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**Economic activity and migration at
the local scale**

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ECONOMIC ACTIVITY AND MIGRATION AT THE LOCAL SCALE

ABSTRACT. The aim of the following research is to establish the relationship between the spatial dimension of the inner migration in Poland using a local perspective (communes) and to confront it with economic activity in years 1993-2000. The analysis is based on the cumulative process model of growth in the intraregional structure. Spatial characteristic, as well as the interdependency of the coefficients illustrating migration movements and economic activity, have been also discussed in the paper. And, as the analysis proved, economic conditions (entrepreneurship development, household income) play definitely vital role in rural and urban-rural units. The observed increasing importance of the role of economic factors here followed the transformation in Polish economy.

KEY WORDS: economic activity, migrations, cumulative process of growth, local scale.

The correlations between migration and its influence on the social-economic level of development are widely discussed in literature. The existing theories of regional development have been indicating migration as a crucial phenomenon that can be either conductive or unpropitious to regional convergence (Myrdal, 1968; Hermansen, 1974; Gorzelak, 1989). The empirical analyses based on the local scale concentrated, first and foremost, on the results of the discussed process. Relatively, not many research papers touched the issues of the relation between the economic activity and migration movements.

The review of the literature shows a wide range of factors determining spatial mobility of the population. Modern economic concepts perceive migration as the result of the differential between the amount and structure of salaries, employment and unemployment rates, equalization of development disproportion, struc-

tural conditions linked with the functioning of labour markets. From the sociological and geographical standpoint, the most pivotal role in the analysis of migration movements play the differences between place of origin and the destination place of their movements, however, it is important to draw attention to the features of living standards and conditions (Górny, Kaczmarczyk, 2003; Bijak, Kupiszewski, Kicingier, 2004). None of the theories give any decent explanation to the issue of migration, as it is a multilevel and complex phenomenon. It means, that in any case, a detailed analysis of the conditions in the given area is desirable.

The research conducted in Poland emphasises uniformity of assessments of the most important factors influencing migration. They consist of the process of shaping of the real regional income, living standards, labour resources and family aspects (Kulikowska, 1982; Domański, 1989; Dziewoński, 1989; Strzelecki, 1989; Oczki, 2002). The last factor is indicated as the most important in direct survey research of the population (*Migracje wewnętrzne...*, 2003). The conditions related to the level of social-economic development play a minor role. However, it is worth noticing that the basic migration drive related to the family life is also connected with economic aspect.

The main aim of this paper is to analyse the strength of relations between the spatial aspect of inner migration based on the local scale and the economic activity. The research was conducted in the communes in years 1993-2000. The period was chosen due to the access to statistics (Raczyk, 2004).

On the regional level, some empirical research indicates a distinct connection (statistically important) between the migration and the level of development being measured in Gross Domestic Product (GDP) (Barro, Sala-i-Martin, 1992). A basic problem here is the authenticity of this foundation in relation to local structures undergoing social-economic transformations. It is caused by a number of phenomenon specifics accompanying the system transformation in Poland, as well as the serious limits to the size of the phenomenon in the first half of the 1990s (Ciok, Jakubowicz, 1995; Potrykowska, 2001). As a result, the threat of accidental factors influencing decision of migration at the local scale is comparably greater. Incidental events ought to be taken into account as they determine migration of the population in given areas in the long term. It may be exemplified here by the process of settlement of the population in the areas abandoned by the Soviet army. Moreover, the empirical measure of the migration movement at the local scale can be based on the statistics in relation to constant migration only, more precisely, to its part bound to the change of the register place. An illustrious part of the population execute the administrative formalities while changing the place of settlement or perform it with a considerable delay (Marcinowicz, 2000). This phenomenon is perceptible in academic centers and is connected with the fact that students remain there even after finishing their education. It is worth remembering that, local structures, transitory migrations also play an important role. They assume various forms: short-term

of trade character, daily or weekly commuting, period migrations, the one related to industry and its seasonal character, long-term profit migrations, job contracts, etc. (Zakrzewska, 2003). The lack of possibility of the measurement of the above mentioned forms based on GUS resources makes the interpretation of the data difficult, in the context of economic activity. The situation, first and foremost, refers to the areas being the agglomeration environment.

Important problems touched also the measure of the economic activity at the local scale. The discussed researches are devoid of a unified model in home literature. In addition, there was a need for selection of the factors characterising the economic activity indirectly, as the possibility of adaptation of the coefficients used in regional analysis (GDP, investments) to local structures is limited.

The analysis of the relationship between spatial mobility of the population and the level of economic activity was based on the cumulative process model of growth in intraregional system (Fig. 1). In accordance with the model, the migration processes present direct sequence of differences in household income figures, the level of economic growth (including labour market factor), human resources, social capital, as well as the availability of infrastructure and its quality. Detailed foundations and the characteristics of the elements of the given model were included in Raczyk's study (2004). It was used in the construction of the synthetic index of economic activity.

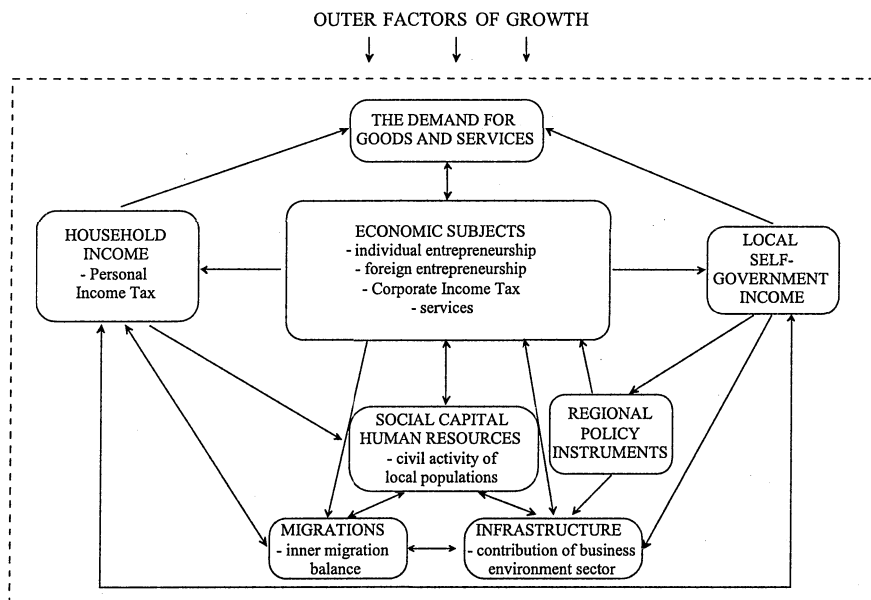


Fig. 1. Determinants of cumulative process of growth in intraregional system with their descriptive indexes applied in the paper

Source: Raczyk A. (2004)

The index was calculated basing itself on the method used in calculations of the Human Development Index (Ilnicki, 1999). The following partial indices were used for the HDI coefficient:

1. Individual entrepreneurship – natural persons engaged in business activity, in REGON register (out of 1,000 inhabitants in productive age),
2. Entrepreneurship in large firms - commercial law companies with superiority of Polish capital, in REGON register (out of 10,000 inhabitants in productive age),
3. Foreign entrepreneurship – commercial law companies with superiority of foreign capital, in REGON register (out of 10,000 inhabitants in productive age),
4. Activity of civil local community - foundations, associations and social organisations (out of 10,000 inhabitants of productive age),
5. Density of services – working in sector of services (out of 1,000 inhabitants),
6. Business environment – the contribution of economic subjects of Financial Intermediation and Real Estate, Renting and Business Activities sections in general number of economic subjects,
7. Personal income tax – PIT (out of 1,000 inhabitants),
8. Corporate income tax – CIT (out of 1,000 inhabitants).

The research accomplished the analysis of the strength of the relationship between the given index together with its constituents and the coefficients characterising migration movements: migration balance, influx, efflux, migration effectiveness. Spatial changes in the inner migration, migration balance and the level of economic activity have been also discussed.

The period of system transformation brought about crucial changes in conditions that shape the size and the direction of the migration. First of all, they were linked to deep depression of local labour markets, as well as the residential crisis. The decrease in strength of migration of the population was accompanied simultaneously by a great variability in particular communes. The characteristic feature of the early period of the transformation was the size of the efflux area - 1795 units that outnumbered the ones demonstrating high influx figures (643 communes). The latter were, as a rule, limited merely to the largest cities of particular regions. (Fig. 2, 3).

On the account of the increasing role of the economic factor in shaping the migration phenomenon, it was applicable only to communes characterised by relatively good economic situation. Consequently, minus values of migration balance can be observed even in large cities suffering from serious economic crisis, e.g. Wałbrzych and Nowa Ruda regions (Fig. 3).

In period 1993-2000, after the initial decrease, the general intensification of migration stabilized (Fig. 2). Pivotal changes took place in spatial structure of this phenomenon, though. In municipal units, relatively constant level of migration was accompanied by a distinct decrease in influx. In rural units, a contrary

situation was recorded. It reflected the tendencies of the population to move from the city to the suburban area. This process assumed a prevailing character and regarded the majority of large settlement units (e.g. Warszawa, Kraków, Poznań, Wrocław). Forming of the suburban area was related to the level of economic development of the main urban center (the “core”) and the affluence of its population. This is the reason why the lack of the suburban area can be a premise indicating the economic regress of a particular local structure. It includes areas of Wałbrzych, Olsztyn and Stalowa Wola. The characteristic feature of the changes in the intensification of the inner migration in given period was its stabilization only in rural areas. The slump in the influx and efflux within urban-rural and municipal units, first and foremost, in the initial period of transformation, suggests that the crisis of local labour market was the most determining factor in the situation.

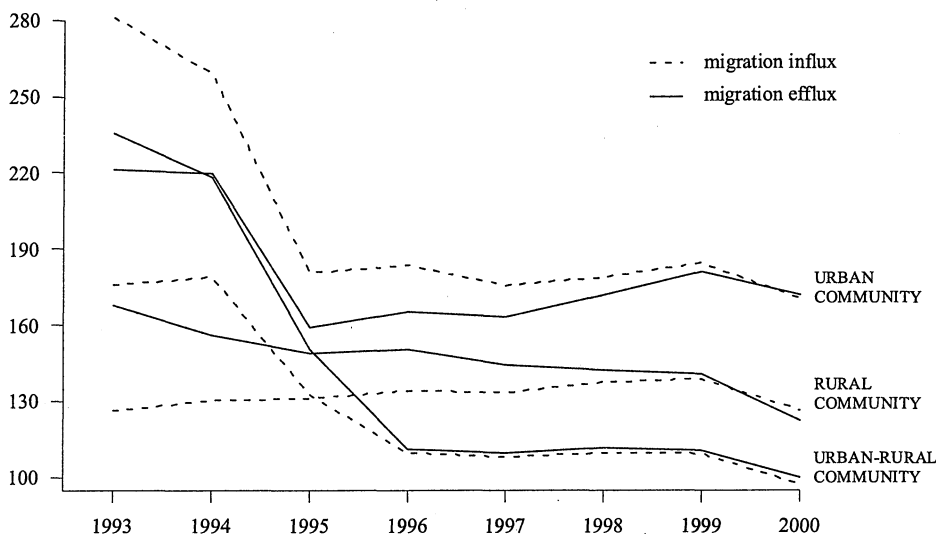


Fig. 2. Migration in Poland in the distribution of communes in 1993-2000

Source: own studies based on GUS data

The above discussed processes caused important changes of the spatial structures of migration in Poland. From the empirical perspective, it is proved by a relatively weak relationship between migration balance in 1993 and 2000 (correlation index – 0.356). In 2000, a distinct drop in the number of efflux areas (1,480 units) in favour of influx areas (987), assuming a firm character. Taking into account the consequences of migration in the context of regional development theory, it brought about the creation of large-scale areas of infiltration and drainage. Should this tendency keep up in future, it may become a serious thre-

at to the process of regional convergence. The most important areas of the influx were agglomerations: Warszawa, Wrocław, Poznań, Trójmiasto, Toruń, Bydgoszcz, etc. Extremely high and peculiar migration balance figures in some isolated rural units were connected with the settlement of the population on the areas taken over from the retreating Soviet army (e.g. Osiecznica, Barne, Sulimowo). Additionally, forming of the influx areas along the main arteries of traffic and settlement was also visible, e.g. Wrocław-Wałbrzych-Jelenia Góra, Warszawa-Radom, Kraków-Tarnów, etc. The least convenient situation was in communes where the high negative migration balance figures in 1993-2000 overlapped the earlier, long-term depopulation processes. It referred mainly to all industrial and agricultural mountainous regions (e.g. Sudety) as well as farming areas in the north-eastern and eastern parts of Poland. Crossing the border, as a factor, had little influence on migration process.

Spatial structure of economic activity indicates that the concentration of this phenomenon in main cities of Poland (Warszawa, Poznań, Kraków, Wrocław) was a characteristic feature of the early stage of the transformation period. Also, the economic activity was typical for industrial regions which maintained insensible to, so called, "transformation shock" (Bogatynia, Polkowice) (Fig. 4). Tight areas of a medium or high economic development included not large part of the country and referred to agglomerations. Areas in a deep economic regress were prevailing, and the crisis was related strictly to the dominating traditional branches of industry and agriculture (the North and the East of the country). Spatial structure of the activity in the early 1990s should be discussed as a reflection of the susceptibility of particular areas to the phenomena causing recession.

Basic areas of economic activity in the discussed period did not manifest any visible changes. Apart from a relatively firm spatial structure, the analysis of the change of dynamics within particular units indicates slight change in the weight of development factors. Still, the most important role was played by the presence of agglomerations and industries (e.g. Lublin, Polkowice, Wronki). But increasing importance of the location (arteries of country traffic – Kobyelice, Tarnowo, Podgórze; border crossing of heavy human and goods traffic, i.e. Terespol, Zgorzelec) as well as the development of tourist services (Szklarska Poręba, Zakopane, Łeba) was significant. It may prognosticate that the units concentrated on these kinds of services will become crucial ties in country's economy.

A common feature of spatial structure of migration balance and economic activity in the early period of the research was a dominating role of the areas with minus values of both of the analysed indexes as well as their decreasing number in the following years (Fig. 5). As the spatial aspect of the two phenomena was slightly different, it may suggest that the improving economic situation on particular areas was reflected in migration movement.

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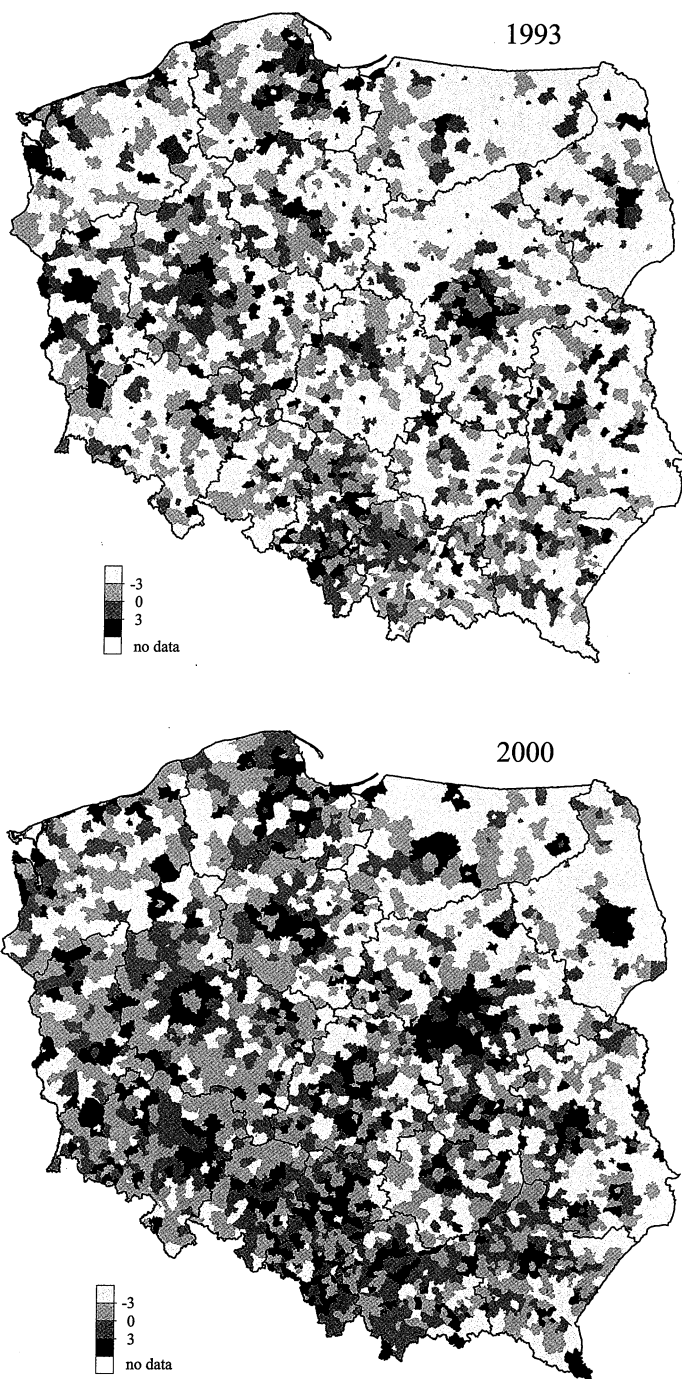


Fig. 3. Inner migration balance in 1993, 2000

Source: own studies based on GUS data

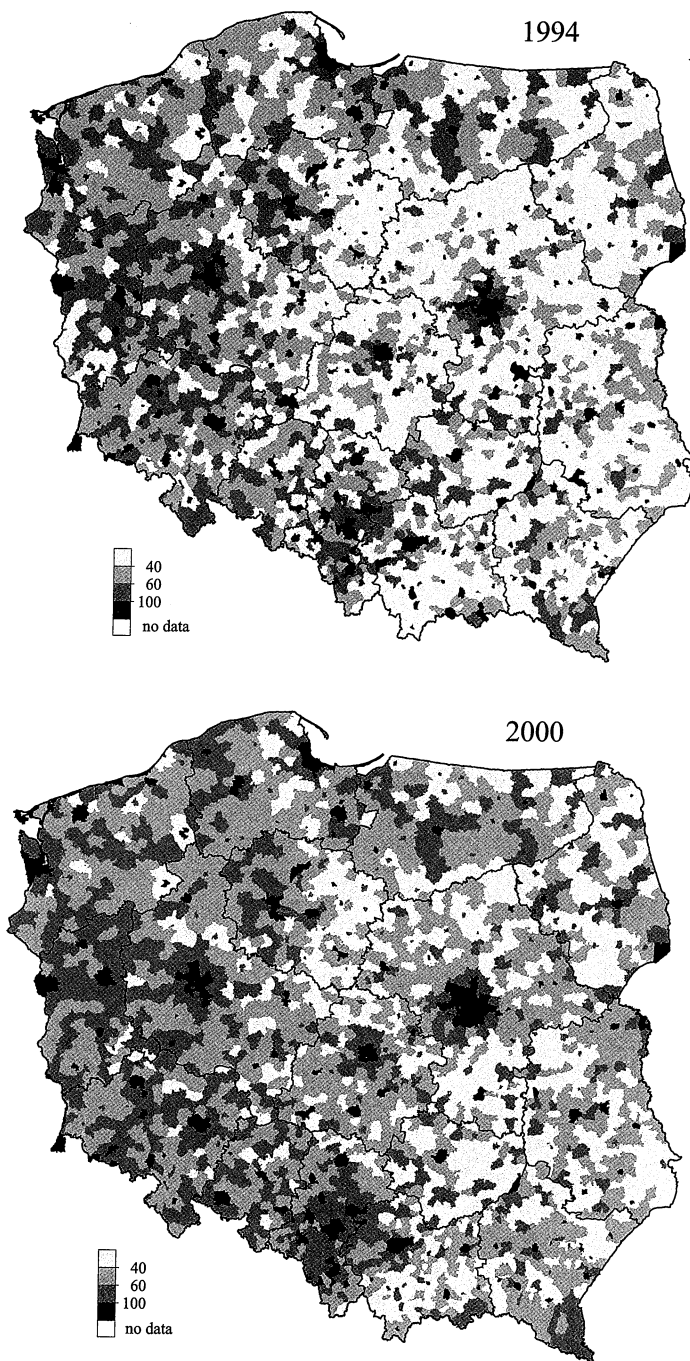


Fig. 4. Level of economic development in 1994, 2000 (Poland=100)
Source: own studies based on GUS data

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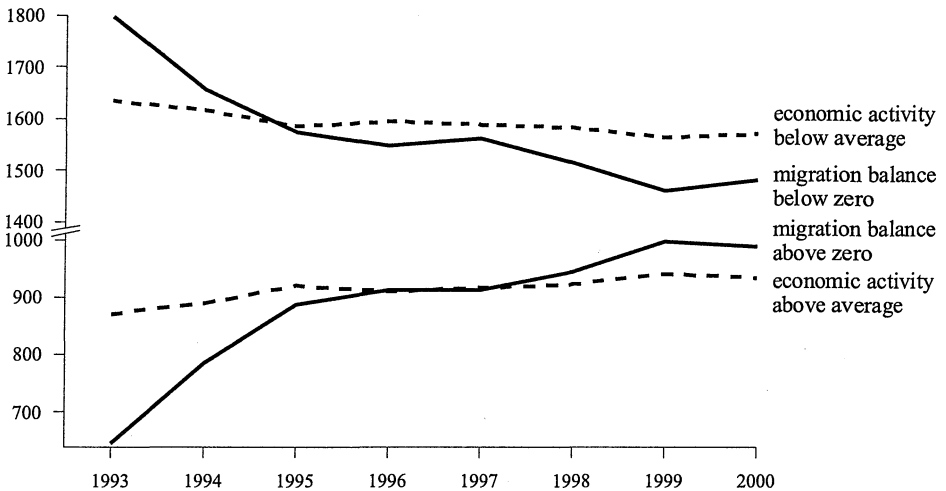


Fig. 5. The number of communes according to the inner migration balance and economic activity in Poland in 1993-2000

Source: own studies based on GUS data

The researches show, the empirical aspect of the strength of the relationship between the spatial mobility and economic activity is differentiated, depending on the observed item. Statistically crucial interdependence of migration balance and economic activity is visible, first and foremost, within rural units, and, in slightly narrower range, the urban-rural ones. In the case of urban units, this interdependence practically does not exist.

The migration influx index is the strongest characteristics linked to the economic activity in rural and urban-rural areas (Table 1). The migration efflux index did not manifest a correlation of any kind within the analysed population. It can be stated, on the basis of the above deductions, that the essential element influencing influx of the rural population is the high level of economic activity. Simultaneously, low level of the activity does not determine the efflux of the population from the given area. The level of economic development proves to be a “magnet” attracting the population. On the other hand, the efflux of the population is conditioned by other factors not mentioned in the following paper.

The decisive factors in spatial mobility of the urban areas are not connected directly with economic activity (e.g. availability and the prices of plot areas and flats). It does not mean the economic activity in this particular units is not related to migration movements. The situation may result from an inner diversity of the given urban units (e.g. city size, social-demographic structure, living standards, the level of services, etc.)

Table 1. Correlation coefficient of the economic activity index and migration indexes in 2000

SPECIFICATION	TOTAL	MUNICIPAL UNITS	URBAN-RURAL UNITS	RURAL UNITS
Migration balance	0.292	0.136	0.378	0.422
Migration efficiency	0.257	0.171	0.321	0.344
Migration influx	0.253	0.047	0.309	0.489
Migration efflux	-0.101	-0.154	-0.106	0,009

Source: own studies

Taking into account the constituents of economic activity index in the urban population, a high correlation coefficient appears between the migration balance and individual entrepreneurship index (Table 2). In rural units the interdependence was crucial between household income (PIT index) and all other entrepreneurship indexes (entrepreneurship in large firms, foreign and individual entrepreneurship). A similar situation could be observed within urban-rural areas, which proves the thesis that the differentiation of the inhabitants' income is one of the crucial factors influencing migration. The justification of the strong influence of the level of entrepreneurship and the spatial mobility is twofold:

- the appearance of economic subject is connected with the migration of the businessmen,
- the emerging of the economic subjects contributes to the creation of new work places stimulating the influx of the population.

The correlation coefficient of the influx index and the economic activity index in the given period demonstrated an increasing tendency. It suggests, the growing role in forming the spatial mobility of the population was played by economic conditions. It referred mainly to rural units.

Table 2. Correlation coefficient of migration balance index and indexes of economic activity constituents in 2000

SPECIFICATION	TOTAL	MUNICIPAL UNITS	URBAN-RURAL UNITS	RURAL UNITS
Entrepreneurship in large firms	0.318	0.174	0.473	0.483
Individual entrepreneurship	0.334	0.303	0.350	0.384
Foreign entrepreneurship	0.283	0.139	0.344	0.383
Personal income tax – PIT	0.366	0.256	0.427	0.501
Corporate income tax – CIT	0.170	0.092	0.118	0.206
Activity of civil local community	-0.025	0.027	0.033	-0.051
Employment rate	0.176	-0.035	0.231	0.189
Density of services	0.133	-0.054	0.213	0.229
Business environment	0.153	-0.063	0.089	0.257

Source: own studies

On one hand, the interdependence of migration balance and the level of economic activity in particular years was not considerable, on the other, in the longer perspective, it was significantly conditioned by economic factors. It results from the fact that the migration balance index for particular years is susceptible to the influence of other incidental or fate factors (e.g. migration on the account of family affairs). However, in the long time horizon, it limits the factors considerably. It can be a consequence of the fact that the migration movements are secondary in relation to economical changes (e.g. the changes in labour market). What follows, they are delayed in relation to economic activity. However, the correctness of this conclusion requires further individual researches.

The analysis indicated that economic conditions play a vital role in the process of forming the migration movements of the population. In empirical aspect, they are particularly visible in the areas where they present an essentially attracting factor (rural units, and less efficiently, urban-rural areas). In the case of municipal units, this relation is violated by other factors, e.g. availability of services (including education, flats, estate values, environmental issues, etc.) The problems with an unequivocal determination of the relation of migration and the economic development result also from the limited access to statistics and the measure of economic activity at the local scale.

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