

INTERNAL MIGRATION AS AN EXOGENOUS FACTOR FOR STRATEGIC DECISION-MAKING

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Abstract

Migration belongs to the factors, which determine the dynamics of the external environment in the long-term view. This may affect the various decisions of public and private organisations. The present study comprises an analysis of the migration (interregional immigration and emigration) with real wages and unemployment by using a global and local Moran I indicator in order to find spatial autocorrelation and statistically significant clusters. The results are included into strategic thinking of business and are discuss the influence of migration for possible strategic decision-making.

Key words

Decision-making, Internal migration, Local spatial autocorrelation,

INTRODUCTION

Uncertainty and turbulent times has increased the pressure on business operation in national and global markets. Every long-term step is connected with higher risks. Therefore, the right decision especially on strategic level should result from consistent and complex analysis of the internal and external environment. The natural emphasis on the economic aspects may lead to under-estimation of possible influence of other dimensions, e.g. political, social and demographical. The aim of this paper is to analyze current migration inflows and outflows among 79 Slovak districts with the help of the spatial econometrics and concept of the local spatial autocorrelation. Moreover, we will interpret this analysis in the light of long-term strategic decision-making.

BUSINESS DECISION-MAKING

Generally, we can define strategic management as a process of formulation, implementation and evaluation of strategy (David, 2005). This process of strategy selection should lead to the fulfilment of business vision (Hill and Jones, 2001). Therefore, a company needs to react to continuous changes and unexpected situations with suitable decisions. They are usually categorised in three groups according to accompanied risk, their significance and operational

level. Firstly, everyday routine tasks and problems have to be solved in couple of minutes or days. They are called operational or administrative decisions. The main characteristics of these decisions conclude high frequency, lower significance for management and usually lower risk. Moreover, they may be executed by ordinary employees. Secondly, the most important and long-term decisions are strategic. They encompass the highest rate of risk and that's why they are mostly done by top management. Finally, tactical decisions with possible impact through several weeks and months are made as a support decisions for strategic ones. Regarding the frequency and significance, they lay somewhere in between the previous two.

Based on different decision process models, we can derive four main categories of aspects influencing decision making (Papadakis, 2002). These are:

- decision specific characteristics,
- (e.g. magnitude of impact, familiarity, risk ...),
- internal organizational characteristic (e.g. organizational structure, size, performance ...),
- external environmental characteristic (e.g. dynamism, hostility, heterogeneity ...),
- management's team characteristic,
- (e.g. risk propensity, education and experience, consensus ...).

The investigated migration belongs to the external environment. Dimensions of dynamism, heterogeneity, hostility and stability proved to significantly influence the strategic decision process (see Nooraie, 2012 for review of mentioned researches). The migration goes through the all mentioned dimensions. Firstly, it supports the dynamism of environment, secondly contributes to heterogeneity and stability, and finally, it deals with hostility, which includes human resources. Thus we provide an analysis of internal migration in Slovakia and interpret the results as possible input (one of many others) for strategic decision process.

INTERREGIONAL MIGRATION FLOWS IN SLOVAKIA

To present the current situation of migration flows, we analysed migration data among 79 districts of Slovakia. We intended to investigate only internal (interregional) migration, as international migration may be unstable with specific biases. The internal migration among districts confirmed two basic trends - urbanisation and suburbanisation. Both of the terms came from

Berg et al. (1982) and are an object of many researches in Slovakia (e.g. Gajdoš and Moravanská, 2010; Bašovský and Divinský, 1991, and others). The former introduced an effect of immigration into economically developed areas. The positive migration balance was revealed especially in Bratislava region, what affirmed the status of the migration center and its attractiveness for migrants. The above mentioned region was also an object of the latter fact – suburbanisation, i.e. movement of people from cities into peripheral areas. The working linkages stay usually unchanged, so there is a need of everyday commuting into the work. This may be observed in Bratislava neighbourhood districts like Senec, Pezinok and Malacky, which constitute a suitable place for cheaper and more peaceful living. Within the city districts of Bratislava, there was observed negative migration balance in Bratislava I and Bratislava V. In these cases, we should count also with possible migration within Bratislava. In 2010, almost all of Slovak districts were characterised with negative migration balance what may be concerned with movements to Bratislava. Moreover, it is necessary to mention the second biggest town in Slovakia located in the East – Košice, which is also considered as traditional migration center. Even here, both of the trends are present.

Figure 1 and 2 shows outflows and inflows (as a share of population in region) in a quartile map of Slovakia. Dataset consists of average migration data for the years of 2005-2010. As already discussed, city districts are shown in the outflows map (Fig. 1) as outliers. As they are the most developed regions, we explain it as a result of suburbanisation. We can observe further districts with high outflows in the middle south of Slovakia. However, these districts are less developed, so we suppose the migrants move to more attractive regions. The similar situation is in two districts in the East. Moreover, they are less populated, what should reflect in share of outflows on regions population.

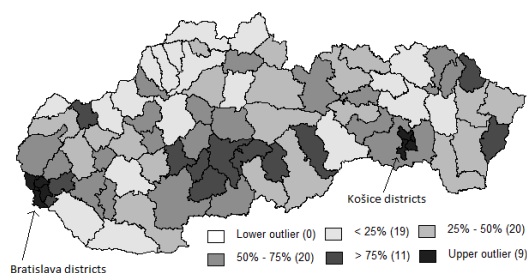


Fig. 1 Outflows as a share on region's population (quartiles, average of 2005-2010), Source [12] + own elaboration

Figure 2 shows an important role of the neighbourhood districts of Bratislava and Košice as destination regions for the migrants moving from these developed centres. Pezinok, Malacky and Senec as districts closer to Bratislava and district surrounding Košice revealed high immigration rate. That again pointed to suburbanisation. Depending on various condition (infrastructure, etc.), migration moves ahead or behind these closest districts. It is seen especially in the West of Slovakia. Bratislava disposes with well-developed infrastructure as it became a crossroad of three highways and five railway routes with international significance. This fact could influence the migration activity towards the peripheral district (further 12 districts with inflows above median value). Generally, the main migration flow tends to direct from the East to the West. That is because the development level is lower in the east Slovakia.

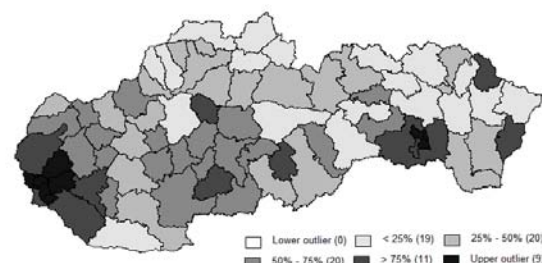


Fig. 2 Inflows as a share on region's population (quartiles, average of 2005-2010), Source [12] + own elaboration

SPATIAL ANALYSIS

To investigate migration as a spatially influenced aspect, we analyzed the indicators in the light of spatial econometrics. The key assumption for the spatial analysis is to create weight matrix to determine the neighbours. We decided for contiguity criterion and continued with the queen contiguity of the first order, in other words, two regions are neighbours even with the one common point in borders. The first order specifies just neighbours of observed regions (the second order includes neighbours of neighbours). With these spatial weights, we proceeded to investigate the spatial autocorrelation. For this purpose, we have analysed Moran's I indicator. In Figure 3 and 4, plots with the relationships of outflows, inflows and three spatially lagged indicators are displayed. The lagging is defined as an average of the neighbours of observed region. Firstly, for both, inflow and outflow and their lagged derivation, strong positive spatial autocorrelation was revealed. Districts with high/low immigration and emigration values are grouped together. That confirmed our previous analysis of migration. It also points to possible bias while examining migration in classic regression models excluding spatial linkages. Regarding the

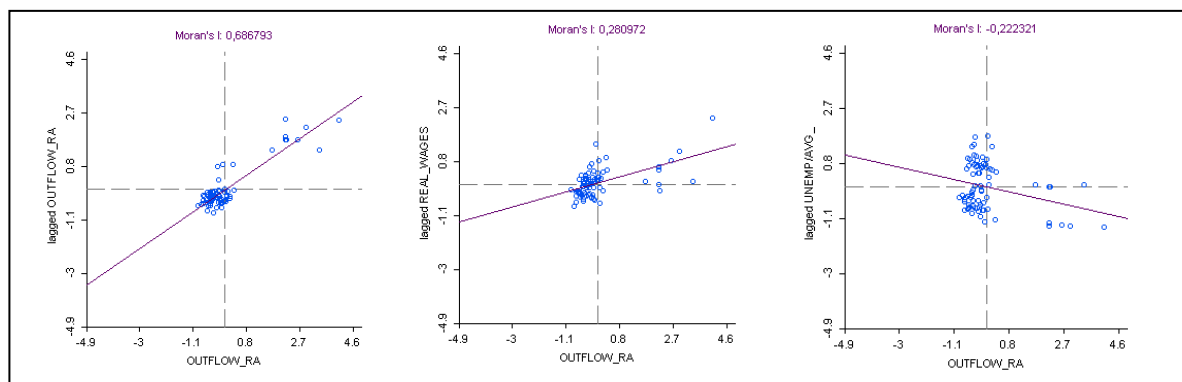


Fig. 3 Outflows and spatially lagged variables, Source: [12] + Own elaboration

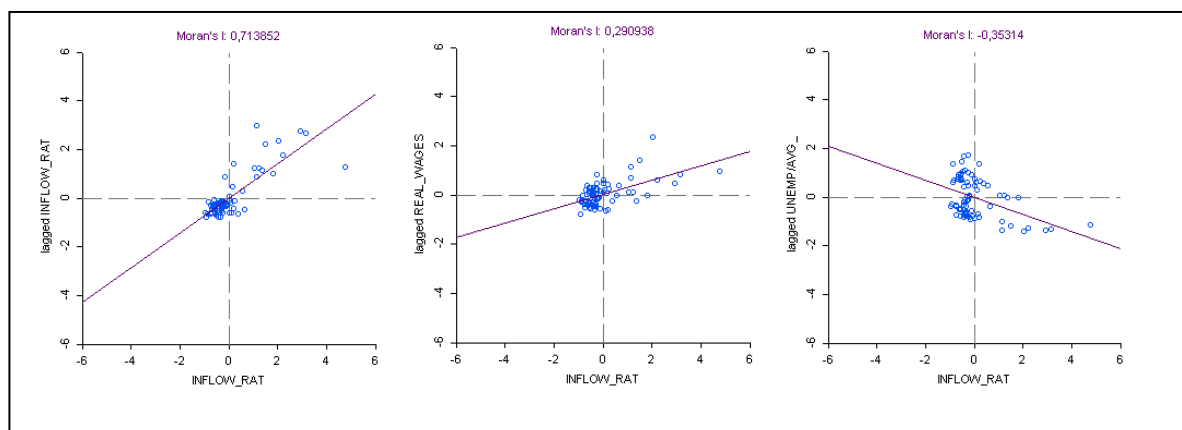


Fig. 4 Inflows and spatially lagged variables, Source [12] + Own elaboration

second scatter plot, lagged real wages and outflows/inflows showed positive autocorrelation, although not as high as in previous case. Furthermore, the third scatter plot specifies negative spatial autocorrelation, so high (low) values of inflow/outflow of observed district should be concentrated with neighbourhood districts with low (high) unemployment rate. Actually, Moran's I revealed only weak negative spatial autocorrelation. The Moran's I, we were investigating above, determined spatial autocorrelation within the whole set of observed regions and therefore it is called global. However, although spatial autocorrelation wasn't strong, it was not around zero. We will now observe spatial autocorrelation and its significance level for each region separately. This concept is called local Moran's I and was introduced by Insulin (1995). The local spatial autocorrelation is concentrating on local clustering of the regions with spatial non-stationarity. It includes decomposition of global indicator to analyze significance of unique observations. Anselin described four types of local spatial autocorrelation. Firstly, High-High type introduced the regions with high values surrounded with the high-valued regions. Low-Low type showed the region with low values in the middle of regions with low values. Both types represent positive local autocorrelation. On the other side, negative autocorrelation is connected with High-

Low and Low-High types, i.e. region with opposite values as its neighbours. Figures 5 and 6 present four maps. Upper ones are called cluster maps and display clusters based on significant local spatial autocorrelation. In the bottom, green maps show significance level. Left maps are dealing with migration and wages, the right ones with migration and unemployment. Regarding the immigration and wages (Fig. 5), only positive spatially correlated regions (High-High and Low-Low) were found-districts of Bratislava and three surrounding districts (Malacky, Pezinok, Senec) as the High-High sector. This confirmed massive movements of migrants into the areas with high wages. The Wages are thus still significant pull factor for migration. The Low-Low sector encompasses poor districts in the East with low immigration and wage level. The difference between the East and West of Slovakia can be rapidly seen also in an unemployment map. The unemployment is high in the eastern part of Slovakia and low in the western part. We can see that high immigration activity districts (High-Low) are Bratislava city districts and the ones concentrated again in the near of it. If continuing further from capital city, immigration activity is lower, but unemployment persists to stay low. On the other side, districts in the East are all characterised by high unemployment. District Poltár disposes high with immigration activity.

Other eastern districts on defined significance level experienced low immigration and were surrounded by the reason of their unattractiveness – high unemployment.

Fig. 6 displays outflows. Again Bratislava's districts were found as statistically significant. Suburbanisation processes caused that a lot of people move to surrounding areas. One of the

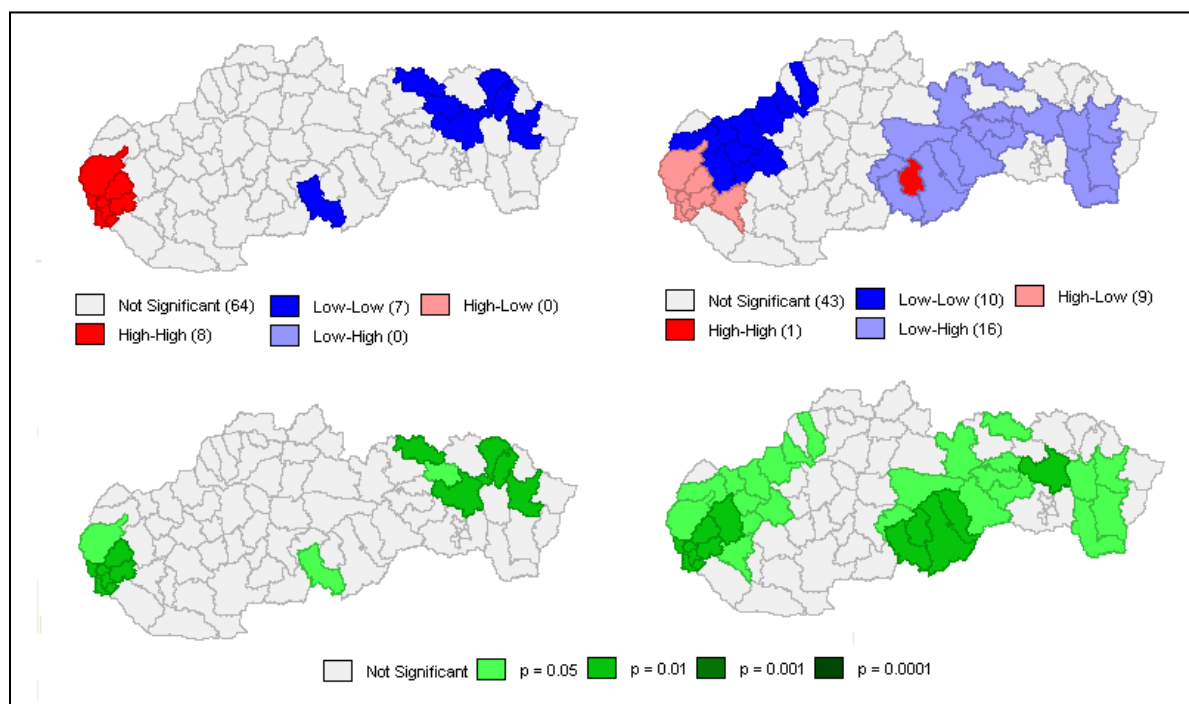


Fig. 5 Local (bivariate) autocorrelation – inflows and real wages (map on the left) and unemployment (map on the right) with the maps of significance level below (green) Source [12] + own elaboration

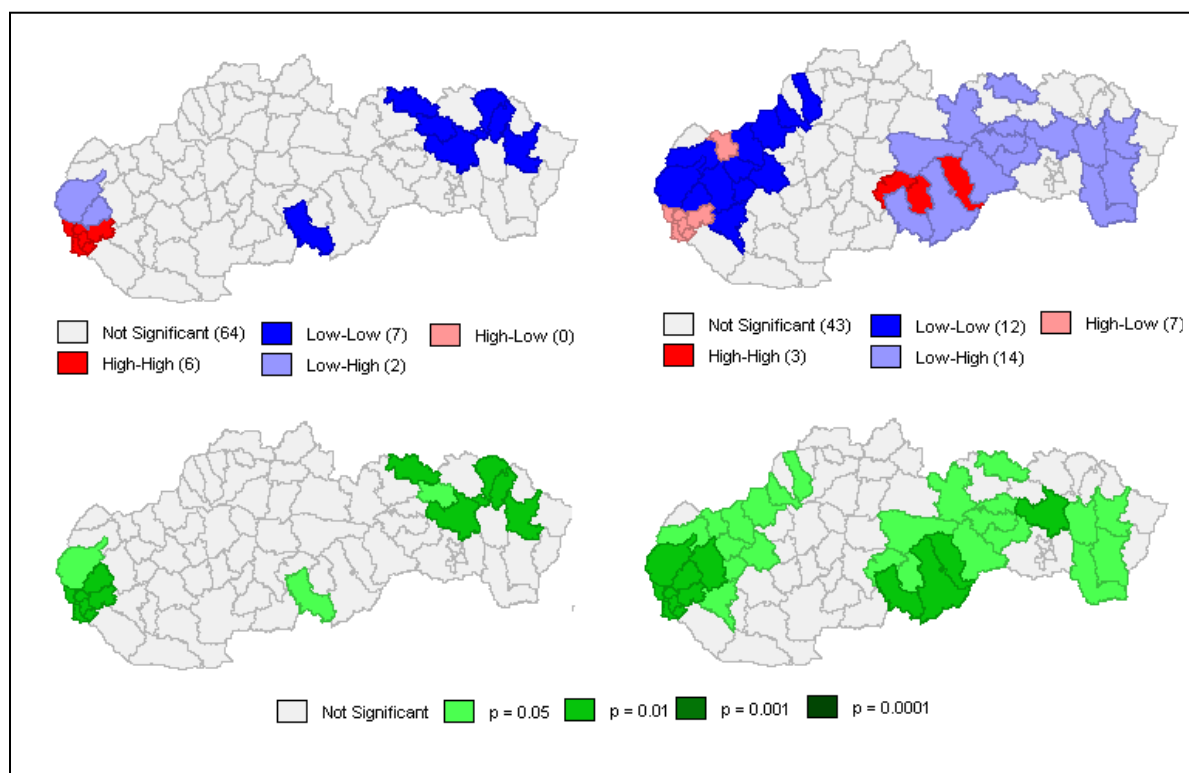


Fig. 6 Local (bivariate) autocorrelation – outflows and real wages (map on the left) and unemployment (map on the right) with the maps of significance level below (green) Source [12] + own elaboration

districts close to Bratislava also reached significant positive autocorrelation. We expected this district to be more like destination area than district with high outflows. As it is close to Bratislava, people commute to work every day. Outflows probably deal with single young people longing for own flat. The situation with unemployment rate is, similarly as in inflow, more complex. There are three eastern districts (Revúca, Poltár, Detva) with high immigration, which may be due to several reasons (as the poorest region, they may have the lower prices of houses, flats, or they may be a destination for people from Banská Bystrica and Zvolen, which are centres of middle Slovakia). The unemployment is one of the crucial problems of the East Slovakia. The people from High-High segment are pushed to more attractive regions. But there are thirteen regions with low outflows. That can be explained by economic constraints of individuals as moving is connected with certain costs. Not everyone is able to pay that costs. On contrary, all significant regions from the West are characterised by low unemployment. Bratislava district again uncovered high outflows.

MIGRATION AND STRATEGIC DECISIONS

As we mentioned, the migration trends may affect the strategic decision-making. The main goal of this paper was to provide a short analysis of internal migration in Slovakia to demonstrate possible impacts. For business, it is essential to count with migration trends as they deal with labour forces. Investing to region, which is in process of depopulation, can lead to lack of skilled labour forces, but also potential customers. The examples of business decisions, which could be affected by above mentioned analysis, are:

- Building a new warehouse or plant.
- Entering the new local market.
- Making acquisitions and merges.
- Following cost advantage strategy.
- And any others connected with location and human resources.

Dependently on strategic decision, we consider two cases. Firstly, the company might be orientated to more developed centres, where migration activity is bigger. In our case, we see districts of Bratislava in such position. Together with some neighbourhood districts, they belong to regions with the highest wage level and the lowest unemployment. Operating in these districts may bring several advantages like concentration of experienced and skilled labour forces, wider spectrum for selection of human resources, potential suppliers and big market. On the other side, competitive fight between companies in such developed regions may increase wages costs.

Moreover, due to high demand for skilled people in developed regions, there can be a lack of necessary labour forces. As we saw in our analysis, outflows of western districts are decreasing with an increasing distance from Bratislava. Therefore, the orientation on less developed regions in the East might be considered. In such case, the company can motivate migrants to move with various benefits such an accommodation or sharing the costs of moving. This motivation may be suitable for mentioned poor regions from our analysis, which are characterised with low outflows. They can have a massive potential of human resources, which is stopped by economic constraints.

In the second case, company can start to operate directly in less developed regions (e.g. as a result of cost advantage strategy, decision of new plant, etc.), where one of the advantages should be saving the money (e.g. lower labour force costs). Based on our analysis, we can assume that potential labour forces should be quantitatively stable. Both inflows and outflows for those regions are low. Also here, there can be a lack of qualified people. In this case, using the result of this analysis (spatial autocorrelation of migration), less developed regions were not characterised by high outflows, what we explained as the result of economic constraints of moving. Rather than expect moving of labour forces, company can motivate also people from neighbourhood region with aim of their daily commuting. That is another reason for our analysis. Seeing the clusters of regions with high unemployment and low wages, although with low inflows and outflows, can help to effectively focused on selected regions in migration clusters.

CONCLUSION

The migration belongs to the specific factors, which influence the dynamics, heterogeneity and hospitality of the external environment. Analysis of the environment is one of the crucial decision-making aspects. Therefore, in this paper, we analyzed the interregional migration between 79 districts in Slovakia and interpreted it for the needs of strategic management. As many authors before, we have also observed urbanisation and suburbanisation trends. Moreover, we investigated local spatial autocorrelation to see significant migration clusters in dependence with real wages and unemployment. We confirmed the premise that developed centres are characterised by higher migration activity. Based on the results, we discussed some possible steps depending on its decision to focus on developed regions or less developed regions. Thus we showed the migration as useful indicator, which needs to be analysed, while doing long-term strategic decisions.

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