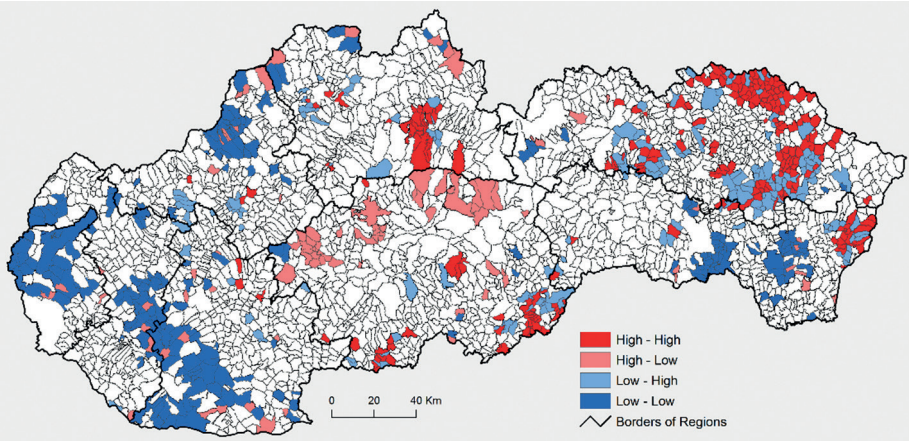

Fig. 6 Bivariate LISA cluster map of voter turnout in 2017 regional elections and voter turnout in 2018 municipal elections

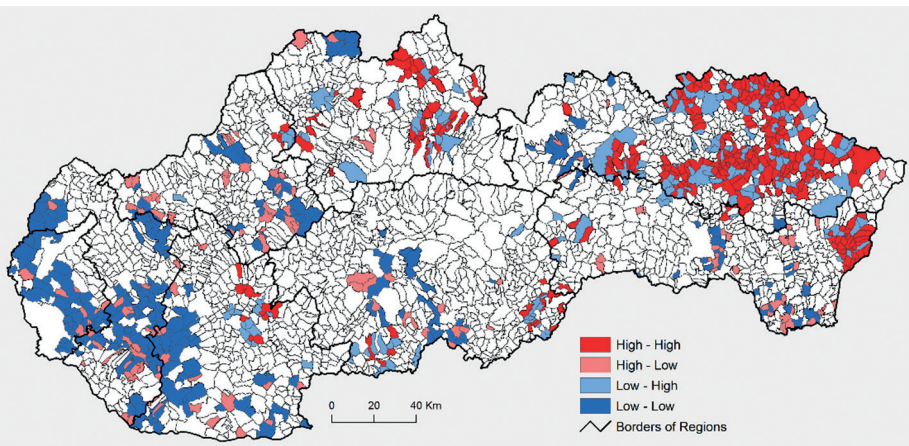

Fig. 7 Bivariate LISA cluster map of voter turnout in 2022 regional elections with voter turnout in 2022 municipal elections

CONCLUSIONS

The article analysed the geographical distribution of voter turnout in regional elections in Slovakia and changes to it brought by the combination effect, i.e. holding regional elections simultaneously with municipal elections. Initial analyses showed that turnout in regional elections increased after they were held at the same time as municipal elections. Turnout in regional elections is higher in municipalities with higher turnout in municipal elections. That was valid in the 2018 regional elections, but even more strongly in the 2022 regional elections, which were held at the same time with municipal elections. The second finding

is that high combination effect and high voter turnout were mainly in the north-eastern part of Slovakia while municipalities with low voter turnout and low combination effect cluster mainly in the south-western part of Slovakia. The third finding is that the highest increase in voter turnout in regional elections occurred in municipalities, with the highest difference between turnout in previous regional and municipal elections.

All these findings confirm that the turnout in second-order elections is affected when elections are combined with other second-order elections, characterized by a slightly higher turnout. This knowledge is consistent with findings of Mattila (2003), Rallings and Thrasher (2005) and Leininger et al. (2018). This suggests that combining multiple elections can be a workable tool for increasing voter turnout. However, it should also be noted that the spatial differentiation of voter turnout depends to a large extend on the characteristics of the political competition that took place in individual regions in individual elections.

The findings may be relevant for scholars and policy makers interested in designing strategies to increase voter turnout in second-order elections. Most European countries struggle with a low turnout in second-order elections, and it is important to examine strategies aimed at increasing the electoral participation. The analysis of the Slovak experience offers opportunities to assess the effect of combining two second-order elections. However, it should also be noted that the increase in voter turnout is spatially differentiated. Therefore, studying the geography of voter turnout not only in regional elections is crucial.

REFERENCES

ANSELIN, L. (1995). Local indicators of Spatial Association-LISA. *Geographical Analysis*, 27(2), 93-115. DOI: 10.1111/j.1538-4632.1995.tb00338.x.

AVDIC, A., AVDIC, B. (2023). Center and Periphery in Bosnia and Herzegovina – Social and Spatial Indicators of Regional Disparities. *Folia Geographica*, 65(2), 103-126.

BOYD, R. W. (1989). The Effects of Primaries and Statewide Races on Voter Turnout. *The Journal of Politics*, 51(3), 730-739. DOI: 10.2307/2131504.

CLIFF, A. D., ORD, J. K. (1981). Spatial Processes: Models and Applications. London: Pion.

FRANKLIN, M. N. (2004). Voter turnout and the dynamics of electoral competition in established democracies since 1945. Cambridge: Cambridge University Press.

HENDERSON, A., MCEWEN, N. (2015). Regions as primary political communities: A multi-level comparative analysis of turnout in regional elections. *Publius: The Journal of Federalism*, 45(2), 189-215. DOI: 10.1093/publius/pju040.

KEVICKÝ, D. (2020a). Priestorové rozloženie volebnej účasti v parlamentných voľbách v slovenských okresoch v rokoch 1990 až 2016. *Geographia Cassioviensis*, 14(1), 64-76. DOI: 10.33542/GC2020-1-04.

KEVICKÝ, D. (2020b). Volebná účasť na Slovensku v roku 2020 z pohľadu geografie – zmena alebo stabilita? *Acta Geographica Universitatis Comenianae*, 65(2), 161-178.

KEVICKÝ, D., DANĚK, P. (2020). Kde sa chodí voliť? Faktory ovplyvňujúce geografické rozloženie volebnej účasti v slovenských parlamentných voľbách. *Geografický* časopis, 72(1), 5-25. DOI: 10.31577/geogrcas.2020.72.1.01.

KOEPKE, J. R., RINGE, N. (2006). The Second-order Election Model in an Enlarged Europe. *European Union Politics*, 7(3), 321–346. DOI: 10.1177/1465116506066259.

KOSTELECKÝ, T., KRIVÝ, V. (2015). Urbánno-rurálne rozdiely voličského správania v Česku a na Slovensku. *Sociológia – Slovak Sociological Review*, 47(4), 390-413.

LEFEVERE, J., VAN AELST, P. (2014). First-order, second-order or third-rate? A comparison of turnout in European, local and national elections in the Netherlands. *Electoral Studies*, 35, 159-170. DOI: 10.1016/j.electstud.2014.06.005.

LEININGER, A., LUKAS, R., ZITTLAU, S. (2018). How to Increase Turnout in Low-Salience Elections: Quasi-Experimental Evidence on the Effect of Concurrent Second-Order Elections on Political Participation. *Political Science Research and Methods*, 6(3), 509-526. DOI: 10.1017/psrm.2016.38.

LIJPHART, A. (1997). Unequal participation: democracy's unresolved dilemma. *American Political Science Review*, 91(1), 1-14. DOI: 10.2307/2952255.

MADLEŇÁK, T. (2012). Regionálna diferenciácia volebného správania na Slovensku (1998- 2010). Bratislava: Veda.

MARSH, M. (1998). Testing the Second-Order Election Model after Four European Elections. *British Journal of Political Science*, 28(4), 591-607. DOI: 10.1017/S000712349800026X.

MAŠKARINEC, P. (2014). Volební geografie Libereckého kraje 1992–2010. Voličské chování z pohledu explorační prostorové analýzy dat (ESDA). Brno: Centrum pro studium demokracie a kultury.

MATTILA, M. (2003). Why bother? Determinants of turnout in the European elections. *Electoral Studies*, 22(3), 449–468. DOI: 10.1016/S0261-3794(01)00054-3.

MIKUŠ, R., GURŇÁK, D. (2014). Špecifiká volebnej účasti v obciach Košického kraja vo voľbách na rôznych úrovniach v rokoch 1999–2014. *Geographia Cassioviensis*, 8(2), 150-161.

PACEK, A. C., POP-ELECHES, G., TUCKER, J. A. (2009). Disenchanted or discerning: voter turnout in post-communist countries. *Journal of Politics*, 71(2), 473-491. DOI: 10.1017/S0022381609090409.

PLEŠIVČÁK, M., BUČEK, J., BAČÍK, V., KUSENDOVÁ, D. (2016). Theoretical and methodological notes on current options related to examination of voting behaviour – The geographical approach. *Acta Geographica Universitatis Comenianae*, 60(2), 151–170.

RALLINGS, C., THRASHER, M. (2005). Not All 'Second-Order' Contests are the Same: Turnout and Party Choice at the Concurrent 2004 Local and European Parlia-

ment Elections in England. *The British Journal of Politics and International Relations*, 7(4), 584–597. DOI: 10.1111/j.1467-856x.2005.00207.x.

REIF, K., SCHMITT, H. (1980). Nine Second-Order National Elections - A Conceptual Framework for the Analysis of European Election Results. *European Journal of Political Research*, 8, 3–44. DOI: 10.1111/j.1475-6765.1980.tb00737.x.

RYBÁŘ, M., SPÁČ, P. (2017). Slovakia: The Unbearable Lightness of Regionalization. In Schakel, A. H., ed., *Regional and National Elections in Eastern Europe. Territoriality of the Vote in Ten Countries*. London: Palgrave Macmillan, pp. 239-259.

RYBÁŘ, M., SPÁČ, P., VODA, P., NEMČOK, M. (2017). *Po stopách politického zemětřesení: parlamentní volby na Slovensku v roce 2016*. Brno: Centrum pro studium demokracie a kultury.

SCHAKEL, A. H. (2011). Congruence Between Regional and National Elections. Comparative Political Studies, 46(5), 631-662. DOI: 10.1177/0010414011424112.

SCHAKEL, A. H. (2015). Nationalisation of regional elections in Central and Eastern Europe. *East European Politics*, 31(2), 229-247. DOI: 10.1080/21599165.2015.1036034.

SCHAKEL, A. H., DANDOY, R. (2014). Electoral Cycles and Turnout in Multilevel Electoral Systems. *West European Politics*, 37(3), 605-623. DOI: 10.1080/01402382.2014.895526.

SCHIM, M. E., AGNEW, J. (2007). The Geographical Dynamics of Italian Electoral Chance, 1987-2001. *Electoral Studies*, 26(2), 287-302. DOI: 10.1016/j.electstud.2006.05.002.

SCHMITT, H., SANZ, A., BRAUN, D., TEPEROGLOU, E. (2020). It All Happens at Once: Understanding Electoral Behaviour in Second-Order Elections. *Politics and Governance*, 8(1), 6-18. DOI: 10.17645/pag.v8i1.2513.

SCHULZ-HERZENBERG, C. (2019). To vote or not? Testing micro-level theories of voter turnout in South Africa's 2014 general elections. *Politikon*, 46(2), 139-156. DOI: 10.1080/02589346.2019.1595879.

SOLIJONOV, A. (2016). Voter turnout trends around the world. Stockholm: International institute for democracy and electoral assistance.

SPURNÁ, P. (2008). Prostorová autokorelace - všudypřítomný jev při analýze prostorových dat?. Sociologický časopis / Czech Sociological Review, 44(4), 767-788. DOI: 10.13060/00380288.2008.44.4.08.

STATISTICAL OFFICE OF THE SLOVAK REPUBLIC. (2022). Elections and Referenda. Retrieved from: https://volby.statistics.sk/index-en.html. Accessed on 4 November 2022.

VETTER, A. (2015). Just a Matter of Timing? Local Electoral Turnout in Germany in the Context of National and European Parliamentary Elections. *German Politics*. 24(1), 67-84. DOI: 10.1080/09644008.2014.984693.