

## **TAXONOMIC STRUCTURE OF ECONOMIC REGIONS ON THE HUNGARIAN PLAIN**

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By means of several years' research work, the Department of Economic Geography of József Attila University in Szeged has elaborated the national classification of economic regions. The essence of the method employed in the work is as follows: the outlining of the higher-level economic regions was preceded by economic regional structural research; the attraction system of the settlement network, the directions and extents of the regional mobility of the population, the transport-geographical situation of the settlements, the delivery directions of agricultural crops and food-industrial raw materials, and the rates and levels of development of the industries of the micro-regions were all established; and the agricultural production types and the natural factors were taken into consideration.

With the aid of the listed factors, an exact determination of the boundaries of the micro-regions proved possible, and this subsequently served as the basis for the establishment of the taxonomic levels and for the drawing of the boundaries of the corresponding regional units.

As a macro-region the Hungarian Plain differs from the other areas of the country in many respects, and this justifies its separate treatment.

### **Characteristic features of the economic regions of the Hungarian Plain**

*a)* The contents of the economic regions and their roles in the national distribution of labour are determined by the regional production complexes. The food-economic complexes on the Hungarian Plain, which are of comparatively slight extents, and also the larger towns (Szeged, Debrecen, Nyíregyháza, Békéscsaba, Kecskemét, Szolnok), as rapidly developing industrial foci, represent the unit within which the regional principles (regional connection system) are manifested. A regional complex similar to that for coal has not developed on a hydrocarbon basis.

The internal cohesive forces of the regional production complexes on the Hungarian Plain are weak: quite frequently the only connection between the individual branches is that they are located in one settlement. Mutual cooperation between them is virtually non-existent, or very weak. This is one type of isolation; the branches are isolated from each other, but not from other regions of the country. This is the basis for the further characteristics of the economic regions.

b) The production, delivery and transport connections are weak at every level between the economic regions on the Hungarian Plain (in contrast, for example, with North Hungary, where very close cooperation has developed between the Miskolc, Ózd and Leninváros micro-regions); at the same time, the meso- and sub-regions are linked by very close ties to the Central regions

c) It is characteristic of the relation of the branch and the integrant economic regions that the most general regions-forming force on the Hungarian Plain is the food-economy; this determines the profile of practically every regions. It is followed in sequence by the light-industry. Machine, chemical and building-material industries are leading branches in only a few regions. It follows from this that predominantly the complexes of the food-economy had to be taken into account in the drawing of the boundaries.

d) In Hungary there are various types of large economic regional structures. The most general is the "energy axis", on which a relatively developed industrial zone has developed. The agricultural regions are to be found in parallel with this. The "traditional zoning" is resolved by the rapidly industrializing and simultaneously developing urbanization "axes" along the main transport routes. Finally, the third form (which, together with the preceding one, counterbalances the very strong centralization) is represented by the regional centres, the poles developing in opposition to Budapest (Fig. 1.).

In the first regional structural system the Hungarian Plain represents a uniform agricultural zone in contrast to the "industrial" zone. The differentiation is tending

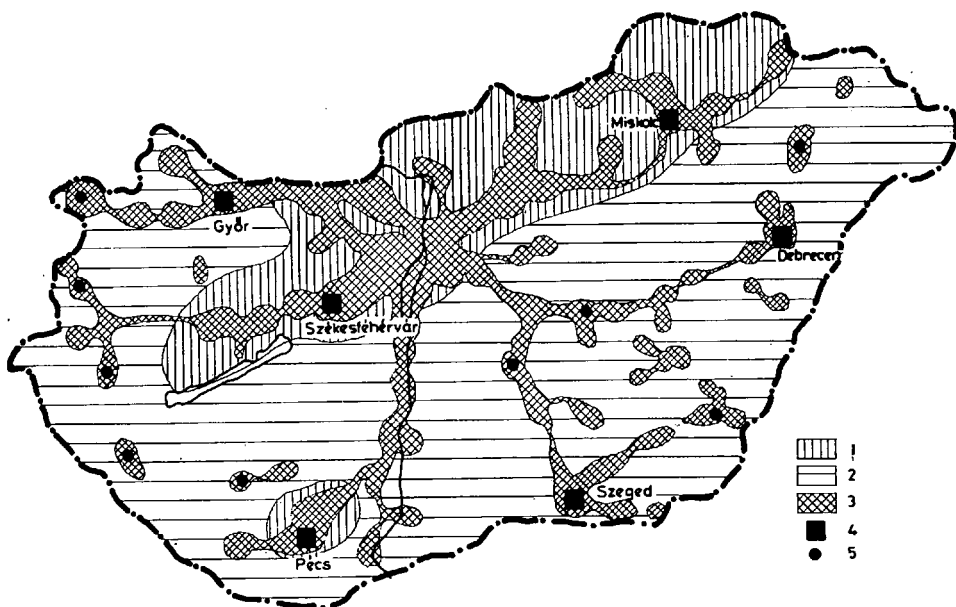


Fig. 1. Economic sphere-configuration of Hungary

1 = industrial area 2 = agricultural area 3 = "urbanisation's axes" 4 = regional axes  
5 = other centres

to become less and less regions, since the industrially less-developed regions have been undergoing a rapid transformation during the past few decades.

The "urbanization axes" developing along the main transport routes on the Hungarian Plain still appear only in large outlines, and cause no difficulty in the drawing of the boundaries of the regions this regional form of development is in no way contradictory to the formation of the regions, and in fact the two even supplement one another, since both processes are connected to the same centres.

The decentralization of industry and the process of construction of provincial poles have accelerated the industrial development on the Hungarian Plain, raised the importance of the centres, and at the same time increased their regions-forming role.

e) The industrial development of the South Hungarian Plain is thus mainly linked to centres the sizes and roles of which mean the regional differentiation. The hierarchy of the settlement network has become more pronounced, and their attraction has strengthened (in proportion to the growth) and can be relatively well defined regionally. It follows from this that, in contrast with other areas of the country, on the Hungarian Plain the circles of attraction of the centres could be taken into consideration to a large extent in the drawing of the region boundaries. The two regional systems by and large coincide at a micro-region level, but more substantial differences occur at higher levels.

f) The grades of the economic regions and the administrative classification (administrative district, county) overall coincide regionally. The micro-regions are generally larger than the administrative regions, but cross the boundaries of the latter in only a few places.

The sub-region classification on the Hungarian Plain agrees surprisingly well with the system of the county (the boundaries must be made more exact in merely a few places). It follows logically from this that on the Hungarian Plain there is no appreciable difference between the administrative units and the economic regions and thus the two systems can be brought into harmony comparatively easily. There are several reasons for the surprising agreement of the two types of regional units:

— The industrial development of the Hungarian Plain up to the end of the Second World War was confined simply to a few centres. The rapid industrial development in the past few decades has taken place within the frameworks of the administrative boundaries, in which a significant role was played by the direction by the counties. Hence, the counties influenced the formation of the economic regions to a large extent, forming them to their own picture. In contrast, in North Hungary and in Transdanubia, where the industrial development began substantially earlier, a regionally determined grouping took place and consequently there are very large differences between the sub-regions and the counties.

— On the Hungarian Plain every county possesses a centre (Szeged, Kecskemét, Békéscsaba, Szolnok, Debrecen, Nyíregyháza) the attraction of which connects it to the entire county or sub-regions. From this aspect too we find a difference in North Hungary and in Transdanubia, e.g. in the counties of Heves, Zala, Veszprém and Tolna.

— On the Hungarian Plain a processing industry has developed by and large. This primarily concentrated in the larger centres and thus given rise to larger or smaller industrial foci which, as district centres, have played an important role in the formation of the regions.

In the more developed industrial regions, in contrast, industry (not including that of Budapest) was sited largely with regard to the energy source or to the raw material, and hence the regional location of industry was influenced to a considerable extent by the locations of the discovery of minerals and ores. The counties played only a minor role in the creation of industry, and the regional production complexes developed independently of the county boundaries. As a consequence, on the Hungarian Plain the distribution of the centres was given in the siting of the processing industry and the county boundaries served as the framework for the industrialization process, so that it is understandable that of necessity they coincide with the boundaries of the economic districts (disregarding some minor differences); at the same time, the difference between the two systems in the industrially developed regions is very significant. On the Hungarian Plain the regional difference between the administrative units and the economic regions is minimal, but on the other hand there are substantial differences taxonomically. At the same time, in other regions of the country the two systems are not in step either horizontally or vertically.

From the regional coincidence of the economic regions and the administrative units it by no means follows that there is no need for change on the Hungarian Plain; it merely means that the justified modifications can be carried out comparatively more easily than in other regions of the country. The technical development and the economic and social transformations of the past decade permit even a several-fold increase in the area of the administrative districts and counties. Accordingly, the economic micro-regions may agree with the boundaries of the administrative regions, while the meso-regions may satisfy the functions of the counties.

### **Taxonomic construction of the economic regions**

The regional arrangement of social production has given rise to various grades of economic regions on the Hungarian Plain (Fig. 2).

Revelation of the correlation between the taxonomic units is important not only theoretically, but also practically. A knowledge of the connection system permits us to draw the boundaries by proceeding "in an upwards direction".

The taxonomic grades of the regions were established on the basis of the following factors:

- The field of influence of the regional unit in the given regions system.
- The numbers, proportions and functions of the production branches constituting specialization, and also their place in the region system.
- The sizes of the regional production complexes.
- The proportions and extents of the production, trade and transport connections.
- The natures of the regions the identities and dimensions of the economic and social problems arising in their development, the rate of development of the economic life, and the level of its development.
- The similarity of demographic problems (the mobility of the population, etc.).
- The areas of attraction of the centres, and the numbers and natures of their functions.
- The effects of the natural features on the economic life.

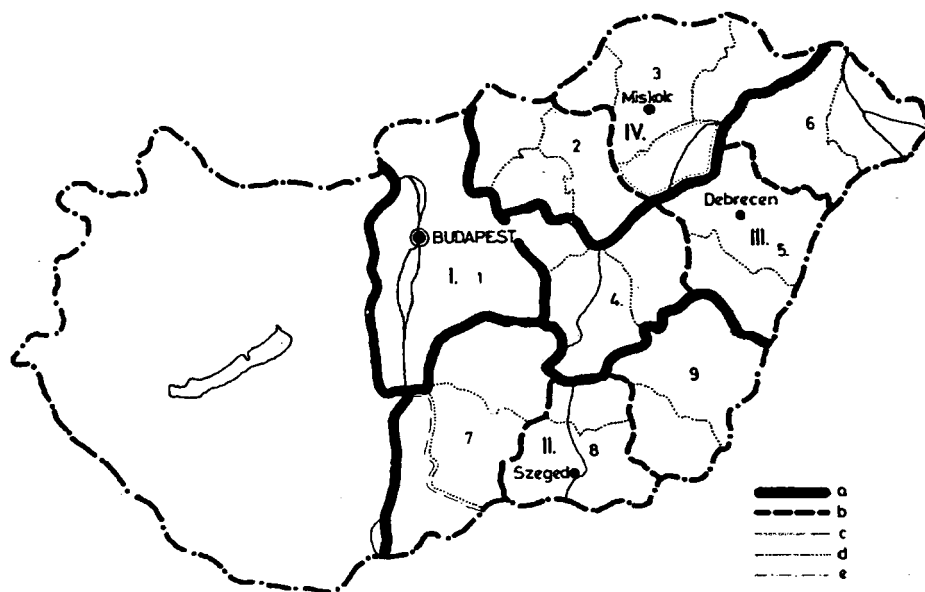


Fig. 2. Economic regions of Hungarian Plain

a=boundary of mesoregions, b=boundary of subregions, c=boundary of microregions, d=boundary of formed microregions, e=boundary of formed subregions.

*Mesoregions:* I=Central II=Southern Part of Hungarian Plain

III=Northern Part of Hungarian Plain IV=North Hungary

*Subregions:* 1=Central 2=Heves-Nógrád 3=Borsod 4=Territory middle of the river Tisza  
5=Hajdúság 6=Nyírség 7=Bács-Kiskun 8=Csongrád 9=Békés

By taking these listed factors into consideration and by relying on detailed research material, we differentiated three taxonomic grades on the Hungarian Plain (the fourth grade is represented by the Hungarian Plain, as a macro-region):

**Micro-regions** are the smallest regional units of geographical distribution of labour which still possess the most important properties of the integrant economic regions.

The defining of the micro-regions was of aid in the outlining of the higher-level regions. Investigation of the lower-level economic and social processes and the establishment of their regional differentiation is not only of service in the drawing of the boundaries of the regions, but also gives useful information for regional development and regional planning.

**Sub regions.** The system of micro-regions is linked to the meso-regions via a network of sub-regions. The micro-regions and the sub-regions have many common features. Both grades are objective regional units of the distribution of labour. Since the micro-regions are constituent parts of the sub-regions, the outer boundaries of the former coincide with those of the latter. This superposition of the regions was utilized to outline the upper levels. It follows from what has been said that both levels. It follows from what has been said that both grades possess the fundamental features of the integrant region, and each has its own characteristic internal life-rhythm.

— While the micro-region is the smallest regional unit of the distribution of labour, the sub-region is more complex and regionally larger; it represents a higher level in the distribution of labour, and hence the basic characteristics of the two region-levels are different.

— In the sub-region the specialization is richer, more complex and has a broader base than that of the micro-regions.

— The regional production complexes of the sub-regions embrace more branches and generally extend to larger areas than in the case of the micro-regions

— The external production-delivery connections of the sub-regions are wider and often extend to the entire country.

— The sub-regions have particular developmental characteristics, developmental directions and problems, which are not only the mechanical sum of similar factors for the micro-regions; they are more comprehensive and more general than this.

— The functions of the centres of the sub-regions are more varied and their radiation is more intensive, but in spite of this they do not unconditionally spread throughout the area of the entire sub-region. It arises from this that their effects too are less on the internal economic and social processes, while their region-forming force is weaker, and hence they are of more moderate importance than those of the micro-regions in the drawing of the boundaries too. The district-forming force of the centres of the micro-regions is restricted to a smaller area, but their effect on the development of the district boundaries is more direct and stronger.

Why is it necessary to insert the sub-regions as indispensable links between the micro- and meso-regions?

— As regards the developmental level and nature, the differences between the micro-regions are very large, and these areas derive their unity in the sub-regions.

— The characteristic economic and social processes taking place in the micro-regions are not directly connected to the meso-regions, but meet at a sub-regions level.

— The sub-regions are still fairly homogeneous and have their particular features, developmental directions and uniform life-rhythms, which are already generally absent from the meso-regions.

— The regional differences within the meso-regions are expressed by the sub-regions; in the micro-regions these appear in a too fragmented form.

The sub-regions are thus objectively existing regional units which possess all of the most important properties of the integrant economic district: thus, they are specialized; they are indispensable parts of the national distribution of labour; their nuclei are formed by the regional production complexes (as the most important district-forming forces); they possess particular conditions of economic and social development, and hence the directions and rates of their development and also their developmental problems differ from those of the neighbouring regions further, they have economic centres, the attraction of which embraces a significant part of the area.

**Meso-regions.** The superposition of the taxonomic grades and the close correlation between them permit us to approach the drawing of the boundaries not only from above, but also from below, proceeding upwards via the micro-regions and sub-regions. In the long run, research into the micro-regions also takes place in the interest of the revelation of the meso-regions and their exact delineation.

The belonging-together of the sub-regions within the meso-regions is frequently fairly loose, and from this respect there is a substantial difference between the industrially developed and the undeveloped regions. The loose connection is pregnantly demonstrated by the example of the South Hungarian Plain. As regards the meso-region, it is much easier to illustrate how Békés and the region between the Danube and the Tisza differ from one another and why they each represent one sub-region, than why they belong to one meso-region.

It is a general regularity of the taxonomic structures of the regions (but this is more strongly marked on the Hungarian Plain) that the effects of the factors expressing the belonging-together are increasingly less distinct at the higher levels; and, vice versa, on proceeding downwards they become increasingly stronger. Thus, the higher-level economic regions are of a less homogeneous nature than the lower taxonomic units.

### Outlining of the economic sub-regions

1. *The region between the Danube and the Tisza.* This sub-regions is comprised of three micro-regions: the along the Danube, the Kiskunhalas and the Kecskemét micro-regions. At present the unity of these three micro-regions is ensured above all by the administration, i. e. the county. However, as regards its industrial and agricultural profiles, and the possibilities and problems of its development, the along the Danube micro-regions differs totally from the other two micro-regions in this region; indeed, in its attraction too, Kecskemét is a secondarily attracted area. It must further be taken into account that in the long-range developmental plans along the Danube occupies an outstanding position, and in all probability substantial investments will be made there in the next decade. Thus, along the Danube can not be separated from the affected band of Transdanubia, i. e. the Szekszárd micro-regions. With regard to the course of development, these latter two micro-regions will form one sub-regions, which is already linked primarily to the South Transdanubia meso-regions, it is to be expected, therefore, that the Baja micro-regions, which at present belongs to the South Hungarian Plain, will later separate from the South Hungarian Plain, and hence it is advisable to take this into consideration now.

It follows from the above that the opening sentence must be modified, and that the region between the Danube and the Tisza, as a sub-regions, contains two micro-regions. The proof of the unity of the two is a comparatively easy task, that does not give rise to any insoluble problems.

The following factors are indicative of their unity:

- The natural geographical conditions and features are the same.
- The structures, developmental trends and developmental problems of the agriculture are very similar.
- Common factors are also found with respect to the levels and tendencies of industrial specialization; for example, the food management and the food industry are of the same nature in the two areas.
- The mobility of the population, the development of the settlement network, and the question of isolated farmsteads essentially appear as identical problems in both micro-regions.

— There are close transport and traffic connections between the two areas. The raw material supply for the food industry of Kecskemét extends to a considerable part of the region between the Danube and the Tisza.

— With regard to its sphere of attraction, Kecskemét, as the centre of the sub-regions, embraces a large proportion of the region between the Danube and the Tisza.

— The areas of operation of the regional organizations followed the county boundaries, but this too ensures a certain unity for these two micro-regions.

As a sub-region, the region between the Danube and the Tisza differs in many respects from the other units of a similar level on the South Hungarian Plain. In comparison with the Csongrád sub-region, the most important differences are the following:

— There are substantial differences as regards the developmental features and developmental levels of the industries. From the aspect of its developmental level, the Csongrád sub-region can now be classified among the industrial regions. At the same time, the region between the Danube and the Tisza is to be listed among the very weakly developed regions.

— There is a great difference between the structures of the industry: it is well known that the textile industry is a very important branch in the Csongrád sub-region, whereas it is almost completely absent from the region between the Danube and the Tisza. Further, the Csongrád sub-region chemical industry possesses considerable developmental possibilities, whereas these are less available (with the exception of along the Danube micro-region) in the region between the Danube and the Tisza; in contrast, in the latter region the proportion of the machine industry is higher than in the Csongrád sub-region. The food industry appears as a specialization in both sub-regions, but numerous differences are to be found in the structures.

— From the point of view of agriculture, the region between the Danube and the Tisza (similarly not including the valley of the Danube) is uniform, while the Csongrád sub-region is of a more heterogeneous nature, since there are substantial differences between its eastern and western parts.

— The region between the Danube and the Tisza is less industrialized, and for just this reason its rate of development is higher than that of the Csongrád sub-region; further, while the development of the industry in the latter sub-region has been of an intensive nature for years, it has remained extensive in the region between the Danube and the Tisza, and primarily in its southern part.

— The differences might be listed further, from the developments in the populations and the settlement networks up to the transport, but we feel that the points already listed are sufficiently illustrative of the fact that these two sub-regions are independent: each possesses its own particular conditions and its own particular developmental tendencies, and, most important of all, each has its own life-rhythm, which has developed around the economic centres.

2. *The Csongrád sub-region.* This is comprised of two micro-regions, between which there are essential developmental differences. The following factors act towards unity;

— The natural geographical factors are nearly identical, since the valley of the Tisza forms the nucleus of both micro-regions. The relatedness of the natural geographical features is manifested not so much by the soil as in the irrigation possibilities. It follows from this that (although there are substantial differences, such as the grape and fruit production in the area of the Szeged micro-region, for example, which



occupies an outstanding position) in both regions the vegetable production assumes considerable proportions in the structure of the agriculture, and overall forms a specialization of national importance.

— Differences do show up likewise in the level of development of industry, but there are also several common features in the industrial structure; for example, in both areas primarily the labour-demanding branches have developed, and the food industry represents a significant proportion.

— The unity of the two micro-regions is supported by the extent of the highway traffic, and by the close connection which has developed historically between the two areas.

— With its attraction, Szeged, as the centre of the sub-region, totally covers the Szentes micro-region too.

— The rate of development of industry was uniformly rapid in both areas and, if not simultaneously, has nowadays become of an intensive nature.

— As regards the settlement of industry, it is a sub-region possessing excellent characteristics; in the future it is not worthwhile to dissipate its industrial settlement factors, which must be utilized to develop the branches meaning the profile.

During the past 15 years the industry of the Csongrád sub-region has undergone a substantial transformation: not only has the change been rapid, with the formation of a developed industrial centre, but the structure of the industry has altered considerably too. The exploitation of the hydrocarbon fields and the development of heavy industry has eliminated the predominance of the food and light industries; the industrial structure has become more balanced and, as regards the developmental perspectives, every profile-forming branch possesses development possibilities. The structural proportions of industry will no longer change appreciably in the near future.

3. *The Békés sub-region.* This consists of two micro-regions and, similarly to the other regions on the South Hungarian Plain, essentially agrees with the area of the county. Although from an agricultural viewpoint overlapping occurs with the neighbouring regions, its western boundary can be defined quite well. The only problem is to the south, where Ambrózfalva, the area of Pitváros, Mezőhegyes and Tótkomlós belong to its sphere of attraction, and hence are linked to the Békés sub-region. In the drawing of the northern boundary there is no outstanding economic centre which would serve as a clear-cut basis, and for this reason the affiliations of the individual settlements were examined from the aspect of every smaller economic centre (Szeghalom, Berettyóújfalu, Karcag, Túrkeve, Mezőtúr, Szarvas, etc.). The area of the Körös rivers is a fairly uniform one, not only natural geographically, but also economic geographically, i.e. with regard to the structure of the agriculture, the development level of the industry, and the settlement network alike. In such a case we had to ensure the substantial roles of the trends and strengths of the attraction in the drawing of the boundaries.

By taking the above considerations into account, we deviated from the county boundary in some cases. Thus, Bucsa, Ecsegfalva and the area of Biharugra belong to North Hungary east of the Tisza, whereas Csokmó is linked to the county of Békés. Szarvas and its attraction region is clearly a part of the Békés sub-region.

The unity of the two micro-regions is indicated by the following factors:

— In the natural geographical characteristics a slight difference is manifested

between the northern and southern parts of the sub-region, but at the same time there are many common features.

— Similarly to the natural geographical characteristics, the structures of the agriculture are very close to one another (in spite of the difference between the northern and southern areas).<sup>2 2</sup>

— Depending on the agriculture, there has developed a regional production complex of the food industry, the nucleus of which is given by the meat, poultry, processing, conserve, sugar and milling industries. The raw material bases of these branches of the food industry extend to the entire region (and even to the neighbouring areas too).

— The conditions and problems of the development of industry, and the questions of the utilization of the labour force, are similar in the two micro-regions and can be solved jointly.

— In both regional units the building material and food industries are of importance in the profiles of the industry; the difference is that the Békés sub-region does not possess a significant light industry too.

— A uniform assessment is demanded in the sub-region by the problems of development of the settlement network (urbanization, elimination of the isolated farmstead system, etc.).

— Similarly to the development of the settlement network, as regards the mobility of the population too the picture is uniform and it is difficult to separate the two micro-regions.

— There are close production, transport and traffic connections between the two micro-regions.

— Last, but not least, the tendency towards the unity of the region is favoured by the attraction region of the Békéscsaba agglomeration (together with Gyula and Békés), which (not counting the peripheral areas) embraces the entire sub-region.

4. *The Central Tisza area.* The southern boundary of this area was referred to in the outlining of the South Hungarian Plain; at its western boundary Abony, Kőröstétetlen and Jászkarajenő are linked to this area. The most significant problem in the northern boundary of the sub-region is the affiliation of the Jászberény micro-region. It is an organic part of the supply belt of North Hungary, and primarily Budapest and North Hungary have effects on its population mobility and labour-force flow. At the same time, it is connected to the county by the construction of the irrigation network and by the administrative attraction of Szolnok. On the latter basis, we too have included the Jászberény micro-region in the Central Tisza area.

The unity of the Szolnok and Karcag micro-regions is supported by the following factors:

— The water-management system and irrigation network covering the area.

— Similar agricultural structures have developed on the identical natural geographical characteristics.

— There is an excellent transport connection and a significant traffic between the two micro-regions.

— Uniform troubles and problems are encountered in the development of the settlement network, and mainly of the market-towns.

— With its attraction, the Szolnok agglomeration embraces the entire Central Tisza area (not including the peripheral regions).

The most substantial differences between the two micro-regions are to be found in the natures of the industries, in their structures, in their levels of development, and in their developmental modes. From this aspect there is a similarity only in the area of contact, i. e. the zone beginning from Tiszafüred and proceeding via Karcag and Mezőtúr to Kunszentmárton. Thus, the eastern and southern parts of the sub-regions are at essentially the same level of development, and the means of economic development in industry, agriculture and the settlement network are similarly identical.

5. *The Debrecen sub-region.* Its eastern boundary, which coincides completely with the county boundary, was drawn at the contact of the attraction areas of the Debrecen and Szolnok agglomerations. In its north-eastern boundary it is necessary to take into account the dynamic development of Leninváros and the expansion of the sphere of attraction of the town. Accordingly, Polgár and its area are progressively more strongly becoming linked to North Hungary. The county boundary, which is also a dividing line from an economic aspect, is accepted as the northern boundary of the sub-region.

The Debrecen sub-region is comprised of two micro-regions, which differ essentially from one another as regards the natures, developmental levels and structures of the industries, and also the agricultural structures and the settlement networks. Differences of such a large extent are not found anywhere in the sub-region on the Hungarian Plain, or between the micro-regions in these. Accordingly, the factors tending towards unity are much more scanty here. It can be seen from the outlined state that the situation here is similar to the case for the areas of Vésztó and Szeghalom, where the affiliation to the sub-region is similarly fairly loose.

The area of the Kőrös rivers is a unified area, therefore, not only as regards its natural geographical features, the nature of its agriculture, its settlement network and the mobility of its population, but also with respect to its level of development; as mentioned for the Békés sub-region, this area may be delineated on the basis of the attraction of its larger industrial centres. Consequently, from this viewpoint the Berettyóújfalu micro-region is totally linked to the Debrecen sub-region.

There is an excellent transport connection between the two areas.

6. *The Szabolcs sub-region.* Similarly to the sub-regions on the Hungarian Plain, this coincides with the area of the county; only the region lying to the west of Tiszavasvári belongs to North Hungary. The drawing of the boundaries of this sub-region was facilitated by the fact that about half of the boundary is also the boundary of the country, and thus only the demarcation from the Hajdúság and North Hungary was necessary. As its north-western boundary the Tisza is regarded as a diving line, for the connection between the two areas delineated by the river is extremely small.

The Szabolcs sub-region is composed of two micro-regions, the unity of which is given not only by the attraction of Nyíregyháza, but also by the identity in the natures and structures of the agriculture. Further, the two areas are also uniform as regards the reproduction of the population, the mobility of the population, and the problem of the occupation of the labour-force. We shall not deal with these in detail, since these are well known as "Szabolcs" problems.

The independence of the Szabolcs sub-region is supported by many other factors in addition to those mentioned earlier. In comparison with the Debrecen sub-region, these are as follows:

— There is a significant difference between the natural geographical characteristics of the two sub-regions mainly the soil covers differ.

— In connection with the natural geographical characteristics, there are differences in the cultivation and sowing structures of the agriculture.

— The comparative independence is proved by the boundaries of the administrative activities.

— There are substantial differences between the two sub-regions with regard to the states of development, dimensions and structures of the industry alike.

— The natural reproduction is high in both sub-districts, but Szabolcs is unique in the country in this respect. For this reason the largest labour-force is to be found here, and similarly the proportion of weekly commuters and the extent of emigration are the highest from this sub-region.

— Besides those already outlined, considerable differences may be observed in the settlement network and in the hierarchic system of settlements, and consequently in developmental problems too.

There is a very close economic connection between the Szabolcs sub-region and North Hungary. Mainly food is transported from the former, in comparison with mining and industrial products from the latter. Further, a considerable proportion of the excess labour-force in Szabolcs finds employment in North Hungary. Despite the connections which have been outlined, the two regions can not be combined into one, for the differences and the separating factors are well known to be much stronger than the factors demonstrating their affiliation together.

### **Outlining of the meso-regions of the Hungarian Plain**

The South Hungarian Plain (as a meso-region does not represent a uniform regional production complex; indeed there are extremely large differences between the individual sub-regions (e.g. between Békés and the region between the Danube and the Tisza) as regards the nature, structure and developmental trends of the agriculture, and the structure of the industry. In spite of this, the South Hungarian Plain (as the largest project) is regarded as one meso-region, on the basis of the following grounds:

— The sub-regions of the South Hungarian Plain are connected to one another in a particular way. Between Békés and the region between the Danube and the Tisza there is no direct, strong, mutual production and transport (i.e. overall economic) connection, although, on the other hand, in contrast, both sub-regions are linked by extremely strong ties to the Csongrád sub-region. Consequently, therefore, the unity of the South Hungarian Plain is not meant by the uniform regional production complex, but in a characteristic manner by the industrial agglomeration situated in the centre of the region, with its forces emanating both eastwards and northwards.

— As a prominent centre of higher education, Szeged also performs the economic function of the meso-region, and thus plays an important role as regards an assessment of the unit of the entire South Hungarian Plain. Our researches into the sphere of attraction of Szeged provide excellent support for our assumptions, and not only serve as proof for the unit of the South Hungarian Plain, but are also of considerable aid in the drawing of the northern and western region boundaries.

— The regional organizations, such as the MÁV, TEFU and DÁV, etc., long ago crossed over the county boundaries, and their district boundaries generally agree with the South Hungarian Plain.

— The agricultural types can not in general be delineated with the boundaries of the integrant regions since these do not usually coincide. There is an appreciable overlapping between the sub-regions of the South Hungarian Plain and, if the valleys of the Tisza and the Danube are not included, two main types of agriculture have developed, the trends and structures of which differ essentially from one another.

— The structures and developmental levels of the sub-regions differ from each other on the South Hungarian Plain, but many common features too are to be found. For instance, in all three sub-regions the industry is of a processing nature and is generally labour-demanding; the food industry appears as a specialization in each of them; and in recent years the machine industry has developed to a significant extent, while hydrocarbon-mining has assumed national importance.

— In spite of the differences between the sub-regions there are numerous developmental problems which affect the whole South Hungarian Plain, for example the development of the structure determining industrial branches and the solution of questions of grape, fruit and vegetable production. In recent years it is correct if the working-force management too is examined, not only from the aspect of smaller units.

To summarize, therefore, the practical life has stepped over the narrow sub-regions limits in an increasing number of cases and embraces a larger number of units (e.g. regional organizations); similarly, levels higher than that of the sub-region are also required by the elaboration of the perspectives of regional development and regional organization.

Between the sub-regions of *North Hungary east of the Tisza* there are substantial differences as regards the levels and structures of the industry and the natures of the agriculture. In spite of this, numerous facts prove that the independence of the sub-regions is relative and that they are parts of a higher unit. This is supported by the following factors:

— Similarly to the South Hungarian Plain, the greatest difference and at the same time the weakest economic connection as regards their states are to be found between two extreme sub-regions (Szabolcs and the Central Tisza region). The unity is ensured by a relatively more developed sub-region which is moderate even in North Hungary east of the Tisza and which possesses a prominent higher-grade centre. The difference is merely that, while this series of roles is filled to a total extent by Szeged on the South Hungarian Plain, the attraction area of Debrecen is fairly weak in the western part of this district and it shares its function with Szolnok.

— The economic region of North Hungary east of the Tisza has developed along one of the most significant transport routes of the country, and this promotes the unity of the sub-regions to an appreciable extent.

— Similarly as on the South Hungarian Plain, the regional organizations embrace the whole of North Hungary east of the Tisza.

— In agriculture the unity of the region is primarily due to the construction of a common water management and irrigation network.

— Many common features may be found in the industrial structure of North Hungary east of the Tisza; the branches giving the industrial profile have developed intensively, and in connection with this the machine industry, the food industry (Szabolcs not included), the chemical industry and the hydrocarbon mining appear as specializations in every sub-region.

— North Hungary east of the Tisza is the least industrialized meso-region of the country. At the same time, the natural population increase has been the highest here for decades, and thus it possesses a considerable labour-force reserve. The proportion of commuters travelling weekly and over appreciable distances is still very high, though it has decreased substantially in recent years: about half of the commuters in the country originate from here. The significant labour-force reserve has made it possible for industry to develop in an extensive manner and for the number of industrial workers to increase (in contrast with the national tendency).

To summarize, in North Hungary east of the Tisza, similarly to the South Hungarian Plain, numerous factors may be listed which support the belonging-together and unity of the sub-regions. Naturally, in both cases it has to be taken into account that, in the absence of a uniform regional production complex, the part-units (the sub-regions and micro-regions) have substantially more independence than in the industrially developed North Hungary or Central Transdanubia. As regards the trends of the development, however, the factors promoting the unity of the sub-regions are growing stronger, and not those giving rise to polarization.

Between these two meso-districts of the Hungarian Plain many common features were found which indicate that the two together form macro-regions. The unity of the Hungarian Plain is strengthened by those factors, which appear in a particular way and which are of a different nature than those of the other macro-regions. Thus:

— In comparison with other regions of the country, the Hungarian Plain differs with respect to the level of development, the nature and the structure of the industry.

— In contrast with the other parts of the country, its economic and historical development are typically its own.

— Its industry, agriculture and settlement network have similar developmental problems (e.g. the question of isolated farmsteads, the development of market-towns, etc.). A unified plan extending to the whole of the Hungarian Plain is necessary for the utilization of the waters of the Tisza and its tributaries.

— Apart from minor differences, the district boundaries and the administration units agree areally; merely the vertical harmony, i.e. between the levels, is missing. At the same time, in the other regions of the country the economic regions and the administrative units are not in accordance either horizontally or vertically.

— The exploitation of hydrocarbon fields embraces a large part of the Hungarian Plain.

— In their main outlines the natural geographical features (disregarding the soil) are identical.

Thus, the unity of the macro-region is given not by the fact that the internal connections of the developed or developing regional production complex are inseparably tightly woven together by many ties, but by the similar profiles, developmental trends and interdependence of the regional units, in spite of their loose connections.

The "unity" identity outlined in the case of the macro-region breaks down if we examine the problems and characteristics appearing as a meso-region level of a regional nature. Thus, it is possible to list many of the differences between the South Hungarian Plain and North Hungary east of the Tisza which do not contradict the existence of the macro-region but merely confirm the relative independence of the meso-regions.

— On the South Hungarian Plain the industry is more developed than in North Hungary east of the Tisza and it also differs in its structure: in the former a significant place is occupied by the light industry, whereas in the latter this is virtually absent. Further, in North Hungary east of the Tisza machine manufacture and the chemical industry represent considerable factors, and in this respect the proportion of heavy industry is much higher than on the South Hungarian Plain. Hydrocarbon mining and the food industry are appreciable in both regions, but the national weights of these two branches of industry are higher on the South Hungarian Plain (e.g. mineral-oil production is largely concentrated on the southern part of the Hungarian Plain).

— The proportion of economically undeveloped areas is incomparably higher in North Hungary east of the Tisza than on the South Hungarian Plain.

— Apart from the differences appearing in the structure of the agriculture, there is another difference in that the irrigation management system covers a substantially larger area in North Hungary east of the Tisza than on the South Hungarian Plain.

— It is well known that the reproduction of the population displays a very favourable picture in North Hungary east of the Tisza, whereas, completely in contrast, the situation on the South Hungarian Plain is the most unfavourable. It follows from this too that, although the industries of both areas are developing rapidly, that on the South Hungarian Plain has assumed an ever more intensive nature, while in a significant part of North Hungary east of the Tisza it has remained unchangingly extensive.

The differences might be listed further, from the settlement networks, the transport networks and the various other branches, right up to the natural geographical features (e.g. in North Hungary east of the Tisza the transport network is uniform and connects the sub-regions together, while this can not be said of the South Hungarian Plain). However, we feel that it is not necessary to continue the listing, since these examples were intended merely to illustrate that, as regards the regional problems, the Hungarian Plain is divided, the outlines of the two meso-regions appearing. If we wish to take the drawing of the region boundaries further downwards from above, then we contrast the factors ensuring the unity of the meso-regions with problems of a regional nature pertaining to regions smaller than these; it then emerges that both meso-regions are comprised of sub-regions. The breakdown into smaller units in a downwards direction stops here, however, since the micro-region units can no longer be delineated with this method: an exact knowledge of the areal differences in the lowest-level local economic and social processes is necessary for an outlining of the micro-regions. For just this reason we reversed the sequence and explored primarily the micro-regions, since the exact demarcation of the micro-regions leads to a knowledge of the boundaries of the sub-regions, and consequently from this point on it is irrelevant which method is favoured in the region system. We proceeded in an upwards direction, but we did not exclude the correctness of the other method; indeed, the downwards-proceeding method was checked with the former system, and the boundaries were corrected by means of it.

### Comparison of the region system of the Hungarian Plain with other delineation schemes

Research into the economic regions in Hungary accelerated at the beginning of the 1960's, and many schemes were put forward in this respect. In the knowledge of the geographical distribution of labour, the majority of these schemes correctly outline the main economic and regional units (though all of them were of a hypothetical nature and the lower levels of the social distribution of labour were not taken into consideration in their preparation). Accordingly, we feel that it would be very instructive to compare the results of our researches on the Hungarian Plain, in their main outlines, with the schemes put forward earlier.

a) The hypothetical district-classification of the *Department of Geography of the Economics University* reckons with four meso-regions on the Hungarian Plain (Fig. 3). The most important exception (not counting the courses of the boundaries) to this conception is that the Central Tisza area and the region between the Danube and the Tisza are delineated as meso-regions.

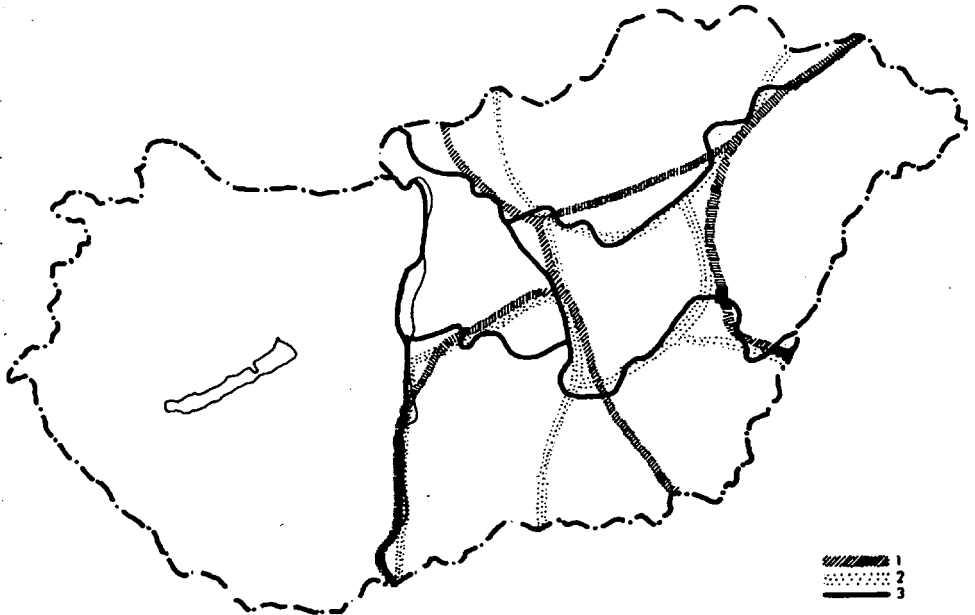


Fig. 3. Plans of economic regions of the Hungarian Plain  
 1=Hypothetic economic boundaries of regions by Markos  
 2=Region's scheme by the Karl Marx University of Economic Budapest  
 3=Planning-economic region's boundary

It is our view, and this was confirmed in many instances by our examination material, that, when compared with the other meso-regions the area of the Central Tisza in itself can not maintain its place with regard to size and proportions: it is a part of North Hungary east of the Tisza. We therefore accept the existence of the



Central Tisza area from the scheme of the Economics University (naturally with different boundaries), but on the level of the sub-regions. The situation is the same for the region between the Danube and the Tisza, the difference being simply that the agriculture in the region between these two rivers largely possesses independent trends and profiles (this can not be said of the previous area), and further, as a consequence of the outstanding role of Szeged, the region between the Danube and the Tisza is connected more strongly to the South Hungarian Plain than the Central Tisza area is to North Hungary east of the Tisza.

b) In the work "*The economic geography of Hungary*" by Gy. Markos the regional material is discussed on the basis of a hypothetical region-classification scheme in which three meso-regions are reckoned with on the Hungarian Plain, the boundaries being drawn very interestingly, in a quite particular manner. A considerable part of the county of Csongrád is coupled to the region between the Danube and the Tisza, because of their identical agricultural profiles. Similarly on the basis of their agricultural profiles, the county of Békés and the Central Tisza area are assumed to be one economic district, which is also supported by the transport network and the trading relations.

In our view the outlining of the region between the Danube and the Tisza in this way is not exact, since the effect of Szeged, as the economic centre of the region, with its irradiation to the east, is essentially stronger than towards the region between the Danube and the Tisza; i.e. the affiliation of this area is clearly indicated by the strengths of its economic social and cultural links which have developed with Békés.

c) The planning region-classification of the OT (*National Planning Office*) denotes two meso-regions on the Hungarian Plain. In the course of our researches it proved that of all the schemes proposed this one approximates best to the actual situation on the Hungarian Plain, and the two meso-regions can be accepted; it is only necessary to make the boundaries more exact, but fundamental changes in it are not required.

The OT planning region-classification follows the county boundaries; our scheme deviates from these in places, and it is this that gives rise to the differences. It was mentioned earlier that there is no appreciable difference between the meso-region boundaries and the county boundaries on the Hungarian Plain; as a consequence, in this part of the country our proposal for classification of the meso-regions by and large agrees with the OT planning regions.

The schemes listed do not deal with the lower-level economic regions or, if they do contain these, do not do it with scientific thoroughness; thus, we can not compare the lower levels we have elaborated (i.e. the sub-regions and micro-regions) with those of other schemes.

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