

## ATTEMPT AT DETAILED, COMPLEX AREAL-STRUCTURAL ANALYSIS OF MIGRATION

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With the development of forces of production and of division of labour the spatiality of production undergoes changes, too. In respect of man as the main force of production this perpetual change is manifested in the migration of population. The migrating process of population can be looked upon as constant but it can increase during certain periods of development in the forces of production which cause considerable areal-structural changes. In these periods which can be characterised by an increased mobility of the population one can find socio-economical problems caused by the migration which make necessary research into this process as well as its collateral phenomena. During the course of migration centres of concentration and "population-releasing" areas are formed. A dynamic balance between these two poles is very important; this is the basic sine qua non of the undisturbed redistribution of the population which must be at a desirable rate in respect of the socio-economical side of population. To investigate the occasional temporary imbalance of the two poles and all the effects of this imbalance is therefore of special importance. To analyse the changes which take place in the two poles themselves caused by the migration course is important, too. These changes — although different in character — appear in both poles as demographical, economic, and infra-structural social problems. To investigate these research problems, one must know about the volume, trend, structure and areal connections of the migration course. The required, detailed and satisfactorily grouped data-basis must be provided by statistical data providing information. With all these data we can extend the inquiries into the migration process with regard to the areal settlement of the population, to the social composition in respect of age and sex in the given areal units, to the educational level and various communal and infra-structural degrees of supply. The migration process causes changes in each of the above-mentioned factors and we must extend our inquiries so that they will be effective. This effectiveness is demanded by the need for areal planning.

### II.

In our country, as in all the other European socialist countries, the great socio-economical changes in the past three decades, the dynamic development of forces of production and the rapid transformation of the areal and sectorial structure of production increased the mobility of population, urbanization accelerated, and the inter- and intra-regional migration of the population increased immensely, too. The significance of this migration orientated the research itself and called forth

publications of value both in theoretical and practical respects. Budapest — the result of the peculiar historical-economical development of our country — has a special place in the Hungarian settlement system and regional division of labour. During the last decades — in respect of rate and mainly the volume — Budapest had an outstanding role in the migration movement as the most important centre of concentration of the population. Therefore it is natural that inquiries into migration concentrate mainly on the capital. (e.g. PESTI L. 1969, KURUC A. 1971, V. TAJTI E. 1971.) Besides Budapest regional research concentrated on cities in the country which had been developing dynamically. The results of this research are differentiated by the fact that it made special efforts to discover particularly any specifically regional aspects of the migration process. (KOLTA J. 1968, TÓTH J.—KRAJKÓ GY.—PÉNZES I. 1969, CSÉPES J. 1974.) The country-wide migration movement as such — approaching the problem from different points of view — was analysed by a great number of scientists. The results are of basic value in respect of the tendency, the volume and the areal relationships and provide a basis for comparison of the regional research. (SÁRFALVI B. 1964, COMPTON P. 1968, V. TAJTI E. 1972, TÓTH J. 1973, SZAUTER E. 1974.) Commuting — which is related to the migration process, but again it can be separated from it because of its peculiar problems — has its own technical literature. From this technical literature we refer only to the part that concentrates on the city which we chose as the example of our research. (DÖVÉNYI Z.—SIMON I. 1974.) Among the above-mentioned studies and among the ones we were not able to mention owing to lack of space we did not find studies which either analysed the detailed structural and regional phenomena of the migration process, or concentrated on its complex structural-regional analysis. This comes from the inefficiency of detailing the statistical figures which register the process.

### III.

The mobility of the population in our country — even though it is on a higher level than it was during the period between the two world wars — shows a decreasing tendency from the 1950's. The exponential trend chosen from the over one and a half decades long period (1955—1971) of constant mobility shows a 2% decrease per year. The situation is very similar in the case of temporary mobility, too. (SZAUTER E. 1974.) The trends of our country correspond closely with the trends in the other socialist countries in Europe. The global trend of the mobility, however, covers up certain specific aspects. Three of these are very important:

a) With the decreasing intensity of the mobility the rate of the inter- and intra-regional migration gradually changes in favour of the latter. The rate of moving about within a county increased by 3.2% between 1968 and 1971 (country-wide percentage rate). (SZAUTER E. 1974.)

b) The volume, direction and rates of migration are in close connection with the province and the hierarchical level of the settlements. With the increasing of the hierarchical level the significance of the migration difference grows greater in the population. (TÓTH J. 1973.)

c) One can see differences in the migration course in each area. In certain areas the mobility decreases, in other areas the mobility increases in comparison with the average mobility. The interests of the national economy as well as practical

interests demand the division of the global average rates into components, and the discovering of the specific features of the migration course so that these data could be used in regional planning. Supplementing the insufficiency of statistical data by acquiring original data from the area we made an attempt — on the basis of the migration conditions in Békéscsaba in 1969—1973 — at a detailed, complex, areal-structural analysis of the migration course in that area. Without publishing the results in detail (TÁNCZOS—SZABÓ L. 1975) we give an account of the declarations and conclusions of methodological, theoretical and practical importance.

#### IV.

On the method of getting the necessary data, on the area from which the data was acquired, and about the methodological questions of processing the data we can declare as follows:

*a)* As the subject of our research we chose a middle-sized Hungarian settlement, Békéscsaba, which has sixty thousand inhabitants. There the data on migration are extensive enough for a detailed analysis but they do not go beyond a limit which would make it practically impossible to get the necessary data using the method mentioned above.

*b)* We got the necessary data by having registration forms filled in — this meant having six thousand forms filled in.

*c)* The data refer to the population over 14 which takes part in the migration process and contain the data about both permanent and temporary migration.

*d)* The data contain important pieces of information, i.e. answers given to the questionnaire on the registration forms such as:

“Where did you come from and where are you going to?”

“Age.”

“Sex.”

“Profession.”

“Education.”

So the basic number of items of information is about  $5 \times 6,000 = 30,000$ .

*e)* Data from five years (1969—1973) were processed, so — comparing the processed data with the relevant statistical data and estimating moderately — we can refer to certain tendencies of the migration course.

*f)* Data were gathered and processed so that during the structural analysis they could be compared with the data from the population census of 1970.

*g)* Owing to the lack of computer-capacity data were processed in the traditional — statistical, geographical and cartographical — way. Using computers for processing and storing the data, a detailed areal-structural analysis of the area could be done any time, very easily and very quickly.

#### V.

Before starting the structural analysis of the data referring to migration, we must make some general statements. In the first place we must say that, in contrast with the country-wide trend, migration is increasing in Békéscsaba. Apart from the pause in 1972 this increase is continuous and is at a considerable rate from year

to year. The country-wide increasing rate of intra-regional migration is not compared with the moving population on a country-wide scale. In the case of the immigrant population the high percentage rate of people from Békés county is still increasing (the percentage rate of the immigrant population is 73.9% during the five years), but the similar percentage rate of the transmigrant population did not change considerably (from 1969 to 1973 it was 52.24%). The difference in the percentage rates shows that Békéscsaba has a certain gathering-selecting-passing role in the migration course. It is also very important that the migration margin of the town is positive and its tendency is increasing. On the structural analysis we can give the summary of the peculiar features of the migration course.

a) In contrast to expectations and the country-wide conditions the mobility of women is greater than that of men; the percentage rate of women in the whole population as far as mobility is concerned is 54.2%. But since the changes in the structure of production in towns and the new working opportunities increased the percentage rate of men — the percentage rate in the new difference of mobility in towns is higher in the case of men. So the migration course contributes to the balance of the breakdown by sex. (According to the population census of 1970 53.2% of the population over 14 is female.)

b) With the exception of the population over 60 the town has migration gain in every generation. The migration difference is the highest and shows an increasing tendency in the case of the youngest generation (people between the ages of 15 and 29 inclusive). The percentage rate of the young generation in the immigrant population is increasing. The distribution by age is that the immigrant population as a whole is younger than the transmigrant one and than the corresponding generations of the population in Békéscsaba. So we can say that the population in the town "gets younger" by the migration.

c) The town concentrates on workshops of a higher level of qualification than its surroundings and needs more skilled work-hands. According to education, the educational level of the immigrant population is higher than that of the transmigrant population and the corresponding generations in the population and the corresponding generations in the population of Békéscsaba. So the distribution by educational level of the population is developing in the town by the migration. The course is slow and there are problems, however. According to the data the town cannot provide work for people who did not complete at least 8 years of secondary schooling; their percentage within the immigrant population is decreasing — by 1973 it was only 1.2% (while in 1969 it was still 29.0%), — while their percentage rate, in spite of the decreasing percentage rate, is still considerable (1969: 21.2%, 1973: 11.6%). Since in the town there are no institutions of higher education, a section of the graduates from secondary schools leave Békéscsaba; as far as the secondary-school graduates are concerned, the migration gain of the town is not considerable. The concentration of university graduates shows a very weak tendency.

d) With reference to the quality of the employment as well as the professional conditions — according to the main tendency and the level of functional development of the town — the number of manual workers and that of the employees increased as a result of the migration in Békéscsaba. The concentrating power of the town for mental workers shows an increasing tendency. The migration loss which is very unfortunate in the case of students is rooted in the lack of institutions of higher education.

## VI.

The analysis referring to the areal connections of the migration course was done in two approaches. The peculiarities can be summed up as follows:

a) The distribution according to towns and villages as well as settlements with a central role and settlements with no central function shows that while Békéscsaba has a considerable migration gain in contrast with the latter, the migration course in connection with towns and settlements with a central function leads to migration loss. It is important to observe that the rate of the loss — although it is higher in connection with the bigger centres — corresponds to the hierarchic grades of the bigger centres contradictorily. The migration balance of the town is negative even in connection with the lowest researched level, i.e. with the settlements which belong to the partial medium centres, although Békéscsaba is to have a high place and important role in the hierarchy of the centres. On the detailed analysis we can form the conclusion that in the case of Békéscsaba it is the areal situation and the level of communal equipment rather than the hierarchic grade of settlements of central importance which influence the balance of the migration course. This statement is supported by the fact that apart from centres in Békés county the migration balance of Békéscsaba is positive in contrast to a lot of other centres in the lowland area.

b) Areal analysis was done according to economic-planning centres and counties, then — referring to the whole county — according to villages, too. In contrast to the central, North-Transdanubian, South-Transdanubian and North Hungarian economic-planning centres the town has — in corresponding order to the above-mentioned areas — migration loss, while in contrast to the Northern Lowland it has a migration gain of a few people, and in contrast to the Southern Lowland one of nearly a thousand people. This gain is due to the migration gain of the town in contrast to Békés county, because the town has migration loss in contrast to the two other counties which belong to the centre, namely Bács-Kiskun and Csongrád. According to counties: apart from Békés, Békéscsaba has a migration gain of minimal value only in contrast with Szolnok and Hajdú-Bihar. The greatest proportion of the migration loss is in favour of Pest county rather than the other ones where the distribution of the transmigrant population is equal. The percentage rate of the migration loss related to the volume of the migration course is highest in the case of Komárom, Pest, Vas, Zala, Somogy and Baranya counties. Analysing the data of immigration and transmigration in the fullest detail we can assume that the migration of the population touching Békéscsaba is of the highest pitch in the areas which are near the border of Békés county, i.e. in certain areas of Csongrád, Szolnok, and Hajdú-Bihar, apart from the settlements within Békés county. In other parts of the country the number of the population spreading out from Békéscsaba decreases in proportion with the distance. The Veszprém—Budapest—Borsod axis can hardly be seen — and if it can, it is because of the towns. For the country and county maps of the migration difference see figures 1. and 2. Apart from Békés county, it is only one or two settlements near the border of Békés county that provide migration gain for Békéscsaba. The low values of the settlements which are far away from the town show the eventuality of the migration connection. We want to point out only one or two of the details. It is interesting, although explainable by the historical past as well as the present peculiarities of the functional distribution of work, that in contrast with the centre of the county Gyula has a positive migration difference. In another

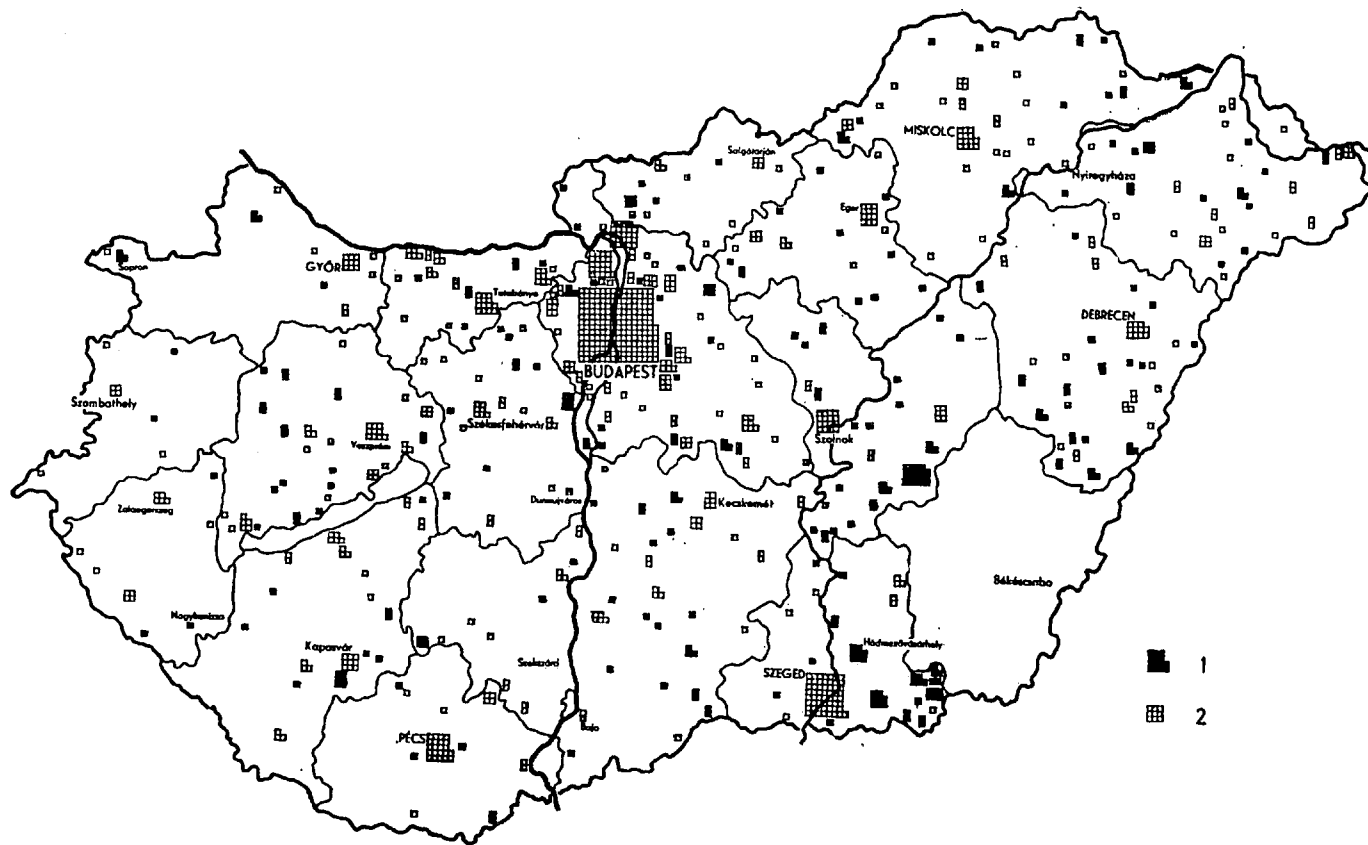


Figure 1. Migration difference relating to Békéscsaba (1969—1973 without Békés county).  
 1 = Migration gain  
 2 = Migration loss  
 (one square unit stands for 1 migrating person)

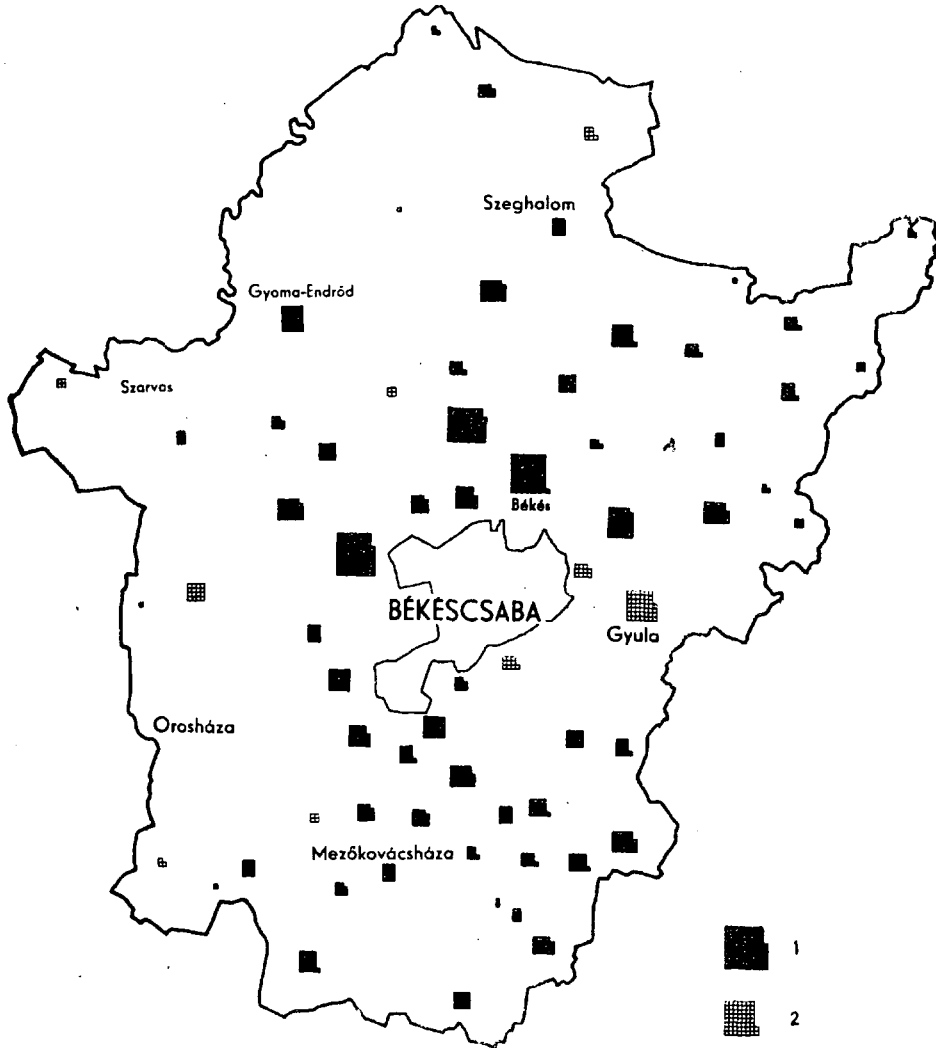


Figure 2. Migration difference relating to Békéscsaba (1969—1973 with Békés county included).  
 1= } see Fig. 1.  
 2= }

respect it is remarkable that four villages in Csongrád county — Pítvaros, Csanád-alberti, Ambrózfalva and Nagyér — have an important role in the migration to Békéscsaba. This phenomenon makes it certain that the national distribution of population has a considerable role in the migration course.

## VII.

All the structural criteria (distribution by education, by age, etc.) which were researched relating to the whole migration course in connection with Békéscsaba can be the subject of a further analysis according to settling-levels and areas. On the basis of this further analysis the picture of the immigration and transmigration as well as their complex areal-structural outline could be obtained. We must point out the following data from the details of the peculiarities in the areal-structural part of the migration course in Békéscsaba:

*a)* On analysing the structural criteria of the immigrant and transmigrant population we can see that in contrast with the towns and settlements of central role Békéscsaba is not at a disadvantage only because the town has migration loss, but also because of the fact that it loses population of favourable structure and gains population of less favourable structure. The level of the loss is decreasing according to the hierarchic levels (with Budapest as the city of the highest hierarchic level).

*b)* The structural criteria of the migration course are favourable for Békéscsaba in contrast with settlements of no central importance; the town — besides the fact that it has a migration gain in this respect — gains a population of more favourable structure than that of the transmigrant population. The role of the villages in Békés county is essential in creating this situation; in the case of the villages in other parts of the country the structural difference is not great.

*c)* According to bigger areal units (economic-planning centres, counties) the structural conditions of the immigrant and transmigrant population follow the tendency of the migration difference. The positive migration difference of the areas such as the Southern Lowland area as well as Békés county modifies the structure of population in the town favourably, while the areas of negative migration difference such as Pest county and the majority of the centres modify the structure of population in the town unfavourably. The towns in Békés improve very little the structure of population in Békéscsaba while the villages in the county do so to a large extent. In this respect the county can undergo a further differentiation.

## VIII.

On analysing the results of the research relating to Békéscsaba we can assume that the detailed, complex, areal-structural analysis of the migration points out a lot of special features and connections of the migration course which could be very important for the practice of planning-directing. It gives a detailed description of the complicated inter-relationship which exists between the different factors of the town, such as the role, infra-structural level, changes in function, and the volume of the migration, its tendency and structure. According to the factual results of the research the specific features of the migration course relating to Békéscsaba are as follows:

*a)* The trend of mobility which is different from the country-wide trend of mobility.

*b)* The greater mobility of women.

*c)* The majority of men in the migration difference.

*d)* An effect which improves the age-distribution of the population.

*e)* An effect which improves the educational level of the population.



*f)* Quality and quantity migration loss in contrast with the other settlements of central importance.

*g)* Quality and quantity migration loss in contrast with the great part of the economic-planning areas and counties of the country.

*h)* Great quality and quantity migration gain in Békés county.

*i)* The superiority of point *h)* in contrast with the other towns of the county.

On analysing the special features we can assume that Békéscsaba which has the most important position in the migration course of the county has a very moderate role in the country-wide course. Today the function of the town can be described as gathering, selecting, and passing on.