Estimating regional inequalities in the Carpathian Basin - Historical origins and recent outcomes (1880–2010)*

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This article aims to provide a general picture of the patterns of regional inequalities in the Kingdom of Hungary before its dismemberment. It also compares the location of the economic peripheries with areas dominated by national minorities and traces the changes in these patterns up until 2010 in modern Hungary and the successor states. We hypothesise that beyond the issues about land, suffrage, and minority, the issue on regional differences should also be considered as these might enhance or mitigate such differences, thereby either strengthening or weakening the internal cohesion of the state and the society. The second part of the paper investigates whether regional differences diminished in the broader region due to the regional development policies of the successor states — considering that, unlike in the 1910s, both the regional development planning and the notion of ‘social equality’ became a central part of economic policies. To analyse the above-mentioned questions, the GIStha Hungarorum (1880–1910) database and the recent statistical data for Slovakia, Romania, and Hungary (2000–2010) were evaluated at settlement level.

Introduction

Historical research usually tends to focus on vertical structures (such as society: Vörös 1979, Gyáni–Kővér 2004), and even if the territorial approach is applied¹, regional differences often remain in the shadow for historians, partly due to their lack of interest and their limited skills in using quantitative approaches (Geographical Information Systems and statistics). However, we are strongly

* The study is an edited version of a presentation held on 16 October 2019 at the conference “Trianon 100 – Consequences of the Treaty in the context of statistical analyses”.

¹ At local scale see for example, Timár 1993. There were several attempts for implementing regional approach for the whole country, see Nagy (2003), Katus (1966), and Benda (2006).
convinced that a different approach might help revising and reinterpreting old results and statements. Geographers, who usually tend to emphasise territorial approach (Nemes Nagy–Tagai 2011), have rarely attempted to carry out historical research (except Győri 2006, Győri–Mikle 2017, Beluszky 2000) because of the weak accessibility to systematically organised historical data and the lack of historical interpretative knowledge. We assume that the combination of these two scientific disciplines and the introduction of new methods and approaches – both to history and geography – may be promising either when long term impacts of political decisions and socioeconomic processes are investigated or old statements and topoi are challenged and re-evaluated.

A statistical evaluation of recently created historical databases (project GISta Hungarorum)\(^2\) may highlight the consequences of sectoral development policies (such as industrialisation and export-oriented agriculture) in an era when systematic regional planning hardly existed and regional inequalities were considered as natural consequences of the division of labour within a country. Governments of the past could be accused of neglecting certain regions by the subsequent generations of historians.\(^3\) However, according to the Williamson (1965) hypothesis, inequalities within social classes and regions tend to increase during the initial phase of capitalism regardless of the differences in economic policies, whether it is liberal or centralising (or both). Could this be a good excuse for politicians who ignored regional problems? Would this assumption justify economic policies that exploited the peripheries, rendering them as suppliers of raw material and workforce while neglecting the development of industrial branches with higher added value? Was the spatial pattern of development between 1867–1910 balanced at all, or did it show territorial patterns? If it is the latter case, were there any large peripheral regions (and where were these), or was the picture rather mosaic-like? Were towns able to exert positive effects on their surroundings or was their dynamic development ineffective in this respect? Did regional differences coincide with ethnic boundaries, thus contributing to the increase in socio-political tensions and the destabilisation of historical Hungary or did the existing development patterns instead mitigate ethnic tensions? Why did the local elite perceive modernisation equal to 'magyarisation'?\(^4\) Did the target areas of government-initiated development policies coincide with the peripheries identified by our method(s),\(^5\) were these interventions successful, and if so, where? These are questions yet to be answered by historians. We try to answer these using geographers’ tools and instruments in the first part of this article.

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\(^2\) [http://www.gistory.hu/g/hu/gistory/gismaps](http://www.gistory.hu/g/hu/gistory/gismaps)

\(^3\) Balaton Petra (2010, 2016) considers the evolution of peripheries in Hungary as the direct result of the government policy. This conviction was rare among Hungarian historians before 1945.

\(^4\) This term was used by the historians of the successor states instead of ‘nationalising policies’ with a negative connotation. It is still frequently used even in regional planning (see: Bosák 1991, Pavlínek 1995).

\(^5\) This means they were not mistargeted.
In short, the first part of the study discusses the patterns and causes of regional inequalities of development in the Kingdom of Hungary in 1910. One may question why such investigations are significant. There is a strictly professional and a political reason for this. First, by tracing the historical patterns and the background of differences, historians can contribute to a better understanding of the present problems. A region that was not a periphery 100 years ago now becoming a periphery implies the failure of the development policies (which sometimes failed to consider the historical roots of the problems because of the lack of studies on the theme). Similarly, a region that was a periphery 100 years ago, and continues that way even now also means that the efforts (if any) to overcome underdevelopment were either inadequate or misdirected, and failed interventions have serious costs. Thus, knowledge of the development patterns of the past may help assess the efficiency of modern development policies and also help reducing costs by selecting adequate intervention tools and areas.

The second reason is that the ‘natural’ evolution of ‘growth poles’ and peripheries had been interrupted by an external (and irreversible) interference into the system (the border changes in 1910), providing many centres of development and development policies over the last 100 years. Such a restructuration would imply a change in the pattern of peripheries. Nonetheless, the question of how the pattern of underdeveloped areas changed in the last century due to regime and border changes (and why) is a politically sensitive one. Although it might generate debates, it is still relevant to articulate questions such as – are underdeveloped regions the same as 100 years ago or are there any changes in spatial patterns; are successor states better owners of the acquired regions (in economic and not in national terms), than Austria-Hungary; were they able to improve the situation (was it their intention at all?) or was their economic intervention inefficient?

To check the changes and answer the above questions, in the second part of the study, the present-day differences in the development level were compared to those of 100 years ago. Given that we had no established knowledge or preconception on the nature of inequalities in the beginning of the 20th century, we may select from the following alternatives. 1. There were no remarkable regional differences in 1910, and that differences increased in the last hundred years (although such an outcome would not legitimise the economic necessity of Trianon); 2. There were no remarkable regional differences in 1910, and these differences did not change or decrease; 3. There were serious disparities in 1910, and the situation worsened; and 4. There were serious disparities in 1910, but tensions have been reduced thanks to the conscious development policies pursued in the successor states. Such an outcome may reason (retrospectively) the dissolution of a historical Hungary not only from ethnic but also from socioeconomic aspects (Demeter 2018a). The question to be answered in the second part by comparing historical patterns of development with present-day regional inequalities is – which scenario proves to be realistic? In short, the second part of the study investigates whether the differing
regional policies of the successor states were able to (1) overprint the patterns of historical heritage; and (2) mitigate regional inequalities in development levels by 2010 both within the state and compared to the former core, that is, Budapest.

**Methods and problems of measuring regional inequalities in 1910**

Among the causes of Trianon, one may enumerate social problems, ethnic tensions, and the questions on land and suffrage, but regional inequalities are rarely mentioned. Our point of view is that beyond the aforementioned problems, regional differences could also increase (or mitigate) these tensions. These factors could be superimposed on each other through synergism or could decrease the mutual impact. A region dominated by national minorities and also characterised by economic backwardness would show more symptoms of dissatisfaction than a prosperous ‘ethnic region’ (for the term and delimitations see Katus 1966). Further, if the population recognised that regions dominated by ethnic Hungarians were more prosperous, it would have easily led to the conviction among the representatives and historians of minority groups that ‘magyarisation’ went parallel to modernisation.6 In other words, if socioeconomic fault lines coincided with ethnic boundaries, this would mean a greater destabilisation factor than ethnic boundaries not coinciding with peripheries, which weakens internal cohesion. Recent literature in other countries also emphasises the role of economic inequalities, beside nationalism, in the destabilisation of a state for the modern period (Pavlínek 1995).

Based on more than 7 million data processed within the framework of project GİSta Hungarorum7, four researchers (two historians and two geographers) were assigned with the task to identify the peripheral regions of historical Hungary in 1910 (Pénzes 2018, Demeter 2018b, Jakobi 2018, Szilágyi 2018). The objective of having scholars representing diverse scientific disciplines was to promote methodological diversity and scientific independence.

The first problem was how to measure the development level. The delimitation of peripheries can nowadays be done using numerous methods, although these do not always show coinciding results (Pénzes 2014). Therefore, it is questionable whether (and how) these could be adapted or adjusted to the situation of 100 years ago. The Gross Domestic Product (GDP) or Human Development Index (see Egri–Táczos 2018) data were not measured that time, either at the district or the settlement level. Furthermore, the utilisation of GDP at the regional level has been questioned in the literature (Ilieva 2011, Ianoş et al. 2013). Historical HDI can be calculated retrospectively but only at the district-level (Szilágyi 2018). However, for

6 Gellner (1983) stated that nationalism was essential to achieve economic progress of the state.
7 www.gistory.hu/g/hs/gistory/otka – website of OTKA K 111 766. Principal investigator: Demeter, Gábor.
GDP, such a resolution is a futile effort. Nevertheless, calculating district-level HDI is a significant step forward compared to the method applied by Győri and Mikle. Besides data levels and accessibility, another problem is that of the method to be used.

Using a single variable leads to the question of which one to use. Each variable might show a unique feature and assessing the correct one is an issue. Different variables might lead to different historical interpretations. A good example of this problem is discussed below. If we consider direct tax/capita as an indicator of government pressure on the local population, the resulting picture confirms the perspective of Hungarian scholars, that is, minority regions were not overloaded. Compared to Bačka and the Bánát inhabited by Serbs and Germans, or the central plains inhabited by Magyars, Transylvania, Ruthenia, and Upper Hungary (Felvidék) were not overtaxed at all (Figure 1). This means that our neighbours’ statement regarding the economic oppression/exploitation from the centre (Pascu 1984, Podrimavský 2011, Pop-Bolovan 2013) can be challenged. However, the situation is entirely different if we consider another variable, the pattern of the settlement wealth/capita (symbolising the economic power of local communities and not of individuals; Figure 2). The picture is just the opposite — in Upper Hungary, Subcarpathia (Kárpátalja), and in numerous parts of Transylvania, the economic power was feeble, whereas it was extremely high in the Saxon lands and the Bánát region. Therefore, in many cases, the ethnic and economic boundaries overlapped and the results seem to confirm the statement of the successor states’ historians, who stress that regions inhabited by ethnic minorities in historical Hungary were in an unfavourable situation. Thus, this conflicting result needs to be examined.

A realistic picture can only be gained if burdens are compared to income levels. Thus, the two maps in Figure 1 and Figure 2 had to be divided (Figure 3) to obtain a more balanced view. Though settlement wealth/capita values are not income data, it may fit into the purpose of the investigation. One may also use net cadastral land

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8 Not even the famous country-level GDP measurements of Maddison (2001) remained unchallenged for our region and the Balkans (for a thorough analysis, see Demeter 2014). Schulze’s latest GDP estimations for Austria-Hungary (2000) focus on development trends and not on regional patterns. Good (1998) provided regional level data for Austria-Hungary, but only for the 1880s.

9 Though the referred research remained at the district level, Szilágyi used complex indicators to assess development levels and used 1930 as a new time horizon not processed by Győri and Mikle.

10 There is no generally agreed method for the selection of variables as the determining factors may differ from region to region and the level of investigation (Manic et al. 2012, Ancață 2010, Ilieva 2011, Ianoș–Heller 2006). Therefore, most studies use PCA. However, this is not the most adequate method in temporal comparisons as (1) the role of variables might change; thus, a Principal Component Analysis for 1910 and for 2010 might lead to different results leaving incomparable variables in the datasets. (2) Proxy variables existing for both periods might be filtered out because they do not show normal distribution in one of the time horizons to be compared. Therefore, one has to choose either this statistically more sophisticated method or the overlay of the variables (proxis), if the latter is used, then the variables for the different time horizons can be used in mirror.

11 There are other, more balanced approaches (Mitu 2017).
income of settlements from 1909. Though this did not contain income values for husbandry, these are available for the districts and counties.\textsuperscript{12}

The second problem is that agrarian incomes did not completely cover the income structure—in some places their relevance dropped below 50\% of the total revenues due to the higher share of industrial and tertiary activities. Another problem is that the average values of income/capita at settlement level did not convey anything about the internal differentiation of a settlement (i.e. the distribution of income between owners and producers, large estate holders, smallholders, and agrarian wage labourers). However, as we did not have better alternatives (industrial income was not given at the settlement level), we decided to use these variables.

The picture obtained from both maps (Figures 3–4) shows that most of Upper Hungary north of the transversal railway line was overburdened; the same was true for Subcarpathia and most parts of Transylvania (except Székely Lands and the Saxon region), but the burdens on Bácska (Bàčka) and the Bánát were low compared to the earnings, though both were multi-ethnic regions. This means that the opinion of the historians of the successor states is not invalid, and their statements regarding the inferior position of ethnic peripheries can be partly verified (Kováč 2011, Hronský 1998, 2001; Pop–Bolovan 2013).\textsuperscript{13} Partly, because some of the regions showed differences based on the two maps (Székely Lands, Caraş-Severin, the Plains in NW-Hungary, and Southern Transdanubia); some regions dominated by Hungarians were also among the backward areas, while some regions dominated by ethnic minorities were also among the developed areas. However, this still means that in some cases, economic fault lines did coincide with ethnic boundaries.

More interestingly, not only indicators of wealth but also some variables indicating health conditions showed this pattern.\textsuperscript{14} The share of whooping cough, measles, and scarlet fever in total deaths (traditional death causes) was high in Upper Hungary, Subcarpathia, and western Transylvania (Figure 5a), similar to Figures 3–4. Thus, economic disparities had social aspects as well (tuberculosis was more frequent in lowland areas dominated by Hungarians; however, without more in-depth investigation, one cannot decide whether it is due to modernisation and higher population density or because of higher subsurface water level).

The same patterns recurred in other economic sectors besides agriculture. The pattern of changes in industrial firms looked similar to the pattern of death causes, though peripheries (inhabited mainly by minorities) received more financial support for industrialisation than the centre between 1900 and 1910. This resulted in the concentration of industry, and thus many of the smaller firms were closed down

\textsuperscript{12} See the collection of László Katus and Mariann Nagy in the county tables of GISta Hungarorum database.

\textsuperscript{13} Contemporary works rather focus on the lack of political achievement. It was the marxists who emphasised economic and social backwardness (beside other aspects).

\textsuperscript{14} Myrdal (1963) proved that the analysis of development could not be based on economic variables alone.
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during these years (Figure 6). In contrast, in the central parts of the country the growth was more even, balanced (traditional industry declined in the German-Hungarian-Croatian Burgenland and in the Hungarian-dominated S-Baranya too). The fact that the areas dominated by Hungarian-speaking population were in a more favourable situation in regard to the stage of industrialisation also (Table 1),¹⁵ may be the reason for the statement expressed by the historians of the successor states that modernisation and nationalisation (Magyarisation) went hand in hand (see also Pénzes 2018).

### Table 1

<table>
<thead>
<tr>
<th>Development deciles</th>
<th>Industrial earners% (Regional Development Index of: Pénzes 2014)</th>
<th>Proportion of population able to speak Hungarian, % Győri-method (2006)</th>
<th>Proportion of Roman Catholics, % RDI</th>
<th>Proportion of Protestants, % RDI</th>
<th>Proportion of Greek Catholics and Orthodox, % RDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest</td>
<td>5.8</td>
<td>3.3</td>
<td>51.0</td>
<td>8.1</td>
<td>34.9</td>
</tr>
<tr>
<td>2.</td>
<td>6.4</td>
<td>9.2</td>
<td>48.0</td>
<td>13.1</td>
<td>31.7</td>
</tr>
<tr>
<td>3.</td>
<td>7.0</td>
<td>24.2</td>
<td>51.9</td>
<td>12.6</td>
<td>28.7</td>
</tr>
<tr>
<td>…</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>12.5</td>
<td>65.0</td>
<td>45.7</td>
<td>15.6</td>
<td>26.2</td>
</tr>
<tr>
<td>9.</td>
<td>16.5</td>
<td>67.3</td>
<td>47.0</td>
<td>16.5</td>
<td>21.1</td>
</tr>
<tr>
<td>Highest</td>
<td>34.7</td>
<td>66.9</td>
<td>54.9</td>
<td>13.4</td>
<td>11.2</td>
</tr>
<tr>
<td>Total</td>
<td>17.3</td>
<td>54.6</td>
<td>49.2</td>
<td>14.3</td>
<td>23.8</td>
</tr>
</tbody>
</table>

Note: data from Pénzes (2018).

Another specific feature is that in the regions classified both as underdeveloped and dominated by ethnic minorities, it was usually the governing parties supporting the system of ‘Ausgleich’ who won the elections in 1867, while in the modernising Hungarian Great Plains it was the opposition (the 48er parties) that usually won, though they were never in power (except for 1905–1910). Therefore, they were not responsible for the prosperity of the region (Pap 2014, 2016). On the other hand, despite being in power for 50 years, the governing party of the two Kálmán and István Tisza could not (or was not willing to) generate any economic progress in the (mostly) peripheral regions where they usually won the elections. Furthermore, though Prime Minister Bánffy stated in 1899 that the electoral census (based on land tax) was lower in these peripheries, implying that a Slovak or a Romanian might get the right to vote more easily than a Hungarian (Gerő 1988), this also proved to be an incorrect statement. If we compare the value of the census with the agrarian incomes, most of the territory of the country falls into the interval of 15–20% (Figure 5b). Thus, there was no intentional differentiation regarding the

¹⁵ Their leading role in agriculture has already been discussed.
electoral census between the communities speaking different languages. However, there were some exceptions – the value of the census measured to land income was higher in the whole Transylvania (including not only the Romanian but also Saxon and Székely counties), NW Upper Hungary (which was an ethnically Slovakian region, the homeland of Andrej Hlinka and the site of the Csernova massacre), and Subcarpathia. Therefore, these were not only regions dominated by ethnic minorities – and at the same time economically backward areas – but were also suffering from lower electoral (thus political) representation. However, this was also true for the ethnically Hungarian (and German) S-Transdanubia, where the census was also high compared to the land incomes and excluded the agrarian daily wage labourers – who worked on the land of large-estate owners – from the elections (S-Transdanubia was characterised by such estates. Peasant participation in elections was more balanced in the Körös-Maros region [Viharsarok], which was also dominated by large estates, but the census and land tax compared to income were not as high as in S-Transdanubia).

The sometimes contradictory and at other times coinciding results of the pattern analysis of cartograms containing one or two variables led us to test a series of diverse methods based on more complex approach (applied in regional science) to derive more established and balanced conclusions. Testing several methods was also reasonable for general methodological purposes.17

Thus, an investigation similar to the formerly mentioned district-level attempt of Győri and Mikló was also carried out at the settlement level by Zsolt Szilágyi (2018; the same six variables were used). Another investigation used the LISA (Local Indicator of Spatial Association) method to trace the connectedness of developed and underdeveloped regions (Jakobi 2018). The third investigation adopted the method elaborated for the recent data structure and development trends by János Pénzes (2014), which was based on the identification of independent variables (PCA; Pénzes 2018). Finally, the superposition of cartograms containing single indicators was also tested. All the methods and set of aggregated indices were applied to substitute GDP (Ianoș et al. 2013). The variables used in these investigations are shown in Table 2, which also draws our attention to the interesting fact that the set of common variables was low in some cases. Details on the results of the investigation based on the PCA of input variables can be read in the article of János Pénzes (2020).

16 For the occasional connection between development levels and the places of outbreak of tensions in forms of physical violence see: Demeter 2019.
17 See footnote 10.
Figure 1

Direct taxes/capita (1909, Kronen)

Note: data is missing for some cities in the plains.

Figure 2

Settlement wealth / capita (1909, Kronen)
Figure 3
State burdens (direct taxes) compared to settlement wealth (1909)

Figure 4
Direct taxes compared to agrarian incomes (1 = 100%)

Ratio
- 0.00
- 0.01–0.30
- 0.31–0.70
- 0.71–1.00
- 1.01–2.00
- 2.01–5.00
- 5.01–

Ratio
- 0.000000–0.050000
- 0.050001–0.200000
- 0.200001–0.330000
- 0.330001–0.500000
- 0.500001–0.660000
- 0.660001–0.800000
- 0.800001–1.000000
- 1.000001–1.500000
- 1.500001–4.0001,500
Figure 5a

The total share of measles, scarlet fever, and whooping cough in total deaths (%, 1901–1910, yearly average)

Figure 5b

The value of electoral census (based on land tax) compared to income from crops in 1900 (1 = 100%)
Change in the number of industrial firms at the settlement level (including small-scale industry with one worker) between 1900 and 1910

Table 2

Indicators used in different investigations to delimit cores and peripheries* (2018)

<table>
<thead>
<tr>
<th>Szilágyi, Zsolt (5)</th>
<th>Pénzes, János (6)</th>
<th>Demeter, Gábor (27, then 12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literacy rate above 6 years, 1910</td>
<td>Literacy rate, 1910</td>
<td></td>
</tr>
<tr>
<td>Deaths receiving medical treatment (%), 1910</td>
<td>Deaths receiving medical treatment, %</td>
<td></td>
</tr>
<tr>
<td>Houses of good quality (%), 1910</td>
<td>Houses of poor quality, 1910</td>
<td></td>
</tr>
<tr>
<td>Migration rate, 1901–1909</td>
<td>Migration rate, 1901–1909</td>
<td></td>
</tr>
<tr>
<td>Earners in industry and tertiary (%), 1910</td>
<td>Industrial earners, %</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Infant mortality</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Earner/non-earner ratio</td>
<td></td>
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<tr>
<td></td>
<td>Cadastral net income per inhabitant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Direct state burden per capita, 1909</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Net income of settlements per capita</td>
<td></td>
</tr>
<tr>
<td></td>
<td>derived from the variables by PCA</td>
<td></td>
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<tr>
<td>Győri, R. and Beluszky, P.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agrarian transports, t/1000 prs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distance from railway, m, 1890</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smallholders compelled to search for daily wage labour %, 1910</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overlay of single maps, aggregation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The same indicator pairs occurring in different investigations are positioned next to each other.
Regional patterns of development level in 1910

Surprisingly, despite the methodological differences, peripheral regions were almost the same regardless of variable numbers and methods (except the method elaborated for the modern needs [Pénzes 2014], which drove us to the conclusion that the criteria and interpretation of backwardness changed significantly between 1910 and 2010). This indicates that backward regions were stable and well-traceable in historical Hungary. This also implies that government policies were unable (or unwilling) to overcome this problem. Nonetheless, the evolving regional division of labour – workforce and raw material vs processed goods – was neither against the concept of liberal nor against the centralising economic policies; and this type of division of labour did not make possible the diminishing of evolving disparities. The analysis of other cartograms created within the frames of the project GISta Hungarorum (Demeter 2019) proves that the effect of industrial centres on their broader surroundings was rather limited. Although drawing the workforce from the rural background, and thus mitigating demographic pressure, no real development in living standards was achieved in these zones. By 1910, the development pattern of the industry remained mosaic-like – except for Budapest – and its effect was sporadic.

According to the theory of ‘unbalanced growth’, industrialisation as a strategy to diminish territorial gaps had evident limits (Hitchensman 1958).

Figure 7

Aggregated development level in Hungary in 1910 based on 27 indicators

Lowest score

Highest score
While analysing the spatial pattern of regional inequalities, we also differentiated between variables indicating the dynamism of development (Figure 8) and the stage of development (Figure 7) because these are considered two different aspects of development. Based on the changes in the values of economic variables between 1880 and 1910, the *dynamism of development* was outstanding in the Délvidék (Bačka and Bánát) and along the Danube-axis in N-Transdanubia and good in the Budapest-Szolnok region and east from the river Tisza. The northern Upper Highlands, Subcarpathia, and western Transdanubia were not only underdeveloped but also showed weak dynamism. Thus, the difference between developed and underdeveloped regions during the 1880–1910 period increased. If demographic indicators are also included in the set of variables representing the dynamism of development (such as migration rate, which also refers to the attractiveness of a place), then Bačka is overtaken by the northern Tiszántúl, and the northern Transdanubian axis is substituted by southwestern Upper Hungary. The surroundings of Kolozsvár/Cluj-Napoca were also dynamically developing. The northern part of Székely Lands – though generally a backward area – was developing, while the Saxon lands were developed but stagnating areas (the lack of significant industrial investments [Figure 6] contributed to this pattern in the latter region). The map also confirms that in some cases *state intervention* brought some...
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relief (see the so-called ‘Székely action’) and decreased the backwardness at least from the macro-perspective, while in other areas (unfortunately, mostly in regions dominated by minorities), it proved futile (the Ruthenian action failed). Though intentional (ethnic) discrimination should not be assumed behind this outcome of events (for such actions, see Braun 2017, Balaton 2016, 2017), the ambivalent results did not increase the trust of minorities towards the central government (anyway, the locations of state intervention and peripheries identified by us often coincided, which meant that the government was aware of the regional inequalities).

The static map illustrating the development stage of the regions of the country based on the aggregated values of 27 single variables (created by overlay method) showed the following patterns: the surroundings of Budapest, Debrecen, and Bratislava/Pozsony seemed to be the most developed in 1910 (the latter included the more traditional-rural Moson County too, due to the proximity of Vienna, Győr 2006), which were connected through the Budapest-Szolnok axis and the Danube-axis as ‘bridges’. This strip continued towards Pécs and in the Danube-Tisza Interfluve and the northern part of Bačka, furthermore including parts of Békés County inhabited by Slovaks. Miskolc and the Kassa (Košice)—Rozsnó (Rožnava)—Losone (Lučenec) zone along the transversal railway were also in favourable position regarding their development levels but these were isolated from the core areas. The traditional mining towns in Central Slovakia showed only average performance. From Transylvania, only Nagyszeben/Sibiu and Brassó/Brașov were able to emerge from the underdeveloped background (but based on their dynamism they were not among the first; Eger in Hungary was in a similar situation). The position of Medgyes/Mediaș and Kolozsvár/Cluj-Napoca was only favourable within Transylvania. However, compared to the Hungarian towns, they were not developed (though were emerging quickly according to the dynamic map).

In the present territory of Hungary Zala and Nógrád Counties and the Szatmári-Tiszahát were the least developed. The situation in Nyírség was a bit favourable, although it was still among the backward regions, while the Cserehát, Bihar and the future Tisza-tó region (now considered as peripheries) were not among the most underdeveloped. The northern parts of Upper Hungary, Subcarpathia, and West-Transylvania accompanied these backward regions considering the area of historical Hungary.

The general picture allows us to challenge the existence of the West–East slope (which is a characteristic of the modern period, i.e. in the present area of the country) as differences in development levels show a concentric pattern rather than a sloping one. Furthermore, sometimes fault lines and fractures (sudden drops in development levels) occurred – for instance, along the Nagyvárad/Oradea–Szatmárnémeti/Satu Mare line and in the neighbourhood of Trenčín, Ungvár (Užhorod), and Losone (Lučenec) along the transversal railway line, and even between the Székely Lands and the Saxon region in Transylvania. The future (1920) political boundaries almost coincided with the economic fault lines in Transylvania. the
The union of Transylvania and Hungary did not result in the mitigation of socioeconomic differences between 1867 and 1910. The future boundary between Czechoslovakia and Hungary (1920) also almost coincided with the fault line, which was located north of the transversal railway line, at the Slovakian-Hungarian ethnic contact zone. These urban centres located along the railway line were essential for the viability of Slovakia, and therefore were attached to it (the East–West railroad could not be the sole reason as there were other railway connections between Bratislava and Košice). The accession of this market line to Slovakia contributed to the maintenance of the original division of labour (raw material vs processed stuff) in these regions despite the establishment of a new political formation.

The picture we obtained is in sharp contrast with the general topoi of the economically unviable Hungary after 1920. The mutilated Hungary was composed of the most developed regions. In other words, those regions were detached from the country which would have required substantial additional sources for development purposes that the centre – being economically exhausted after the war – did not have (the loss of Bačka is an exception from the general scheme). The loss of industrial centres and raw material sources might be a disaster for the processing industry of the centre. Still, a comparison of the maps showing the general development level and that illustrating the agrarian incomes proves that the remainder of the country was primarily determined by the development level of the agricultural sphere, and that the local urban centres were based on the utilisation of agriculture.

To summarise our results concerning the situation in 1910, the following conclusions can be made:

The location of peripheral regions was stable in 1910, regardless of the method applied and the number of variables involved. This methodological independence of the results helps when the number of applicable methods is limited for other time horizons (the structure of the database did not allow us to use diverse methods for 2010; however, the method chosen for the 2010 investigations was available for 1910 too, which made our investigations comparable).

The general picture obtained for 1910 suggests the following:

(a) The centralisation (and nationalisation) of the economy resulted in a special division of labour in Hungary: workforce and raw material vs processed goods. By 1910, this asymmetric interdependence manifested in development levels too. Sometimes, the central government even encouraged this dichotomy (Balaton 2010a, 2010b, 2016 and 2017). Regional inequalities were considered as natural consequences of the division of labour within a country at that time, regardless of the pursued economic policy.

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19 This topos has already been challenged by Gyáni (2002) and lately (in macroeconomic terms) by Tomka (2011, 2013 and 2014).

20 Therefore, for this part of the region, the collapse of grain prices in 1929 was the key problem to cope with and not the loss of raw material and workforce. Industrialisation was accelerated only after 1930.
Early government interventions were not always successful – the different outcome of the Ruthenian and Székely ‘actions’ is highlighted even by macroeconomic data on the maps (Figures 7–8). The target areas of government-initiated development policies coincided with the peripheries identified by our method, indicating that our classification was correct. The problems were often mistreated and government interventions were unable to bring relief for larger regions. The Hungarian ethnic character of the Székely Lands as the intervention area (though it suffered from massive emigration to Romania: Makai 2018) suggested hidden government discrimination against the underdeveloped areas. This unproven preference was strengthened by the failures of other actions targeting areas dominated by ethnic minorities.

The boundaries of developed regions coincided with the Slovakian-Hungarian language border and the Ruthenian-Hungarian language border. This phenomenon weakened the internal cohesion of the country and strengthened national movements. (this pattern does not stand for Bačka and Bánát, which were among the most developed, despite being multi-ethnic regions). Our maps suggest that the administrative unification of Transylvania with Hungary failed to initiate real economic integration. The future political boundary between Romania and Hungary (Ér Valley) was also located along a fault line.

The main towns were unable to exert positive effects on their broader surroundings. Industrialisation was also unable to improve the rural background’s general socioeconomic features. This increased the migration towards the towns with better performance.

This implicitly means that modernisation performed better in regions where Hungarian was spoken (such as the concentration of new industrial firms show, Figure 6 and Table 1). Thus, modernisation programmes were not always welcomed by national minorities as these were considered to be the instruments of ‘Hungarianisation’.

The question is, can any government(s) be considered responsible for these differences, or was it merely a natural consequence of liberal economic policy pursued by most of the countries at that time? According to the Williamson (1965) hypothesis, at the beginning of the capitalist transformation, inequalities would naturally increase not only in social but also in spatial terms, regardless of the economic policies pursued. Therefore, does this mean that practically there is no one to blame for the economic division of the country? Hungarian scholars had accused Habsburg economic policy doing the same, when creating the internal customs boundary in 1754, rendering Hungary into a producer of raw materials and products of low added value. We do not want to analyse the truth in these accusations and statements. However, if the Hungarian scholars’ opinion on this topic is discussed, it is evident that similar allegations of the historians of the successor states regarding their nations’ economic position in Greater Hungary
should not be refused \textit{ab ovo}. If by the beginning of the 20th century, the geographical periphery also became an economic periphery (just think about the situation before the 18th century, when Upper Hungary was the most developed region, and the Great Plains were devastated by Ottomans) without any official establishment of similar barriers as in 1754, the question that naturally arises is why would this happen, and who is responsible for that?

The Tobler hypothesis of regional science can provide a clue to the problem. The hypothesis states that neighbouring districts should be similar to each other under normal conditions (Tobler 1970). If there is a great disparity, for example, in the development level between neighbouring areas (thus sudden fault lines and fractures tend to appear instead of gentle sloping), it means an anomaly, which is either caused by the non-interventionist policy of the governments or is a direct result of the applied economic policy. In other words, if fault lines appear, the responsibility of decision-makers cannot be denied. We have already proved that there were fault lines along the transversal railway towards Slovakian and Transylvanian villages (broadening our scope further, similar fault lines appear between Austria and Hungary, and Czech Lands and Slovakia in the 1930s even at district-level: Demeter et al. 2018, Faltus 1983, Bartlová 1988). In fact, the blooming of Budapest to overshadow Vienna had a high price, which had to be paid by the part of the country inhabited predominantly by national minorities.

\textbf{Regional inequalities in the Carpathian Basin 100 years later}

In the next few paragraphs, we investigate whether the successor states were able to resolve the above outlined problems and whether their regional development policies affected positively or negatively the areas inhabited by the new national minorities. Increasing or persisting inequalities or merely the shifting of backward regions would mean that their regional policies were no better than those in Hungary 100 years ago. At the same time, the general diminishing of differences (only if it is parallel to the general improvement in development levels) might be the desired outcome that would legitimise Hungary’s dismemberment in the eyes of the posterity.

The main methodological problem regarding such investigations is the accessibility to data. First, the character of the census has changed over time. Second, even if there is a common set of variables for the timespan, their meaning and content might change ([Kramulová–Zeman 2013] e.g. literacy rate has an indicative role in modernisation in the 19th century; however, by the end of the 20th century, it lost its importance and might have been substituted by ‘computer literacy’, which is not collected or published by all of the successor states at settlement level). This brings us to the third problem, that is, data harmonisation. The structure of the census not only changed over time but also differed from country to country, making a comparison harder.
Fourth, not even the system of territorial units remained the same, which made data visualisation more problematic, as new base maps (using the same scale and reference system as earlier) had to be created (Slovakia and Hungary kept the settlement level structure in the census as was in 1910, but Romania adopted the system of communes, a unit composed of several villages). This meant that these territorial adjustments had to be identified first, then recoded in order to visualise data.

Fifth, even variables referring to similar phenomena might differ marginally in their content, and these had to be adjusted too (unemployment measured with respect to total population or unemployment measured with respect to the population of working age gives different outcomes). These problems naturally implied that while the maps themselves — showing the level of development in 1910 and in 2010 — can be technically overlaid on each other because of the common features, the changes in development level cannot be calculated automatically. The application of modern statistical approach to delimit peripheries is also limited because methods elaborated to quantify differences in recent times cannot always be adapted or adjusted to that of data of a hundred years ago.

In other words, instead of calculating the changes in aggregated development level (for example, by dividing the 2010 and 1910 values for the same settlement), we investigated how the spatial patterns of (under)development changed over time, measured with respect to the actual development level of the once imperial centre, Budapest. This method was rather useful because we were not only unable to cover all the regions but also reproduce all the variables for 2010, which were used in 1910. Bačka / Vojvodina and Subcarpathia were omitted from the investigation because of the low number of available common indicators and the lack of high-resolution statistical data (we managed to find only district-level data for both areas, which would result in not more than 40 territorial entities for Vojvodina and 15 for Subcarpathia). As the significance and the content of variables changed over time, constant variable structure is not a requirement in case of such investigations. However, to be at least methodologically consistent in visualisation, we used similar methods as we did in 1910 (aggregation of normalised single variables, overlay method) to identify peripheral regions in 2010.

Finally, the following single variables were selected, visualised on individual maps, then aggregated. The whole dataset was normalised for the three countries

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21 In other words, we rather compared patterns of inequalities and relative development measured to the centres, than the rate of development between 1910 and 2010 for each settlement.

22 Furthermore, the incorporation of Serbia would reduce our dataset to 6 indicators instead of 10, as we lacked certain data (% of unemployed, population with degree).
and was thus considered as one entity for this examination. Indicators similar to those used in the investigation for 1910 are italicised.

- the proportion of houses built between 2001 and 2010 measured as a share of total dwellings
- the proportion of the population who finished only (or failed to finish) primary school
- the proportion of the population with a degree (higher education)
- the proportion of those unemployed in total population
- the proportion of those employed in total population
- the migration rate between 2001 and 2010 (average)
- the ageing index (correlates with death rate)
- the proportion of houses connected to the sewerage system
- the number of persons/household (household size)
- income / capita

Figure 9

Proportion of houses joined to the sewerage system, 2010

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23 The variables used for the 2010 investigation were similar to those used by Ianoş et al. (2013), though the latter used a different method (PCA) and their investigation was carried out at county level for the whole Romania.

for Hungary: Hungarian Central Statistical Office, National Regional Development and Spatial Planning Information System, National Tax and Customs Administration. For GIS-basemap:
https://ec.europa.eu/eurostat/web/nuts/nuts-maps and
In the following pages, we briefly analyse the maps based on single indicators (and the problems that arose during the visualisation process) to illustrate patterns before the final overlay.

*Sewerage rate* (Figure 9) was especially high in Hungary along the Vienna-Bratislava-Budapest axis. High values continued to appear along the directions defined by larger towns connected by motorways or central railroads. In general, Hungary showed the best performance among the three countries analysed. In Slovakia, the average value was lower – only Upper and Central Slovakia showed some progress – while southern Slovakia was lagging behind the European Union norms. In Romania, the picture is more versatile and mosaic-like, though the general situation is not good at all. However, according to the census, other facilities beyond the general public sewerage system also exist here, and this differentiated the dataset. Therefore, mediocre values within the settlements were more common in Transylvania, while in Slovakia or Hungary, the distribution of the values concentrates around either 0% or 100%.

*Unemployment rate* (Figure 10a) was difficult to adjust for the three countries because the censuses used three different variables for various periods of the year (summer or winter data are not equivalent and this may also influence the pattern). Finally, we adjusted the unemployment rate to the total population. The lowest rates were measured in western Slovakia, West-Hungary, Southwest-Transylvania, and Northeast-Transylvania (Benedek et al. 2018), while extreme values characterised Eastern Slovakia, the ethnic contact zone along the Székely Lands, and the central parts of the Hungarian Great Plain along the Tisza river, the Nyírség, the northern borderlands including the Cserehát, and Baranya along the Drava River. The former three and the latter two regions can be characterised by the excessive number of Roma (and young-aged) population.

*The share of employed* (Figure 10b) is not a direct complementary set of the unemployed because neither subset contains the proportion of pensioners and those who participate in education. Originally, both the share of employed and unemployed is measured with respect to the population of working age. However, to harmonise the different variable values, we measured both with respect to the total population, which legitimises the usage of this variable. According to the results, Slovakia can be divided into two parts along an SW–NE line. In Hungary, Southern Transdanubia, Southern Heves, the Nyírség, Borsod, and the Bihar region showed the least progress. Not surprisingly, this correlated well with the patterns of unemployment. In Transylvania, the employment rate was generally higher in the Székely counties and the mountainous regions. The values were also relatively favourable along the Hungarian border and in Bistrița-Nasaud.
Figure 10a

Unemployment rate (2010, in % of total population)

Figure 10b

Employment rate (2010, %)
The pattern based on the proportion of new dwellings (Figure 11) was applied to delimit the real cores of the developing/developed regions. It is bound to urban centres such as Bratislava, Győr, Budapest, Debrecen, Oradea, Timișoara, Cluj-Napoca, and Brașov, which emerge from their almost homogenous matrix (background).

Migration rate (Figure 12) indicates a similar pattern (Novotný–Pregi 2018). However, the correlation between the two variables is not evident because there are regions that are characterised by great migration surplus, although the number of new dwellings, at the same time, is meagre. It is very interesting that while villages in Hungary are characterised by negative migration balance along the Hungarian–Slovakian borders (Lennert 2017), the other side of the border – more or less Hungarian in character – shows better performance (though still not good enough to attract people), partly due to the maintenance of ‘forced’ ruralisation, which is not considered in Hungary as a viable form of living. The positive balance in N-Csallóköz is a result of the vicinity to the capital and not the vitality of the local communities. In Transylvania, the mountainous zones are net sinks (nevertheless, this does not automatically mean a general decrease in population, as net reproduction rate is not encouraging).

Population density per household (Figure 13) was supposed to represent welfare (and not merely family size) in our approach. In some regions, the high values correlate well with the frequency of the Roma population (which is also indicative of the
general level of welfare). The Hungarian Great Plains were characterised by a small number of inhabitants per house, which also differed from the average family size of the region, thus referring either to (e)migration processes or the higher share of empty houses.

Figure 12

Migration rate (yearly average, 2001–2010)

Figure 13

Inhabitants per house (2011)
The share of population with only primary schools finished (+ without any qualification; Figure 14) represents unfavourable tendencies in education (see: Pénzes et al. 2018b), which divided Hungary into two parts along an SW–NE line. In Slovakia, this phenomenon characterises the ethnically Hungarian South-Slovakia and the easternmost part of the country regardless of ethnicity (where the Roma population is increasing). In Transylvania, the values are smaller because their statistics measure this group to the set of people above 10 years (instead of seven in Slovakia and Hungary). Furthermore, the Romanian educational structure differs from that of the Hungarian, as primary schools in Romania comprise a pre-school class and four others, while in Hungary, it is composed of eight classes. Despite this, the NW–SE zone showing unfavourable conditions in the centre of Transylvania − along the Hungarian settlement zone − is still remarkable.

**Figure 14**

Population with only primary education and without primary education over 7 years (in Romania over 10 years, 2010, %)

The share of persons with a degree (Figure 15) also draws the attention to the role of urban communities, which perform better in Slovakia and Hungary because here, beyond the towns, their attraction zone also shows favourable tendencies (Košice, Bratislava, Central Slovakia). This pattern also indicates the extent of agglomerations (Lake Balaton, Budapest) (Németh−Dővényi 2018). On the other hand, in Transylvania, the process of relative deconcentration did not yet occur in urban centres − the surroundings of the larger towns were hardly characterised by highly
educated people. Transylvanian towns (except Braşov) are still in the phase of concentration and unable to sustain rural lifeforms.

**Figure 15**

*The share of population with a higher education degree (2010, %)*

Ageing index and death rates show very similar patterns (see Kulcsár–Brown 2017) (Figure 16). In Hungary, the ageing index is regionally high, and only the zones with increasing Roma population show the sign of postponed ageing. In Transylvania, the central mountainous parts showed the worst picture, while in Slovakia, it was the western part where the number of people above 60 was high compared to those under 20. However, these regions still indicated better conditions than most of Hungary. It is also worth mentioning that ageing index was quite favourable along the Hungarian border not because of the high fertility of the ethnic Hungarians but because of the Gipsies (Pénzes–Pásztor 2014, Tátrai 2014, Pénzes et al. 2018a). This presumption is confirmed by the similar situation in Eastern Slovakia, where the ageing index was also favourable, except the eastern EU border with Ukraine (Mušinka et al. 2014).

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25 Ageing index was substituted by the death rate in the cumulative investigation because of its easier interpretation. High death rates simply refer to weak health conditions.
Finally, a hard variable, namely income per capita – which was challenging to find and adjust – was also used (some stats published gross data, others reported net data, implying that values had to be converted to Euro from national currencies; population data was required to derive per capita figures; for Slovakia, we had only district-level data, obtained from Datacube; some data were from the age of the great decline after 2008, etc.). In Slovakia, an NW–SE slope can be observed (mentioned earlier in several cases), with the addition that ethnic Hungarian populated districts generally had lower measurable incomes than Slovakian ones. In Hungary, the NW parts of the country between Bratislava and Budapest showed outstanding values, accompanied by the border region towards Austria, Lake Balaton, and the areas located along M6 and M3 motorways. In Romania, the better situation of Kolozsvár/Cluj and Torda/Turda, the Temesvár/Timişoara and the Bânát area, and the Nagyszeben/Sibiu–Brassó/Braşov axis (the former Saxon lands) was demonstrated by Török and Benedek (2018). However, if settlement income per capita is used instead of personal income per capita, these tendencies could not be traced, and the patterns are more mosaic-like (though the formerly mentioned centres can be identified).

To proceed with comparison, a common dataset was created containing all entities of the three countries where all variables were normalised (thus, the highest value represent the highest from among the three countries). Subsequently, variable values referring to positive phenomena were added to each other, and those
representing unfavourable tendencies (unemployment rate, death rate, proportion of uneducated, etc.) were subtracted from the sum. The final aggregated sum was visualised on a complex map (Figure 17).

Figure 17

Aggregated development level based on the 10 single variables in the 2000s

This aggregated map proves that there were significant changes between 1910 and 2010 in the area of present-day Slovakia (former Upper Hungary). NW-Slovakia, which was among the most backward regions according to all calculations in 1910, became one of the most advanced areas not only in present-day Slovakia but also in the entire investigated area (it is also confirmed by the results of Halás 2008). Parallel to this, the region along the Nové Zámky-Levice-Lučenec-Košice transversal railway line, which was dominated by the advance of Hungarian-speaking population and was among the developed regions in 1910, became a shadow-zone in modern Slovakia by 2010. Czechoslovak regional politics directed resources to regions inhabited by Slovaks – NW-Slovakia (military enterprises of the Váh valley; see Pavlínek 1995) early in the 1930s (Vršecský 2015) – and neglected regions inhabited by Hungarians. Becoming a border region did not help either as trespassing was limited before 1990/2004. Neither did the Slovakian way of

26 On the other hand, by 2018 it showed better performance than the Hungarian side in Nógrád and Borsod Counties.

27 Industrial population decreased by 25% in East and the central parts of South-Slovakia (Häusler 1984).
regionalisation after 1990 contribute\textsuperscript{28} to the improvement of the borderlands (Buček 2002). The trends during 1945–90 were very similar to the process in 1880–1910 when modernisation (urbanisation, industrialisation) meant Hungarianisation (i.e. accommodation of and adaptation to the ruling nation), while Slovakian and Ruthenian language prevailed in backward rural areas. The same happened to ethnic Hungarian regions 100 years later (in towns with significant industrial investments, such as Galanta, Rožňava, Lučenec, Levice or Brašov, Oradea and Cluj, where the proportion of Hungarians decreased faster\textsuperscript{29} than in urban shadow-zones, such as Královsky Chlmec, Velké Kapušany, Tornal’a, or Carei, Salonta, and Cehu Silvaniei). In some instances, underdevelopment could give relative protection to ethnic ‘refuge areas’. However, on the other hand, it also implied ageing and the emigration of mobile (and younger) strata (and their subsequent assimilation), thereby further aggravating the situation.

When did this change in territorial patterns begin? Financial data of the settlements in Subcarpathia and SE-Slovakia suggest that it began early in the 1930s – in 1938/39, when Hungary temporarily regained the region, most of the settlements had to ask for financial support from the state (the value of which exceeded the average value in Hungary or SW-Slovakia/Csallóköz), while in 1910, this strip showed a positive balance according to our maps\textsuperscript{30}. Regarding other changes, the process of accelerated ethnic replacement of Germans with the Roma did not affect the general level of development positively. On the contrary, Eastern Slovakia could not keep up with the western parts. Thus, a certain levelling took place between E-Slovakia and S-Slovakia. Northern Slovakia (Tatra Mts.) became more developed in these 100 years, while the mining cities of Central Slovakia managed to maintain their positions.

The situation (development levels compared to Budapest, the former centre) did not improve in Transylvania, although certain changes (shifts in patterns) can be observed. From the methodological perspective, it would have been correct to compare the development levels to Bucharest also, to illustrate how Transylvania’s development level was changing between the two political–economic centres. Unfortunately, the Romanian census in 1910 was not detailed enough to serve as a basis of comparison. Such investigations are only possible from 1930 onwards. Thus, a thorough comparison of development levels under the Hungarian rule and after is not possible. The general trends remained – the region was underdeveloped in 2010 compared to Budapest, and the decision-makers in Bucharest could not reduce the backwardness compared to the former core areas.

\textsuperscript{28} The refusal of creating regions based on ethnicity was indoctrinated that economically viable, ‘functional’ regions have to be created – this territorial division did not promote the formation of transboundary cooperation between Hungarian-speaking zones (on the other hand, the Hungarian side was also in structural crisis).

\textsuperscript{29} The extermination of Hungarian speaking Jews (Oradea) also contributed to the decrease in Transylvania.

\textsuperscript{30} See map: KSH (1943, p. 115).
The second general feature is that towns managed to maintain their better performance but were still unable to exert influence even on their close surroundings in 2010 (unlike Bratislava or Budapest) – similar to 1910, as we highlighted when industrial development in historical Hungary remained isolated with no real effect on the source places of the resettled labour force. A new phenomenon is a decline in areas inhabited formerly by Saxons by 2010 (Török 2017, 2018), while the Székely counties showed intermediate levels of development (compared to Budapest). Thus, their economic situation in 2010 was not worse in general than in 1910. These changes modified spatial patterns too – while in 1910 the most backward regions were located along an N–S strip, by 2010 this transformed into an NW–SE strip. Though the effects of industrial investments in the socialist era in Reşiţa, Petroşani, and Timişoara were neither long-lasting nor always positive, the changes were enough to put this area into a better position than Central-Transylvania in 2010 (Szilágyi 2012). The latter region (Mezőség, Kalotaszeg, Szilágy) together became the most underdeveloped regions, including the ethnic contact zone between Romanians and Hungarians, which is often characterised by the higher frequency of Gipsies (Szilágyi 2016; Horváth–Kiss 2017), especially in zones abandoned by Saxons (Bottlik 2002).

As for Hungary, the periphery in Zala County disappeared in 1910, while the situation in S-Transdanubia (which did not perform well even in 1910) further worsened. Nógrád and Szatmár remained among the backward regions, as in 1910, while the internal periphery in the Mátra Mts. disappeared (Szűcs–Káposzta 2018), although the internal periphery around the Lake Tisza became more explicit (Rozgonyi-Horváth 2018). New peripheries – definitely as a consequence of the redrawn borders – also emerged (and suffocating) such as southern Bihar and the Cserehát (Kóti 2018, Faluvégi 2020), and after the collapse of the socialist industrialisation, the region of Ózd (this backward area also extends into Slovakia in the Rima Valley).

A general examination of the three countries as a whole illustrates that the most developed areas were around Budapest, along the Bratislava–Győr–Sopron line towards Budapest, the Budapest–Balaton zone, and along other motorways towards Miskolc, Szeged, and Pécs. A relatively developed zone is between Szeged–Arad–Timișoara–Oradea–Debrecen–Nyíregyháza (relatively, because only the surrounding strip of backward Romanian villages make them to seem developed, and this situation is confirmed by the weak communication lines between them – there is no direct N–S railway or motorway either between Nyíregyháza–Debrecen–Szeged or along the Tisza river). The connections between the Romanian and Hungarian cities are also weak (the direct bus between Debrecen and Oradea has recently been cancelled). Sibiu and Braşov, the Tatra Mts., and the Vâh valley are the remaining developed regions within the Carpathian Basin. The former two regions were developed even in 1910.
Conclusions

The topic discussed above can be relevant from three different aspects. First methodologically, given that historians tend to deal with vertical structures (society) and neglect horizontal diversity. The implementation of a regional approach in historical research may help confirm or challenge established statements or long-debated questions by offering a new approach. Besides the traditional approach that focuses on the issue of suffrage, land, and minority as primary determinants of the collapse of historical Hungary, a new factor was added – patterns of regional inequalities – that could exacerbate these tensions if peripheries coincided with settlement areas dominated by ethnic minorities.

Second, our study enables researchers to assess the efficiency of the different regional development policies (different political systems) over the last 100 years. By analysing the origins and causes of lagging, history can contribute to the better operation of regional policies, thereby decreasing its costs.

Third, our article is a contribution to the ongoing debate between Hungarian scholars and scholars of the successor states over the socioeconomic performance and living standards in the different regions of dualist Hungary. The analysis of the spatial patterns of regional inequalities and their changes in the long run may put the regional policy of dualist Hungary in a different perspective compared to the regional policies of the successor states. These were no better than the one adopted in Hungary. Instead of eliminating territorial differences, both pre-war and post-war development policies contributed to their strengthening, often to the detriment of national minorities with weakened political representation.

The peripheries of Hungary in 1910 were stable regardless of the method and the number of variables used. The evolution of these peripheries was due to a special regional division of labour, which resulted in 'uneven and unbalanced' development (term: Hirschman 1958). Neither liberal nor centralising government considered these trends as a failure but as a natural by-product of general development. Nationalisation (i.e. the dominance of one language) was also considered essential to achieve economic development (better efficiency) of the state. These imply that different priorities were pursued at the beginning of development policies than those pursued later. The elimination of internal inequalities was not among the priorities in 1910 – in fact, it was considered as a fuel to increase the development level of the state in general until it triggered emigration processes or culminated in the outburst of tensions against the central government. Therefore, it is not surprising that the first few direct regional state intervention programmes were not always success stories – the know-how did not exist and only those local initiatives were tolerated that were supposed to be useful for the whole state. In other words, any development of peripheries were not supposed to risk the development of the centre and initiatives to the detriment of the core areas or central goals were not welcome.
Despite the administrative integration of Transylvania to Hungary its economic integration was not successful. Backward regions in 1910 often (but not exclusively) coincided with the settlement area of ethnic minorities. Thus, ethnic tensions, social problems and regional inequalities had a synergic effect in destabilising the country.

It is worth mentioning that modern development planning with different priorities (focusing on the elimination of the gaps and dichotomies)\(^\text{31}\) was not successful in overcoming the prejudices towards the ethnic minorities, and in general they failed to eliminate the differences despite the conscious (and not ad hoc) planning.

Besides the changing governmental priorities, the new boundaries also contributed to the restructuration. In present-day Slovakia, formerly developed regions along the transversal railway — mainly Hungarian in character — deteriorated, while the once backward regions of NW-Slovakia and N-Slovakia inhabited by Slovaks became advanced. In Transylvania, the N–S zone of underdeveloped regions transformed into a zone with NW–SE strike, partly due to the ethnic replacement of Saxons with Romanians and Gipsies, and partly due to the investments in the heavy industry during the socialist era in SW.

Those who raise criticism towards regional development policies or government ideas of the 1900s should not forget that the recent situation is not substantially better in terms of regional inequalities. Although even backward regions showed progress over the last hundred years, we focused on the patterns of inequality and not on the rate of development. This could be a research topic for another article.

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