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ANALYSIS OF INTERNAL MIGRATION PATTERNS. THE EXAMPLE OF SLOVAKIA AND AUSTRIA

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Abstract: Internal Migration Patterns are showing similarities but also differences within and between countries. Urbanization, suburbanization as well as reurbanization are visible trends within whole Europe. For analysing internal migration there are different demographic methods available. In the following paper distance-weighted indicators and methods of spatial autocorrelation are used to compare internal migration statistics within the Slovak Republic and Austria. Those two neighbouring countries show – although having a similar size of population and area – quite different patterns when comparing internal migration, which can be explained by the political and economic development of the last decades. Similarities and differences of internal migration patterns of these two countries will be described by using different methods of analysing. The question whether there is a converging trend of internal migration within the two countries will be answered in this paper.

Key words: Internal Migration, Slovakia, Austria, Regional Disparities

1 INTRODUCTION

The Slovak Republic and the Republic of Austria are two neighbouring countries in Central Europe which had undergone different political, economic and also social development in the past. These countries are geographically very close, they have relatively similar area and population. However their modern history, which affects current nature of migration, is very different. Slovakia was for more than 40 years part of the eastern bloc and its development was subordinated to political intention. Austria as neutral country and EU member shows a very different way of development. In this paper the internal migration patterns of both countries are analysed in order to find out whether a different historical development is still reflected. Internal migration can be considered as flow of people which continues along regional disparities. By using different demo (geo) graphic methods including distance-weighted indicators and methods of spatial autocorrelation, similarities and

differences in the two countries will be shown. By comparing the last ten years of development, it should be asserted whether the two countries show converging trends. Furthermore an assessment of methods will be undertaken in order to show which measures are suitable to analyse internal migration patterns.

2 THEORETICAL FRAMEWORK

Nowadays, migration is mostly understood as an economic contingent phenomenon. The main theoretical ideas (e.g. neoclassical theory, the new economics of migration, dual labour market theory, etc.) ofmigration explain the formation of migration flows interconnected with existing regional disparities. Push factors are generally told to be high unemployment rates, lower wages and an overall lower level of economic development in regions, while pull factors are characterised by the opposite (Lee, 1966). Especially internal migration is highly explained by economic factors since only a few constraining factors are intervening in migration decisions (compared to international migration).

Push- and Pull-factors can be described as place characteristics, for example housing prices, availability of services and infrastructures or other forms of (un-)attractiveness of a site. The subjective evaluation of attractiveness explains further why the economic performance of a region is not the only criteria that can be used to interpret internal migration patterns. Individual factors and preferences stand for an important factors in settlement preferences.

In the model of migration transition Zelinsky describes how urbanisation patterns have been changing over time. By comparing the development stages of societies he tries to explain major migratory trends. In advanced societies, he describes for example a high urban-to-urban as well as a high urban-to-suburban migration (Zelinsky, 1971). Also Van den Berg et al. developed a model describing the main internal migration flows by time. After urbanization and suburbanization their model showed a trend towards peri-urban developement and finally reurbanization (Van den Berg et al., 1982). Patterns and overall trends of internal migration have not been developed as expected by the authors. In fact migration flows in all direction (urban-to-rural; rural-to-urban; etc.) have existed simultaneously over the last decades. Reurbanization debates have been led in the last years after many cities have been showing growing population numbers again (Brake and Herfert, 2012). Still the trend towards suburban living seems to be unbroken.

Another important factor is that migration is a highly selective process. This means that some groups of people are more prone to migration than other groups. The major determinants of selectivity are age, health condition, level of education, labour market status, marital status and others that change costs related to relocation (Mincer, 1978; Schlottmann and Herzog, 1984; Halliday and Kimmitt, 2008; Šprocha, 2011). According to Bernard, Bell, Charles-Edwards (2014) the propensity to migrate typically peaks at young adult ages, then steadily declines with increasing age, rising again among young children and sometimes around the age of retirement.

Also preferences of place are connected with population characteristics. Life-cycle approaches (e.g. Rossi, 1955) have shown that certain population sub-groups are interested in certain settlement types, as for example suburbanisation is mainly a phenomena created by young families. Urban in-migration on the other hand is mainly driven by young adults migrating to the cities, for employment or education. The demographic structure of the population is therefore in the context of migration an important factor.

Besides economic and socio-demographic factors, preferences concerning lifestyle can be mentioned here too, as a driver for internal migration patterns. Although mostly foiled by economic conditions, people are developing preferences of living by their socialisation. The individual habitus – depending on class, gender and age – is influencing on preferences, taste and actions (Bourdieu, 1982). Especially urban development in the context of gentrification is to a high extend explained by lifestyle influences to migration.

The before mentioned theoretical frameworks should be the basis for explaining the observed patterns shown in the following part. Although aggregated data is used, migration is an action conducted by individuals, based on various factors within the decision making.

3 DATA AND METHODS

For comparing migration patterns demographic data has been analysed and described for both countries. Two sources of data were used. Slovak data for LAU1 (NUTS4) regions were obtained from annually published data source called "Pohyb obyvateľstva v Slovenskej republike". Austrian data were downloaded from the online database Statcube (www.statcube.at) at NUTS3 level (Data Source: Wanderungsstatistik). For a better comparability (with Austrian districts as well as in between Slovakia), Slovak districts have been transformed into approximated functional urban areas (AFUR), based on a classification developed by Bezák (2000). This regional division was already successfully applied in Slovak research papers (e.g. Bleha, Korec a Vaňo, 2009). Austrian NUTS3 units in general showed a 3.5 larger land area and 3.3 times more inhabitants, that's why the adaption was necessary.

Approximated functional urban areas used in this paper are created by clustering of certain NUTS4 regions into greater and consistent regions. Migration within and between clustered NUTS regions was not taken into calculation since it became an internal migration of new AFUR. Similarly, migration flows to (or from) other regions (NUTS4 which were not transformed into clusters or newly created clusters – AFURs) were summed up. For example: AFUR Bratislava was created by clustering of NUTS4 regions: Bratislava I-V, Senec, Pezinok and Malacky. Therefore all migration within and between these regions is considered as internal migration of AFUR Bratislava and is not part of our analysis. All migration flow heading to mentioned regions are summed up and are reported as in-migration of AFUR Bratislava.

Migration flows from these regions are summed up as well and reported as out-migration of AFUR Bratislava.

Data were obtained for the time period 2002-2012, which is the longest possible (based on availability) time period for both countries. For the analyses purposes, the time series was divided into two periods: 2002-2006 and 2007-2012 in order to see differences in the development over time. For comparison of internal migration four different measures have been calculated: Net migration rates, Migration efficiency, Distance weighted efficiency, Moran's I and the Local G statistics.

3.1 Migration efficiency

The migration efficiency ratio of an area (EFF) is defined as the net migration of the area (in-migrants minus out-migrants) divided by the total number of moves with origin or destination in that area (in-migrants plus out-migrants) multiplied by 100 (Galle and Williams, 1972).

$$EFF_i = \frac{\sum (M_{ji} - M_{ij})}{\sum (M_{ji} + M_{ij})} * 100(\%)$$

M_{ji} represent the migration flow from region j to region i, M_{ij} represent migration flow from region i to region j. In our paper migration efficiency is used as indicator for migration gains and losses. Values do not depend on the size of population but only on the number of persons, that migrated from or to the region.

3.2 Distance weighted efficiency (index of attraction efficiency – IAE)

Migration efficiency, although it is a widely used indicator, does not include the spatial aspect of migration. The index of attraction efficience (IAE) includes distance to the measure of migration efficience. The greater distance travelled by migrating to a certain region, the higher the regions attraction – so the assumption.

Attraction efficiency according to Newbold and Peterson (2001) is defined as distance weighs the measures of net and total migration (of migration efficiency):

$$IAE_i = \frac{\sum_{j=1}^{n} d_{ij}(M_{ji} - M_{ij})}{\sum_{j=1}^{n} d_{ij}(M_{ji} + M_{ij})} * 100(\%)$$

M_{ji} represent migration flows from region j to region i, M_{ij} represent migration flows from region i to region j and d_{ij} stands for distance between regions i and j. While the migration efficiency value can be considered as real migration gain or loss, the IAE can be considered as a method expressing the ability to attract migrants from different distances. From a methodological point of view one migrant is equal to one kilometre. Therefore a region with 10 emigrants moving out from a distance

of 1 kilometre and one immigrant moving in from a distance of 10 kilometres has in this context a neutral attractiveness (IAE=0).

The first "law of geography" according to Waldo R. Tobler (1970) says "Everything is related to everything else, but near things are more related than distant things". Following this law it is assumed, that the attractiveness of any region will cause a certain attractiveness in the surrounding regions, though perhaps to a lesser extent. Methods of spatial autocorrelation can reveal how close-by regions interact with their neighbouring regions. For our analysis, we selected two different methods to measure spatial autocorrelation:

3.3 Moran´s I

Moran´s I is one of the most common methods of measuring the degree of spatial autocorrelation:

$$I = \frac{n \sum_i^n \sum_j^n w_{ij} (y_i - \bar{y})(y_j - \bar{y})}{(\sum_i^n \sum_j^n w_{ij}) \sum_i^n (y_i - \bar{y})^2}$$

n stands for number of spatial units, w_{ij} represent an element of matrix of spatial weights, y_i represent variable of interest and $\bar{y}$ is the mean of the variable of interest. Values near -1 indicate a strong negative spatial autocorrelation (high values tend to be located near low values), values near 1 indicate a strong positive autocorrelation (high values tend to be located near high values and low ones near low). Values near 0 indicate an absence of spatial autocorrelation, values have a random spatial pattern. (Rogerson, 2001). For our analysis the spatial weight type Queen was used.

3.4 Local G statistic

The local G statistic serves to test if a particular location i and its surrounding regions constitute a cluster of higher (or lower) than average values on a variable *x* of interest (Rogerson, 2001):

$$G_i(d) = \frac{\sum_{j=1, j \neq i}^n w_{ij}(d) * x_j - \bar{x}_i \sum_{j=1, j \neq i}^n w_{ij}(d)}{s(i) \sqrt{\frac{(n-1) \sum_{j=1, j \neq i}^n w_{ij}^2(d) - [\sum_{j=1, j \neq i}^n w_{ij}(d)]^2}{n-2}}}$$

$w_{ij\ (d)}$ is the symmetric one/zero spatial weight matrix with ones for all links defined as being within distance *d*, x_j stands for the variable of interest in the region *j*, $\bar{x}$ is the mean of the variable of interest, n stands for the number of spatial units and s_i is the standard (Getis and Ord, 1992). As in the case of Moran´s I, we used spatial weight type Queen for the identification of neighbouring regions.

In our paper we further used the ANOVA method to compare differences between the means of IAE and EFF values.

4 MIGRATION PATTERNS

4.1 Case of Slovakia

The regional structure of Slovakia is the result of a long historical development and the position of Slovakia in different state formations (especially Austro-Hungarian Empire, First Czechoslovak Republic and Czechoslovak Socialist Republic). In terms of current migration patterns the most essential period affecting regional development and regional disparities is period between 1949-1989 and period after 1989, respectively after 1993. According to Buček (2002) the territorial division during socialist period was directly determined by political interests (using top-down approach). The allocation of investments usually reflected regional requirements and centralised decision-makers often established new industrial plants in backward rural areas (Hudec and Urbančíková, 2008).

Controlled centralization of industries in selected municipalities, construction of large housing estates and other interventions by the state apparatus in order to level regional and social disparities, determined the directions of migratory flows. In the case of Slovakia it is therefore valid what Čermák (2005) noticed for the case of Czech Republic: The current amplification of selective developmental tendencies, often associated with deformation of migratory processes, must be seen as a response to the legacy of the socialist regional and social levelling. The situation in the period after 1989 was particularly complicated at the beginning. Since Slovakia had practically no experience with political autonomy, the transformation from a centrally controlled economy to a market economy has been greatly complexed, uncoordinated and ultimately ill-conceived. The transformation of regional structure have been in the focus of authors like Buček (2002, 2011) with a strong political perspectives or Korec (2005, 2009, 2014) concentrating on regional development and competitiveness of regions.

A significant factor of spatial development is globalization. After opening the markets of the former socialist bloc, many multinational companies have chosen to invest their capital in post-socialist countries. In contrast to the socialist period, FDI are not localized in order to levelling of disparities between regions. Locations were chosen by companies in order to maximize profits. Therefore, regions with good transport accessibility, sufficient human capital, which are centres of R & D etc. are preferred over the others. From this perspective city region of the capital Bratislava had dominant position. In 2010 more than 68% of FDI in Slovakia were directed to the region Bratislava (SARIO, 2013). Except for the fact, that as a capital city Bratislava is the centre of administration, research and development as well the national financial centre, it has furthermore benefitted from its position as transport hub of Slovakia (Horňák and Bačík, 2013) and a favourable geographical location within

Europe. Therefore it is sometimes referred to as "the golden triangle" (Vienna-Bratislava-Győr/Budapest) of CEE.

On the contrary, southern and eastern regions of the country are long term lagging behind regions of Slovakia. These regions can be characterized by high unemployment rates and low productivity (Korec, 2014). They are suffering from a lack of accessibility and local centres with a weak economic performance. The subsequent contrast between more and more lagging behind regions and few developing regions results in the deepening of disparities.

Results

The trends in migratory patterns are relatively stable during both periods 2002-2006 and 2007-2012 (Figure 1). In the period 2002-2006 it is evident, that Western Slovakia (except of the region of Skalica) and some regional centres such as the region of Žilina or Zvolen profited from migration. Most gains were recorded in regions more or less affected by suburbanization of the capital Bratislava. Used AFURs do not show how strong the process of suburbanization in Slovakia is. Most of suburbanization flows from the capital Bratislava are heading to districts Senec, Pezinok and Malacky and in case of suburbanization of the city Košice they are heading to the district Košice - okolie (see e.g. Jurčová, 2010). In both cases the suburbanization zones are connected with cities into single region. Buček and Bleha (2013) claim, that almost all population loss in Slovak cities were result of higher out-migration (within period 1996-2010). Eastern Slovakia experienced outmigration. In the second period we can see a deepening of the contrast between East and West of Slovakia. We must point out, that the number of regions with a positive balance declined during the two time periods and that only three regions (Bratislava, Senica and Dunajská Streda) had a migration efficiency higher than 5%. Negative values were recorded in all regions in Eastern Slovakia and Central Slovakia (except in the region Žilina, which still preserves its role as regional centre of Northern Slovakia).

Taking into account the distance travelled by migrants, the east-west gradient of migration patterns can be highlighted as the main finding from the values of migration efficiency. When examining the spatial distribution of the IAE values (Figure 1) we can see a gradual transition from very low values in the eastern part of Slovakia to very high values in the west, which is much smoother and obvious than in the case of migration efficiency. It is also evident, that in most of the regions there is a shift towards lower values during the later period. Only westernmost regions, with a very good geographical position as mentioned above, remain migratory very attractive. The region Žilina retains its position as a local centre, where migration flows are directed to. In the period 2007-2012 we can find, that some western regions, even with migratory loss, reach positive values of attractiveness and the whole "attractive" territory is more compact.

While the situation shown in the Figure 1 better reflects process of suburbanization (despite of the fact, that most affected areas are included in region Bratislava and Košice), the real gains and losses due to migration, Figure 1 shows us how

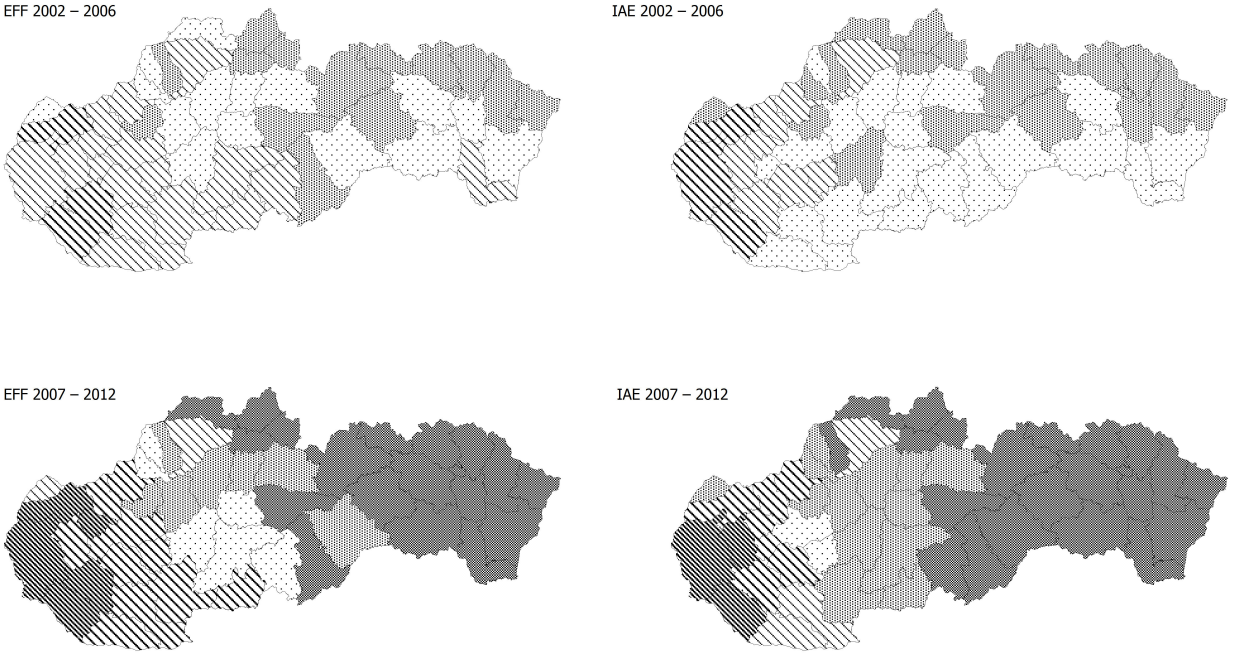


Figure 1 EFF and IAE values of Slovak AFUR regions in periods 2004-2006 and 2007-2012.
Source: ŠÚ SR, author´ calculations

strong is the ability to attract migrants from all over the remaining area. The results of both methods are complementary as they point out two different aspects of internal migration in Slovakia: regions migration balance and spatial migration "coverage" of each region.

According to results of the ANOVA test, the difference of means of values of both methods is statistically significant in both periods: The period of 2002-2006 at a significance level of 0,05 and the period 2007-2012 at a significance level of 0.01 (Table 1). This proves, that the difference we were able to see on between Figures 1 and 2 are not due to chance.

Table 1 ANOVA test for EFF and IAE values in Slovakia

2002-2006

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	1259,03893	1259,03893	4,67	0,0332
Error	96	25882,99748	269,61456		
Corrected Total	97	27142,03641			

2007-2012

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	2962,33438	2962,33438	9,32	0,0029
Error	96	30522,89947	317,94687		
Corrected Total	97	33485,23386			

Source: Authors´ calculations

Substantive significance can be derived from differences of distribution of values on Figure 1. They clearly evoke, that spatial autocorrelation in the case of migration patterns is strong in both cases but we can expect an even higher autocorrelation of IAE. Moran´s index in the period 2002-2006 reached the value 0.515 for EFF and 0.815 for IAE. In the period 2007-2012 the EFF´s Moran´s I decreased to 0.417 and the one of IAE to 0.786. We can see, that regional distribution of real migration gains and losses are much less autocorrelated than values of migration attractiveness. The distribution of real gains and losses is "smoothed" by regional and local centres, which – although not being attractive in the sense of IAE and compared with the patterns of the whole country – capture a high share of migration.

4.2 The case of Austria

The spatial development in the Republic of Austria has been furthermost driven by economic developments, but also political and historical as well as structural circumstances. The country as we know it today has been constituted in its shape after the First World War and reached its final constitution after the Second World War. Changes of borders since monarchy times had great influences on the spatial structures as well as economic implications: Spatial interactions between regions and centres have been cut off and new boundaries where created which required a reor-

ganization of spatial structures. The creation of the iron curtain furthermore had great impact of the Austrian situation within Europe. The regions situated directly at the border became the new peripheries.

Since the 1950s the focus of regional development in Austria was the establishment of new spatial structures and also new economic centres fitting the new shape of the country. The process of urbanization has already started and economy was located predominantly in urban areas. Since the 1960s a great focus was therefore industrialization of rural areas, as well as the construction of in order to improve the situation of rural peripheries.

Since the EU accession in 1995 structural funds have been used to promote regional development. Structural disadvantaged areas still have been existing permanently in Austria: Border regions to the former iron curtain are even today lowly equipped with industries or businesses and therefore lack economic power (e.g. the Südburgenland, the Waldviertel, the Mühlviertel). Furthermore old industrial centres have been neglected due to globalization and with ongoing deindustrialization new economic peripheries are occurring (e.g. the Obersteiermark).

Another aspect that plays an essential role in the Austrian spatial structure is the topography of the country. The majority of Austria is covered by the Alps and therefore have a mountainous landscape: Topography has therefore a major impact on accessibility as well as possible land use. Spatial patterns in Austria are characterized by a strong East-West-divide since the central parts of the country are to a high extent unsettled and difficult to reach. The main transit routes from East to West are leading over external territory and until today big infrastructure projects are being undertaken in order to improve the accessibility of certain regions by tunnels constructions (e.g. Semmering Base Tunnel).

The mountainous landscape also has had a huge economic impact for most of the Western parts of Austria: The establishment of the tourism industry, especially skiing tourism has counterbalanced the location disadvantages and made some regions to one of the wealthiest in the country (e.g. Tiroler Unterland). Tourism is a big proportion of the Austrian economy. Besides tourism the Western parts of Austria have profited from the proximity to Germany, Switzerland and Italy, industry and business clusters were able to develop (e.g. in the region Rheintal-Bodensee).

The spatial structures not only give insight in the economic and historical development of the country, but do have implications on how population is distributed over the Austrian territory. With a total of 8,7 million inhabitants (January 1st 2016, Statistik Austria 2016) the size of the Austrian population is relatively small. The vast majority of the population is concentrated on the capital city of Vienna (in the year 2016: 1,84 million). The next biggest city only counts 1/6th of the size with around 300.000 inhabitants (Graz). Besides the city of Vienna, the highest population concentration can be found in the immediate surroundings of the capital especially towards the south (Wiener Umland Süd), as well as in the county of Vorarlberg, the very western part of Austria (Rheintal) a high population density is reached. Population growth is nowadays concentrated on the urban agglomerations,

especially on the university cities and to a high extent on the capital of Vienna. Also the suburban areas profit from population growth, which is in Austria mainly caused by in-migration. Southern parts, as well as the further mentioned peripheries (border regions, mountainous areas with no intense tourism industry) are generally experiencing outmigration.

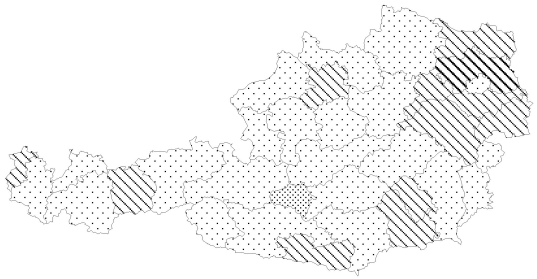
Migration patterns are to a high extent characterized by international migration: Urban areas are attracting labour force as well as students, mostly from other European country. But also internal migration plays a major role for the distribution of population. Internal migration patterns are depending on the spatial structures described in the beginning. In the following the results for the different measurements for the case of Austria will be described.

Results

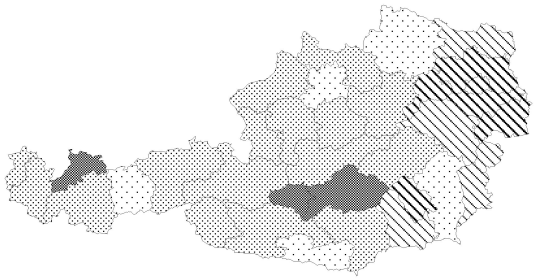
The migration efficiency, as seen in Figure 2 confirms what has been said: Migration is concentrating on the urban agglomerations of the country, especially the regional centres (which are often also university cities). Only in the case of Vienna the region shown in figure 2 equals also the city borders, for the regional capitals the surrounding areas are included in the NUTS3-regions. The highest suburban gain is visible in the city region of Vienna: Not only that the suburban areas are also attracting population by internal migration, furthermore the population growth is even bigger than in the central city: In the time period 2002-2006 the city had still a negative internal migration balance, which changed in the following time period. The only capital region with a negative internal migration balance is the city region of Salzburg. Although the city is profiting from international in-migration, the internal migration balance is negative. The NUTS3 regions filled with dense dotting are experiencing a very negative internal migration balance are to a high extent alpine areas and peripheries of the country. Not all of these regions are in total population loss. Internal migration losses, especially in intensively used tourism zones are often replaced by international immigration (seasonal workers).

By weighting the migration flows by distance as seen in the right part of figure 2 it becomes clear that internal migration patterns in Austria are regionally orientated. While the net migration for almost all regional capitals was positive, the IAE is actually negative in most of the Austrian regions except Vienna. This makes clear the importance the capital city has, according to labour market and education possibilities. Vienna is not only the most populous city (and county) of Austria but offers also the greatest opportunities. Also the Vienna surroundings are able to attract internal migrants also from further distances, although a concentration process towards the city has been taking place between the two time periods. Besides Vienna and the suburban areas only the regional capital Graz has a positive IAE. The remote areas that have been before filled with dense dotting are still showing a permanent negative image based on attractiveness measures. This can be explained by the – already described – general lack of close by centres within the Austrian inner-periphery of the alpine space.

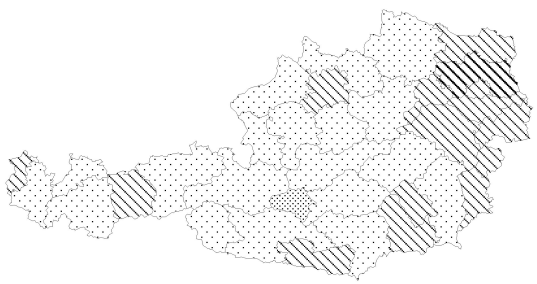
EFF 2002 – 2006



IAE 2002 – 2006



EFF 2007 – 2012



IAE 2007 – 2012

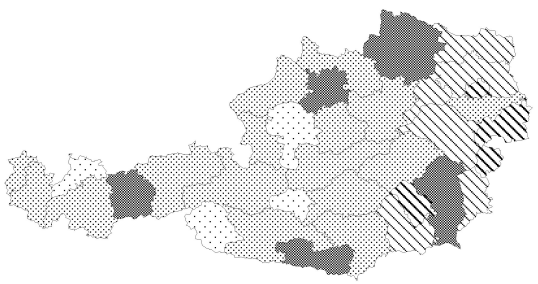


Figure 2 EFF and IAE values of Austrian NUTS3 regions in periods 2004-2006 and 2007-2012.
Source: Statistik Austria, author´ calculations

ANOVA tests show similar results as we could see in case of Slovakia. Differences in IAE and EFF values seem to be statistically significant at p = 0,01 (Table 2).

Table 2 ANOVA test for EFF and IAE values in Austria

2002-2006

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	499,66	499,66	8	0,0061
Error	68	4244,50	62,42		
Corrected Total	69	4744,16			

2007-2012

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	697,43	697,43	10,25	0,0021
Error	68	4627,10	68,05		
Corrected Total	69	5324,53			

Source: Authors´ calculations

The Moran´s index indicates medium spatial autocorrelation. In the first period between 2002 and 2006 "I" reached 0.506 for IAE and 0.384 for EFF. In the next period we can see a convergence of these values. The IAE decreased to 0.431 while the EFF increased to almost equal value of 0.422. Very similar results for both periods are confirmed by clusters created by the local G statistic method. For both, IAE and EFF, there are practically the same clusters of high and low values. In the case of Slovakia IAE and EFF had common clusters of high values, however EFF didn't created any compact cluster of low values.

The general trends visible when analysing the internal migration patterns of Austrian regions are concluded in the following: Urbanization is to a high extend visible, supplemented by ongoing suburbanization trends. In recent years concentration has further focused on the central city again, as visible for Vienna, which would follow the hypothesis of reurbanization (Brake and Herfert, 2012). The patterns of internal migration are mirroring economic development to the full extend though: Especially tourism destinations show extensive outmigration (when analysing the internal migration), while still most of the areas being economic prosperous (and internal outmigration trends are counterbalanced by international immigration). Mountainous areas with few economic infrastructures or old industrial centres show the highest amount of internal outmigration.

5 SIMILARITIES AND DIFFERENCES – SUMMARY AND DISCUSSION

Even among countries with a very different history of spatial development, common pattern of internal migration can be identified. In the following paragraphs

similarities and differences, which have been found in the prior analysis, are summarized. Furthermore the comparison of the two methods used for analysing internal migration will be concluded.

The migration patterns of both countries are determined by one very important capital attracting most of the internal migration. Also for regions further away (western-most in the case of Austria and eastern-most in the case of Slovakia) the capitals are important places to migrate to. Bratislava as well as Vienna have even gained importance over the two time periods examined.

Suburbanization in both countries is strongly pronounced, but with a higher extent in the case of Austria. In absolute numbers there is also an evident importance of the suburbanization process visible in the case of Bratislava. For Vienna also the process of reurbanization is visible in the analysis and the comparison of the two time periods 2002-2006 and 2007-2012, which is an advanced phase of urban development (Ouředníček, 2000).

Besides the capital cities, the analysis of internal migration patterns in both countries shows a high concentration on urban centres in general. In Austria there was a rather long period of regional development taking place (trying to develop the importance of regional centres, constructing of infrastructure in the peripheries and increasing accessibility). In Slovakia after the socialist period foreign capital investment started to steer economic development and therefore regulations to enable structural deficits did not take place until EU accession when polarization was already strongly evident. Both developments showed a higher investment into urban agglomerations and led to a further attractiveness of urban settlements in both countries.

The identified differences surely result from the different stage of development of the society which can be found in the two countries. It seems that even after very different history, the internal migration patterns are showing converging trends in the two countries. A remarkable difference is the – in this paper not examined – importance of international migration. Though still being an important factor of population redistribution and development, the importance of internal migration in Austria has already been discontinued by the importance of international migration. Regions with a negative internal balance for example experience a positive population development through international immigration and already attractive agglomerations for internal migrants experience even more international inflows. This development is still to be expected in Slovakia to a higher extent.

The two used methods drew our attention to the two dimension of migration. The first one – migration efficiency – describes real migratory gains and losses. It has big influence on the structure of population in both destination and origin regions. We can conclude that while in the case of Slovakia there is an evident East-to-West graduation of values of migration efficiency. In the case of Austria there is a clearly important position of regional centres visible in the case of the most dominant destination for migration is the Eastern part of country (Vienna and broader surroundings).

The IAE method can be considered as spatial dimension of migration. It shows how regions are attracting migrants from different distances. Results of this method are similar, according to general patterns and trends, for both Slovakia and Austria. We can clearly identify attractive and unattractive clusters of regions (in the context of migration). These clusters are more or less stable within the periods of time and there is even some trend of shrinking of attractive cluster in favour to an unattractive one. This can be explained in both cases by the increasing of the dominance of the two capital cities.

The great importance of Bratislava and Vienna also has to be seen in the context of how close both city regions are to each other. With an ongoing concentration process of population and economic power a possible cooperation of the two cities as well as their surroundings can at lead to an even higher influence in the context of globalization. The patterns of internal (and in future also international) migration in both countries should be therefore further investigated.

6 LIST OF ABBREVIATIONS

AFMR – Approximated functional urban areas
EFF – Migration efficiency
IAE – Index of attraction efficiency
FDI – Foreign direct investments
R&D – Research and development

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Analýza vzorcov vnútornej migrácie: príklad Slovenska a Rakúska

Súhrn

Predložená práca pojednáva o téme vnútornej migrácie. Teoretické prístupy k štúdiu migrácie sa rôznia v závislosti od vedného odboru, z ktorého daná teória vzišla. Napriek tomu je celkom zreteľné, že všetky tieto teórie spája predpoklad existencie rozdielov v priestore, ktorá zapríčiňuje vznik migračných tokov. Predkladaná práca sa zameriava na porovnanie vzorcov vnútornej migrácie v Slovenskej republike a Rakúsku. Cieľom bolo určiť, či sú vzhľadom na odlišnú históriu (najmä v spojitosti s trendmi v regionálnom rozvoji) rozdielne aj migračné vzorce správania obyvateľov oboch krajín. Slovensko ako postsocialistická krajina musela od 90. rokov minulého storočia prejsť výraznou transformáciou, ktorej následky sú celkom zreteľné a stále narastajú regionálne rozdiely. Migračné trendy v socialistickom období môžeme považovať za riadené, keďže vzhľadom na riadený hospodársky rozvoj vznikali v umelých podmienkach. Ako uvádza Čermák (2005) súčasné selektívne procesy môžeme považovať za dedičstvo po predchádzajúcom režime. Naopak Rakúsko zaznamenávalo stabilný, a čo je ešte podstatnejšie, tak aj plynulý (v zmysle absencie veľkých transformácií) hospodársky rozvoj. Vyvstáva preto hlavná výskumná otázka, či existujú výrazné odlišnosti v trendoch migračných vzorcov oboch krajín, prípadne či Slovensko dokázalo za pomerne krátke časové obdobie „dobehnúť" skoro 50 rokov odlišného vývoja v kontexte procesu re-lokalizácie obyvateľstva.

Pozornosť sa venuje dvom samostatným aspektom, ktoré migráciu charakterizujú. Prvou je reálna migračná bilancia – migračné zisky alebo straty, ktoré región zaznamenáva. Druhým aspektom je priestorový dosah regiónu, inak povedané vzdialenosť, na ktorú migranti z daného regiónu odchádzajú a taktiež vzdialenosť, z ktorej sú ešte ochotní prisťahovať sa. Ako výsledky analýz ukázali, medzi krajinami existuje celý rad spoločných prvkoch, rovnako však vieme identifikovať konkrétne rozdielnosti. Najvýznamnejším prvkom, ktorý formuje migračné vzorce je dominantné postavenie hlavného mesta, ktoré výrazne deformuje smerovanie migračných tokov a podstatný podiel migrantov smeruje práve do týchto miest a priľahlých regiónov. Taktiež ako spoločnú črtu môžeme označiť existenciu zhlukov tvorených regiónmi, ktoré možno označiť ako migračne stratové a neatraktívne (centrá emigrácie) a malý zhluk s vysokými hodnotami (spomínaný región hlavného mesta). Čo však obe krajiny rozlišuje je postavenie centier nižšieho rádu s regionálnym dosahom. V prípade Slovenska si takéto postavenie podľa výsledkov analýzy drží len AFMR Žilina (a to aj po aplikácii dĺžky migrácií). V Rakúsku je naopak celkom evidentné, že menšie centrá dokážu konkurovať Viedni a časť migrantov smeruje práve do nich. Ako príčinu by sme mohli uviesť odlišnú formu štátneho zriadenia - federáciu, v ktorom majú tieto hlavné mestá spolkových štátov významnejšie postavenie a zastávajú aj funkcie vyššieho rádu ako slovenské krajské mestá. V prípade Rakúska môžeme vidieť tiež väčšiu determinovanosť postavenia regiónov, kedy alpské oblasti patria medzi migračne najmenej atraktívne a efektívne.

Hoci aj na Slovensku sú horské oblasti migračne stratové, nedá sa zhluk migračne stratových regiónov obmedziť len na túto oblasť. Ďalším špecifickým znakom, ktorý odlišuje obe krajiny je štádium urbánneho rozvoja hlavných miest (ktoré v prípade AFMR Bratislava nie je z analýzy evidentné). Kým Bratislava zaznamenáva v súčasnosti vysokú intenzitu suburbanizácie, Viedeň toto obdobie už prekonala a momentálne je možné hovoriť o štádiu reurbanizácie.