

# URBAN SETTLEMENTS

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## Changes of the urban system in the Carpathian Basin

In view of their population size, their role in the settlement hierarchy and their administrative functions, cities play a prominent role within the settlement network. In each country, legislation and historical traditions determine what constitutes a city. In this respect differences also emerged in the Carpathian Basin after World War I and the dissolution of the Austro-Hungarian Monarchy. For instance, unlike other countries in the region, Austria and Ukraine recognise two types of urban settlement. In Burgenland, which has 318 municipalities, there are – in addition to the 13 settlements formally designated as towns – 67 market municipalities (Marktgemeinden), whose market rights date back to the 14th and 15th centuries in some cases. Most of these communities have more than a thousand inhabitants, although the smallest one, Loretto near Eisenstadt, has only 475 inhabitants (2018). In the Ukrainian Zakarpattia 11 of the 609 municipalities have town status, but there are also 19 further municipalities of ‘urban character’. Based on the formal designation, there are 774 towns in the Carpathian Basin, including 346 such communities in Hungary, 141 in Slovakia, 143 in Transylvania (with Crişana and the Banat), 53 in Vojvodina, 64 in Pannonian Croatia and 3 in Slovenian Prekmurje. Although in a broader functional sense there are as many as 860 ‘urban communities’ in the Carpathian Basin, the analysis in this chapter is nevertheless limited to settlements that are formally designated as cities and towns in the various countries <sup>2</sup>.

The number of cities and the proportion of the population living in such communities together determine the level of *urbanisation* in a geographical area. The proportion of urban dwellers is 57.7% in the Carpathian Basin, which is below the European average (73%). Historical differences in urban development account for this discrepancy. Noteworthy, the level of urbanisation is lower in most parts of Eastern Europe than in Western Europe, where the rate of urbanisation is typically above 80%. Southeastern Europe has particularly low levels of urbanisation (e.g. Bosnia and Herzegovina: 40%, Moldova: 45%, Romania: 54%, Serbia: 55%). Within the Carpathian Basin there are also significant differences. The level of urbanisation is highest (70.5%) on the present-day territory of Hungary, which includes Budapest. Vojvodina (60.9%), Slovakia (53.3%), Transylvania (52.1%), and Pannonian Croatia (51.5%) are 10–20 percentage points behind. The level of urbanisation is lowest in Burgenland (19.5%), Prekmurje (20%) and Zakarpattia (26.7%), all of which are lacking bigger towns.

The turn of the 19th century saw the first signs of modern urban development in the Carpathian Basin. Due to demographic growth and migration, the urban population of the Kingdom of Hungary increased from 1.6 million to 3.7 million between 1857 and 1910. Although this is a considerable growth (i.e. 130%), the increase in the urban share of the total population was somewhat modest, with the rate rising from 13.4% to just 20.4% <sup>1</sup>.

The division of the Carpathian Basin into newly formed states in 1918–1919 took no account of the natural catchment areas (hinterlands) of its towns. Consequently, there was a general shortage of towns on both sides of the new national borders. Only 43 towns remained (11 towns with municipal rights and 32 towns with settled council) in the shrunken territory of Hungary, but the level of urbanisation of the country – largely thanks to Budapest – rose to 31.4% by 1920. Between the two world wars, the construction of missing transport links, the organisation of public administration, the settlement of ownership, the management of the world economic crisis between 1929 and 1932, and, from 1938, the series of border revisions did not favour urban development. Accordingly, the number of towns on the present-day territory of Hungary increased by only 9 to 52 until 1945. Meanwhile, the proportion of urban-dwellers barely increased (32.3%). The surrounding successor states inherited a lower-than-average level of urbanisation from the Austro-Hungarian Monarchy. Between the two world wars urban ratios increased by more than 5–7 percentage points in these regions, whereby administrative changes, including the granting of town status to some settlements, also played a role.

After World War II, the pace of urbanisation in the Carpathian Basin accelerated significantly, which was partly the result of an intentional (politically inspired) increase in the number of towns. In Hungary, the number of towns tripled, increasing from 52 to 166 between 1945 and 1990, while the proportion of town-dwellers increased from 32% to 62%. During the same period, the number of towns increased from 6 to 10 in Burgenland, from 83 to 136 in Slovakia, from 6 to 10 in Zakarpattia, from 9 to 47 in Vojvodina, and from 75 to 118 in Transylvania. The urban system expanded with the emergence of new industrial centres, the so-called new towns (e.g. Dunaújváros in Hungary or Nova Dubnica in Slovakia), and the accelerated industrialisation of existing settlements (e.g. Tatabánya, Ózd and Komló) <sup>1</sup>. Owing to the dynamic expansion of the urban system, the proportion of town-dwellers reached in 1990 57% in Transylvania, 56.8% in Slovakia, 55.7% in Vojvodina and 41.1% in Zakarpattia. In



1 Dunaújváros, established in 1950 (called Sztálinváros – Stalin City at that time), bears modernist architectural features

view of these changes, the urbanisation level of the neighbouring states approached the Hungarian value. Since the collapse of communism, 22 municipalities have been granted town status in Romania, 5 in Slovakia, 3 in Burgenland, 1 in Zakarpattia and none in Vojvodina. In contrast, in Hungary 180 (!) municipalities have become towns, having been granted this status without justification in many cases. This led to a devaluation of town status. The Hungarian urbanisation rate of 70.5% should be interpreted bearing this in mind. In recent years, political aspirations seem to have changed; no settlement has been designated a town in Hungary since 2013.

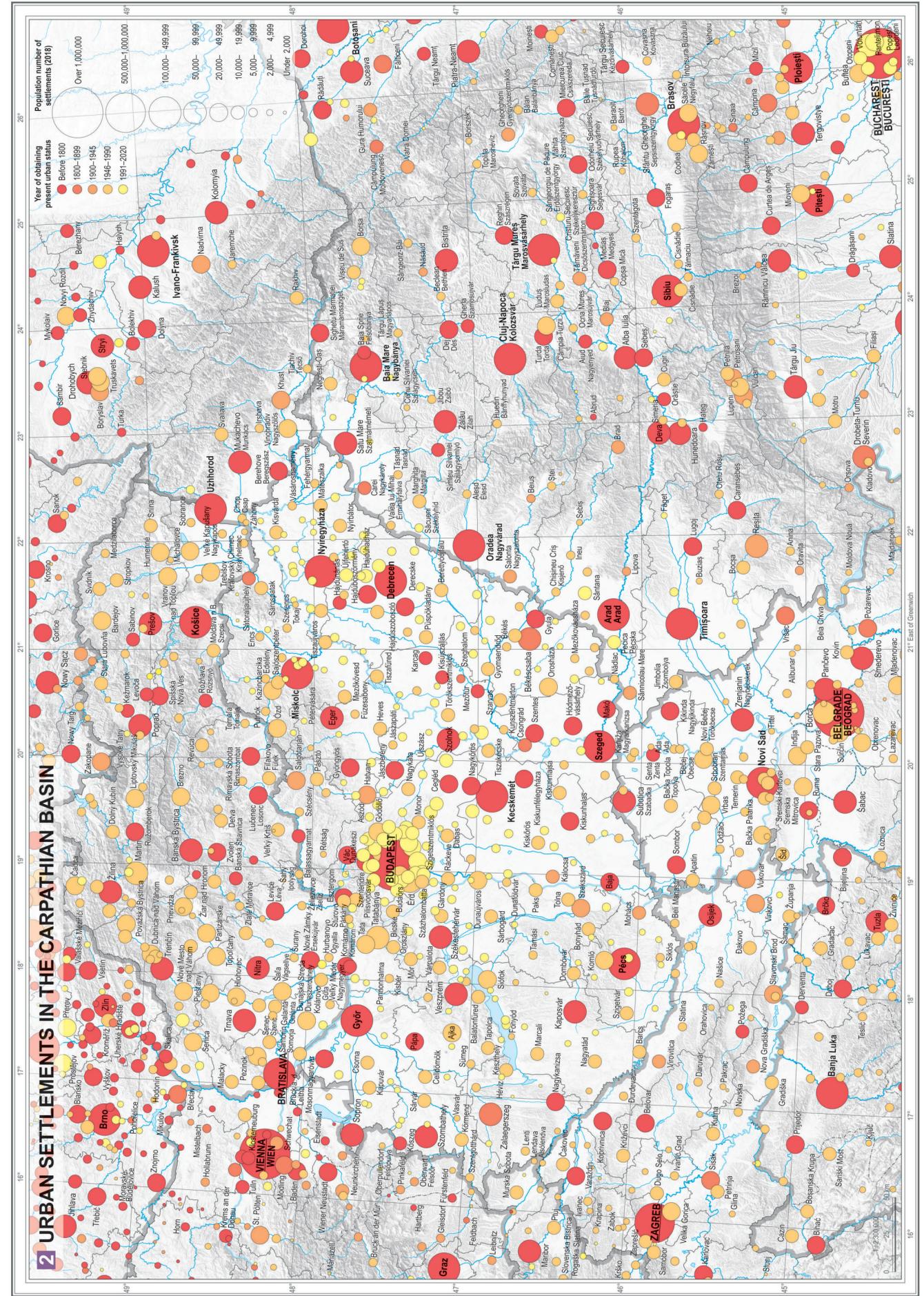
At the top of the urban system are the largest cities with more than 50 thousand inhabitants. There were 52 such settlements in the Carpathian Basin in 2019, 19 of which were found on the present-day territory of Hungary, 16 in Transylvania, 10 in Slovakia, 3 in Vojvodina, 2 in Pannonian Croatia and 2 in Zakarpattia <sup>3</sup>. The historically underdeveloped nature of the urban network is reflected in the fact that in 1910 there were only 14 cities with more than 50 thousand inhabitants. Save for the fast-growing Budapest (861 thousand inhabitants in 1910), Pozsony (Bratislava), Zagreb and Miskolc, most of these were market towns in the Alföld with extensive rural areas (e.g. Szabadka/Subotica, Szeged, Hódmezővásárhely and Debrecen). In these towns, most wage earners were employed in agriculture, and many of them lived in the surrounding scattered farmsteads (tanyas). Belated urbanisation was brought to a halt by World War I, and urbanisation stalled in the interwar period.

In the Carpathian Basin, the number of cities with more than 50 thousand inhabitants increased to 17 by 1950. Among the fast-growing settlements there were both industrial centres (e.g. Győr, Košice/Kassa, Cluj-Napoca/Kolozsvár and Braşov/Braşó) and market towns in the Alföld (Kecskemét and Nyíregyháza). In the neighbouring states, a common feature of such towns was their enhanced administrative role and the growing number of regional institutions. With the advent of communism the urbanisation rate in the region accelerated. This was the result of the rapid population growth and the growing rural–urban migration caused by forced industrialisation. The number of cities with over 50 thousand inhabitants increased spectacularly, rising to 56 by 1990. On the present-day territory of Hungary their number increased from 8 to 21. Among these cities we find many county towns

### 1 CHANGES IN THE NUMBER AND PROPORTION OF URBAN POPULATION (1857–1910)\*

Place of residence	1857		1870		1890		1900		1910	
	Number (thousand people)	Proportion (%)								
Budapest	187	1.5	271	2.0	492	3.2	716	4.3	880	4.8
Towns	1,439	11.9	1,736	12.8	2,083	13.7	2,307	13.8	2,846	15.6
Villages	10,489	86.6	11,572	85.2	12,588	83.1	13,698	81.9	14,538	79.6
Total	12,115	100	13,579	100	15,163	100	16,721	100	18,264	100

\*On the territory of the Kingdom of Hungary (excluding Croatia-Slavonia)



### 2 URBAN SETTLEMENTS IN THE CARPATHIAN BASIN

with enhanced industrial functions (e.g. Székesfehérvár, Tatabánya, Szolnok, Veszprém and Zalaegerszeg). Their growth was a consequence of communist urban development policy and industrialisation (e.g. Dunaújváros, with a population of 59 thousand at the end of the communist period). After the collapse of communism, the population of Dunaújváros, Nagykanizsa and Hódmezővásárhely fell below 50 thousand as a consequence of unfavourable economic and demographic processes. Since 1990, only one settlement in Hungary, Érd, has been added to the list of cities with more than 50 thousand inhabitants, however, its growth is the result of suburbanisation.

### Population dynamics of cities

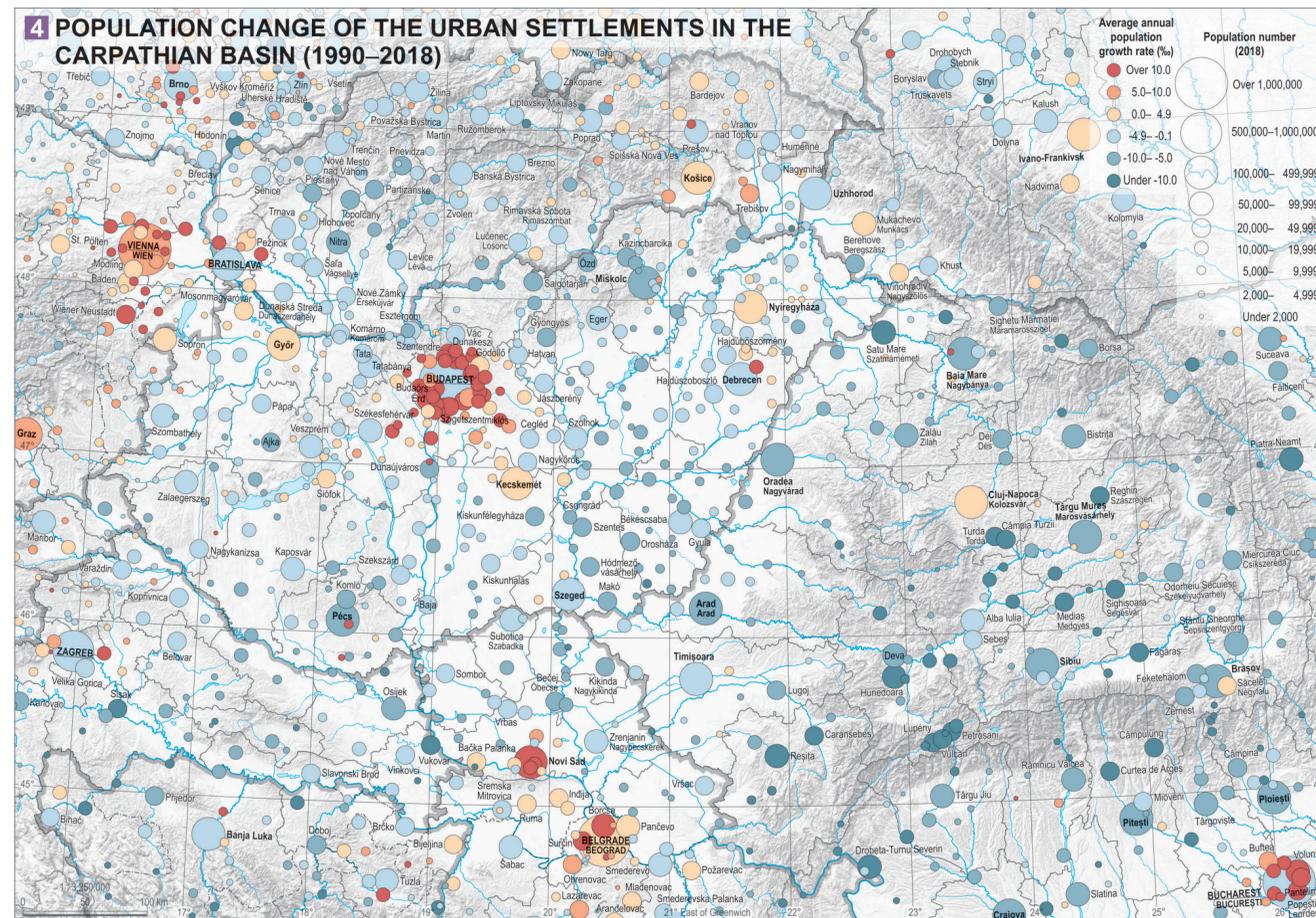
Significant regional differences can be detected in the population dynamics of cities in the Carpatho-Pannonian Area between 1990 and 2018 **4**. As a general trend, the population of cities in the economically prosperous western areas, which lie closer to the European core regions and thus attract more immigrants (Austria, Western Slovakia, Western Transdanubia), increased. Due to suburbanisation, population increases were also recorded in towns near the major cities of Vienna, Budapest and Belgrade. Meanwhile, towns in peripheral regions further east shrank. The total population of cities in the Carpathian Basin has decreased by almost one and a half million people (-8.2%) since 1990. However, there are considerable differences behind this value. Whereas the total population of cities in Transylvania shrank by 18.3% due to out-migration,

towns in Burgenland registered a population increase of 24.2%. Fewer people (422 thousand fewer) lived in the cities of Hungary in 2018 than in 1990, which is a decrease of 5.8%. The rate of decline was fastest in the former industrial towns (e.g. Dunaújváros: -24.8%, Salgótarján: -24.7% and Miskolc: -20.8), which lost nearly a quarter of their previous population due to the decline of industry and mass unemployment. In the meantime, Vereshegyház in the agglomeration of Budapest, nearly tripled its population as a result of suburbanisation, while Szigetszentmiklós doubled in population size.

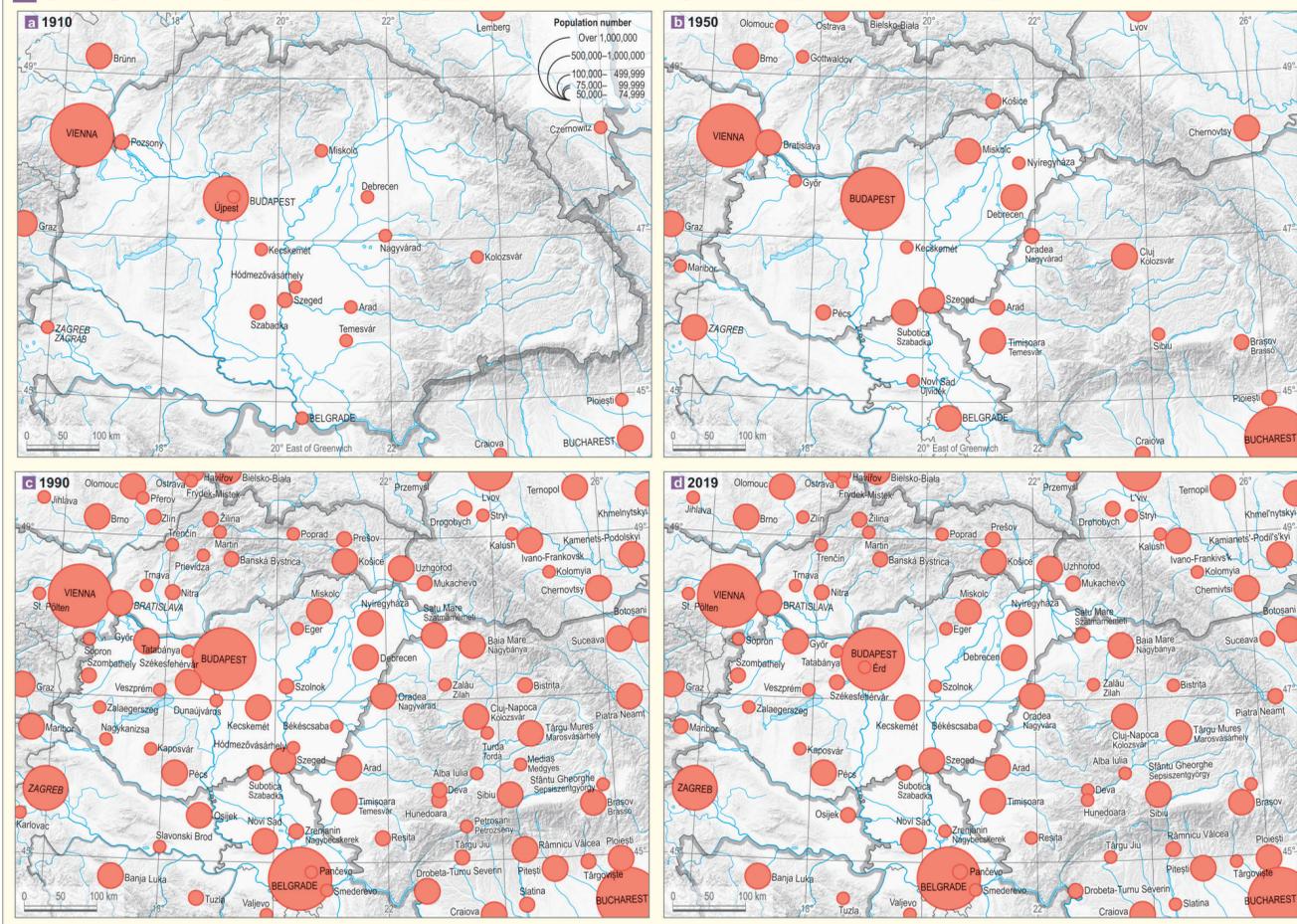
The population of towns is shaped on a historical scale by national trends (industrialisation, rapid urban development, suburbanisation, etc.) and by local conditions (mining opportunities, reduced labour demand in agriculture, war events, forced resettlement, etc.). Urban growth is a common phenomenon, but from time to time the direction and pace of change differ. Possible population types from the first official Hungarian census (1869) to the present day are presented through the example of nine cities **5**. Continuous growth is still characteristic in Novi Sad (Újvidék) in Serbia and in Budaörs, a suburban settlement in the agglomeration of Budapest (in the case of the latter, a population decrease after World War II was a consequence of the deportation of the ethnic German population). After 1980, communist urbanisation in the Carpathian Basin ran out of momentum. Population growth came to a halt or even fell in some cities. The decrease was particularly pronounced in such heavily (over)industrialised cities as Miskolc (which lost almost a quarter of its 1980 population) or Dunaújváros,

a characteristic communist new-town (its population had risen steeply after 1950). Even the population of Budapest decreased significantly, mainly in consequence of accelerating suburbanisation. The other capital cities in the Carpathian Basin (Bratislava/Pozsony and Zagreb) recorded moderate losses, while the population of Cluj-Napoca (Kolozsvár) has increased recently. Hódmezővásárhely is an example of the population model of market towns in the Alföld: the demand for labour in agriculture led to an increase in population until World War I, which was followed by decades of stagnation and a further population decline since the collapse of communism.

The population of towns may also be affected by changes in their administrative boundaries **6**. The administrative boundaries were often changed after the Austro-Hungarian Compromise (1867) and especially after World War II. Although there had been examples of administrative changes in the sparsely populated *puszta* areas (vast agricultural areas with *tanyas*) surrounding market towns, it was only after World War II that such administrative changes occurred in great numbers. The authorities tried to resolve the problems of the *tanyas* (e.g. the isolation of their inhabitants and the difficulty of providing utilities and services [health, education]) by designating certain *puszta* areas as independent settlements, organising so-called *tanya* villages, and resettling the inhabitants of *tanyas* in newly formed villages. Such solutions were applied en masse in the late 1940s and in the 1950s. Approximately 170 new villages were established in Hungary between 1945 and 1960, most of them in the Alföld.



### 3 CITIES WITH MORE THAN 50 THOUSAND INHABITANTS IN THE CARPATHIAN BASIN



The territory of *Kecskemét* was reduced from 938 to 323 square kilometres, and ten *tanya* villages were established in the detached area. Bugac is the most famous of the new villages, from which Bugacpusztaháza was detached in 1989. The biosphere reserve of Kiskunság National Park (Bócsa–Bugac) lies in their area. A significant proportion of the population of the *tanya* villages – more than half in the case of Bugacpusztaháza, Szentkirály and Helvécia – still live in the outskirts.

The administrative territory of *Szeged* underwent several changes after World War II. Until now its previous area of 815 square kilometres, shrank to 281 square kilometres. In its outskirts with scattered farmsteads, 9 *tanya* villages were organised in the early 1950s, of which Mórahalom now has town status. Szeged administratively annexed several nearby settlements in 1973, including Kiskundorozsma, the former market town, Algyő, a settlement known for its oil mining, Tápé, an ancient village, Szőreg and Gyálárét. In 1997, Algyő became an independent village once again.

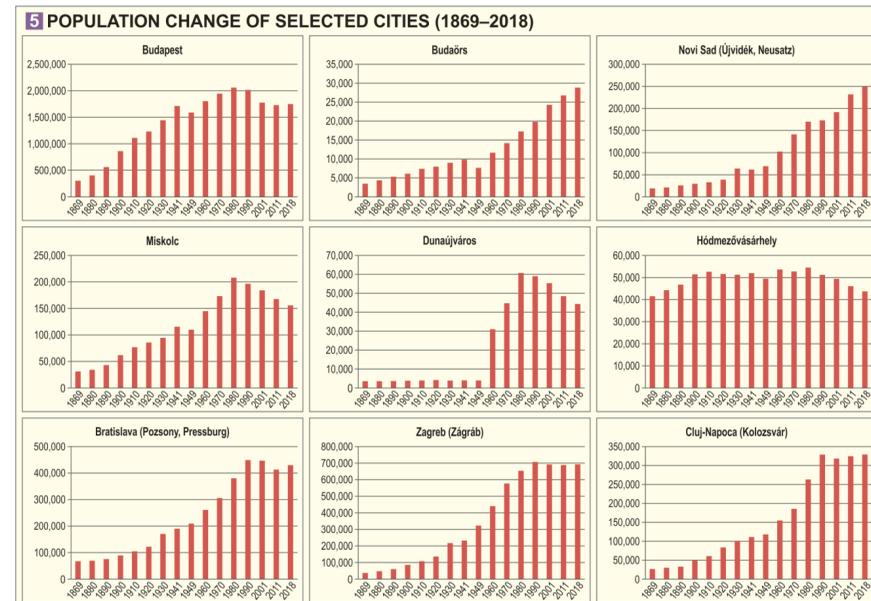
*Subotica* (*Szabadka*), a town with extended rural areas (almost 1,000 square kilometres in 1910) and a rich *tanya* life, was ceded to Yugoslavia (now Serbia) under the Treaty of Trianon (1920). It then underwent administrative interventions resembling those experienced by its counterparts in Hungary. Some of its former *tanyas* were left in Hungary where, in the early 1920s, three new villages were established (Csikéria, Kelebia and Tompa). On the other side of the border, 14 new villages came into being in consequence of policies resembling those employed in Hungary.

Other cities increased the size of their administrative territory and population through the attachment

of further municipalities. This reflected in part the physical growth of cities crossing their administrative boundaries and the processes of agglomeration and suburbanisation. An additional factor under communism was political considerations. For instance, the decision to add 23 formerly independent settlements to Budapest (thus creating Greater Budapest) was motivated in part by a desire to increase the share of working-class population in the capital city. A similar intention lay behind the development of Greater Miskolc. As early as 1945 *Miskolc* was merged with Hejőcsaba

and Diósgyőr, a settlement that had more than 20 thousand inhabitants and was the site of a major heavy industrial plant. Then, in 1950, Görömböly, Szirma and Hámor were added to Miskolc. Finally, with Bükk-szentlászló joining the city, its present boundaries were formed.

In 1983, the authorities decided to award town status to *Szentgotthárd*, a smallish settlement at the centre of a microregion consisting of tiny villages. The decision was taken to mark the 800th anniversary of its existence. At the time, a prerequisite for town status



was a population of at least 8 thousand. Accordingly, a number of surrounding villages were administratively attached to the settlement, including the border-crossing Rábafüzés.

Zalaegerszeg is the seat of Zala County. At the end of World War II, it had a population of no more than 15 thousand, but the surrounding area was densely populated by small villages. With the discovery of a nearby oil field, the town began to grow rapidly. Gradually, the expanding urban area reached the surrounding villages, most of whose inhabitants worked in Zalaegerszeg. Beginning in 1958, 13 surrounding villages were incorporated into Zalaegerszeg in several stages, the last being Botfa in 1981.

## Urban hierarchy

Cities arise as part of the geographical division of labour. They are settlements whose institutions and activities are aimed not only at meeting the everyday needs of local population. The role of cities in the settlement system is indicated by their position in the urban hierarchy. In turn, the hierarchical level of cities depends on the number and range of urban functions. Such features include institutions and the activities of service branches in the wider sense that go beyond the everyday needs of the population.

We determined the position of each settlement in the urban hierarchy based on the presence or absence of eighty urban institutions and activities. The number of hierarchical categories was determined empirically. Six hierarchical categories were identified, including Budapest. (Municipalities that lacked the prerequisites for town status were placed in a seventh

category.) Each city was placed at the hierarchical level where they exhibited most of the level indicators.

Currently the following urban hierarchical levels exist in Hungary:

Capital:	1 settlement
Regional centres:	5 settlements
Centres with county relevance (county centres):	14 settlements
Medium-sized towns:	38 settlements
Small towns:	73 settlements
Total number of cities and towns clearly performing urban roles:	131 settlements
'Village towns':	58 settlements
'Titular towns':	157 settlements

Evidently, there are significant differences between the circle of municipalities performing urban roles and the group of designated towns. We know that there are more than 150 titular towns that perform no meaningful town roles ('titular towns'). Further, more than 50 settlements form a transition between towns and villages ('village towns'). The place of Budapest at the top of the hierarchy is clear: the five regional centres follow far behind the capital in terms of urban functions. Budapest and its agglomeration, which now has close and multiple ties with the city itself, are crucial to economic, political and social life in Hungary.

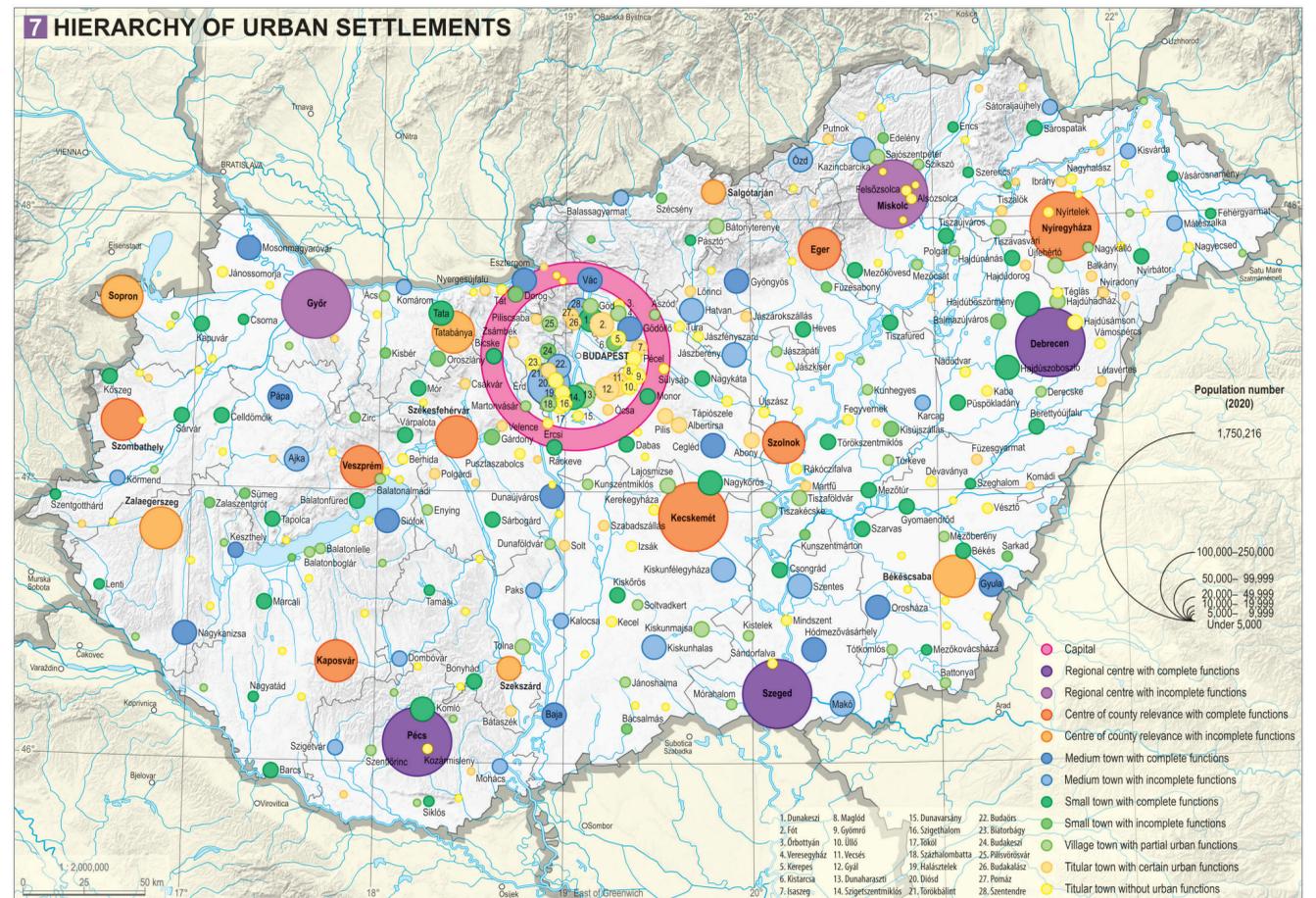
Although the catchment areas of the regional centres cover several counties, each catchment area has a population of around one million people. However, such a population cannot sustain a large city; nor is their situation supported by the narrow role of the designated regions. The regional centres – excluding Székesfehérvár, the centre of Central Transdanubia – are now cities with an average population of 160 thousand

and with obvious urban functions (a university, clinics, a court of appeal, several shopping malls, many bank branches, etc.).

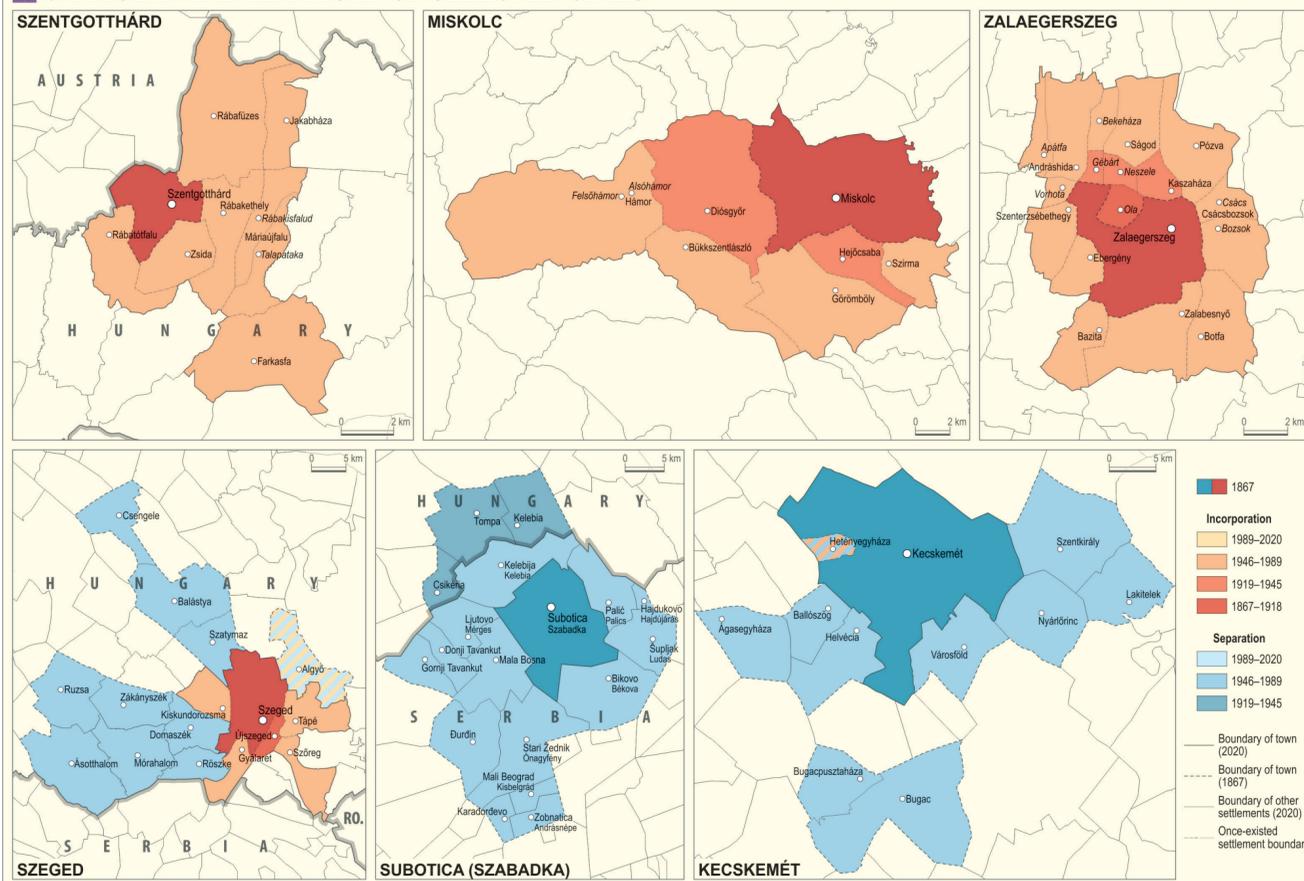
Settlements with 30–120 thousand inhabitants and diverse historical backgrounds were identified as *centres with county relevance* (including such former agricultural towns as Kecskemét, Nyíregyháza, Békéscsaba, mining and industrial towns like Tatabánya and Salgótarján, together with Eger, Székesfehérvár, Veszprém and Sopron [2], with strong historical legacies stretching back centuries, as well as Szombathely and Kaposvár, which are products of the capitalist era). Despite their varied pasts and different population sizes, these towns form a well-defined subset in the Hungarian settlement system, as they have many institutions exercising county authority both in the field of public administration and in such sectors as economic governance, services and culture.

The role of *medium-sized* and *small towns* in the settlement system is similar throughout the country. With few exceptions, these towns are traditional market centres supplying the inhabitants of a mesoregion or a microregion with basic urban goods. This role is secondary to other functions in only a small proportion of the towns (e.g. in industrial towns such as Oroszlány, Várpalota and Paks, and in holiday resorts such as Keszthely or Siófok). The number of inhabitants ranges from just under 10 thousand to nearly 50 thousand. In Transdanubia, many of these towns have a long urban history and an established urban identity (Esztergom, Pápa, Nagykanizsa, Kőszeg, Tata, etc.).

'Village towns' (58) have only marginal urban status, while the many (157) 'titular towns' do not perform noteworthy urban roles. They obtained town status during several waves of such designations from the



## 6 CHANGE IN THE TERRITORY OF SELECTED CITIES



1980s. Their numbers are remarkably large in the Budapest agglomeration. In similar manner, many of the former giant villages of the Alföld region were awarded town status without justification.

Cities are complex entities. Their classification can be based on a wide range of aspects – urban history, dynamics, relative significance of their various (i.e. administrative, industrial, tourism, service, educational) roles, stage of development, and social structure. The transformation of the urban system by type reflects changes in the modernisation of society and in the economic, cultural and administrative roles.

## Types of cities after World War II

In 1949, there were 54 settlements with town status in Hungary. However, the number of settlements with urban functions was approximately two and a half times greater. Therefore, when defining the various types of cities and towns, we considered the 133 municipalities with obvious urban roles in 1949 [8]. By comparing the urban system of the years following World War II with the current urban system, we discover that the population size was strikingly smaller in 1949. For example, Debrecen, the country's second city in terms of population, had only 120 thousand inhabitants in 1949 (compared with 201 thousand today), while Zalaegerszeg had a population of 10 thousand (compared with nearly 58 thousand now). Towns with tens of thousands of inhabitants, such as Dunaujváros, Kazincbarcika, Érd and several other municipalities that were designated as towns in the agglomeration of Budapest, were not yet on the map. The main task of towns at the time was to provide urban goods at

different hierarchical levels for their environs; this task was primarily served by regional, county, mesoregional and microregional centres. The agricultural role of towns was significant in several cases, especially if the employment structure of the population is considered. In several towns (Hajdúböszörmény, Hajdúnánás, Túrkeve, Békés, etc.), the proportion of agricultural earners reached 70% or more. In Hódmezővásárhely, with 50 thousand inhabitants, 67% of the population made a living from agriculture, as did 38% of the population of Szeged. In contrast, there were few settlements with industrial roles in the urban system at the time, and those were the products of the capitalist era (e.g. Salgótarján, Ózd, Ajka or Dorog).

Diósgyőr was administratively attached to Miskolc in 1945 and is therefore not included on the map, nor are the 'socialist' cities established in the 1950s. The spa towns and agglomeration settlements (commuter towns) so frequent today were almost completely absent from the urban system. On 1 January 1950, Greater Budapest was established, as a result the administrative autonomy of a number of suburban towns (including Újpest, Kispest, Csepel, Rákospalota, Budafok, etc.) ceased.



2 Sopron, established in the Middle Ages, is now one of the fastest growing towns in Hungary

In addition to the establishment of Greater Budapest, there were significant changes in the county division as well in 1950. Consequently, the county seat system changed significantly. Salgótarján, Tatabánya, Kecskemét and Békéscsaba became county seats at that time, while Sopron, Esztergom, Sátoraljaújhegy, Gyula, Makó, Baja, Balassagyarmat, Berettyóújfalva, Mátészalka and Szikszó lost its previous county seat role. The broader county tasks of the new county seats were still rather uncertain and provisory. For instance, Tatabánya, which had been created through the merger of four municipalities, was a tangled web of industrial plants, mines, and workers' housing. There was no town centre, and some parts of the settlement were rural in character. In view of the lack of urban functions, the town was not even included on the map.

Regional centres exercising influence over several counties constituted a separate urban type in 1949; Miskolc – combined with Diósgyőr [3] – and Győr had significant manufacturing industries. The centres with county relevance (not to be confused with the county seats) were still a fairly heterogeneous group. The category did not include towns that had been newly awarded the role of county seat, but Sopron retained its function of centre with county relevance (as did in part Esztergom, Gyula and Balassagyarmat). In most of these towns, the proportion of tertiary (neither agricultural nor industrial) earners exceeded 50%. In this regard, the sole exceptions were towns that still had significant agrarian populations (e.g. Nyíregyháza, Békéscsaba, Eger and Szekszárd). Most of the mesore-



method, 136 cities in Hungary were classified into four dynamic groups **10** based on deviation from the average.

Unsurprisingly, Budapest and cities like Győr, Sopron or Mosonmagyaróvár lying in the western part of Hungary were placed among the dynamic cities. However, several small towns in the immediate vicinity of the capital (e.g. Dunakeszi, Budaörs, Gödöllő) were found to be even more dynamic. All these settlements have greatly benefited from the socio-economic upswing of Budapest in recent decades. Interestingly, the complex measure of dynamics is not dependent on points of the compass. There are at least as many dynamically developing cities in the eastern part of the country as in Western Transdanubia. The former group include Jászberény, the traditional centre of the industrial cluster of Jászság, as well as Kecskemét, a new site of industry (e.g. Mercedes Benz). They are joined by Szeged, Debrecen and Nyíregyháza, all of which exercise the functions of a regional centre/county seat, and by the hotbed of spa tourism, Hajdúszoboszló. Tellingly, there is not a single dynamic city in the counties of Northern Hungary. At the other end of the scale are the economically shrinking towns where social renewal has faltered. Komló, Ózd and Salgótarján at the tail end suffered from major crises with the decline of industry after the collapse of communism. Such towns as Dunaújváros, Ajka, Várpalota and Kazincbarcika were in a similar situation. The list can be expanded with a group of market towns in the Alföld (e.g. Karcag, Békés and Szeghalom) and small towns with poor functions in Transdanubia (e.g. Barcs, Nagyatád).

### Morphological characteristics of cities

The most direct impression of a settlement triggering even emotional effects, is given by its appearance – the extent of the urban form, the layout, the conditions

of the built-up area, the nature of the roles fulfilled by each building, block or neighbourhoods. In this field, urban geographers generally aim to identify the nature of the built-up area (single-storey, multi-storey, terraced and detached houses, etc.) and the function of each neighbourhood. The functional zoning of cities tends to reflect the circumstances of their formation and historical development **11**. Town centres, sub-centres, inner and outer residential areas, the large housing estates of the communist period, industrial and transport areas, urban green areas, so-called allotments (areas for recreation and vegetable growing) and university districts (campuses) with special functions have been distinguished.

The city of Eger lies along a north-south axis in the valley of the Eger Stream at the foot of the Bükk Mountains. Its core is Dobó Square and its historical surroundings, with the monumental castle above. The 18th-century Baroque city centre is surrounded by an inner and outer residential area with predominantly low-rise buildings. The northern sub-centre of the city arose in the area between the compact city and Felnémet, attached to Eger in 1961. There is also an extensive industrial-transport area south of the city centre.

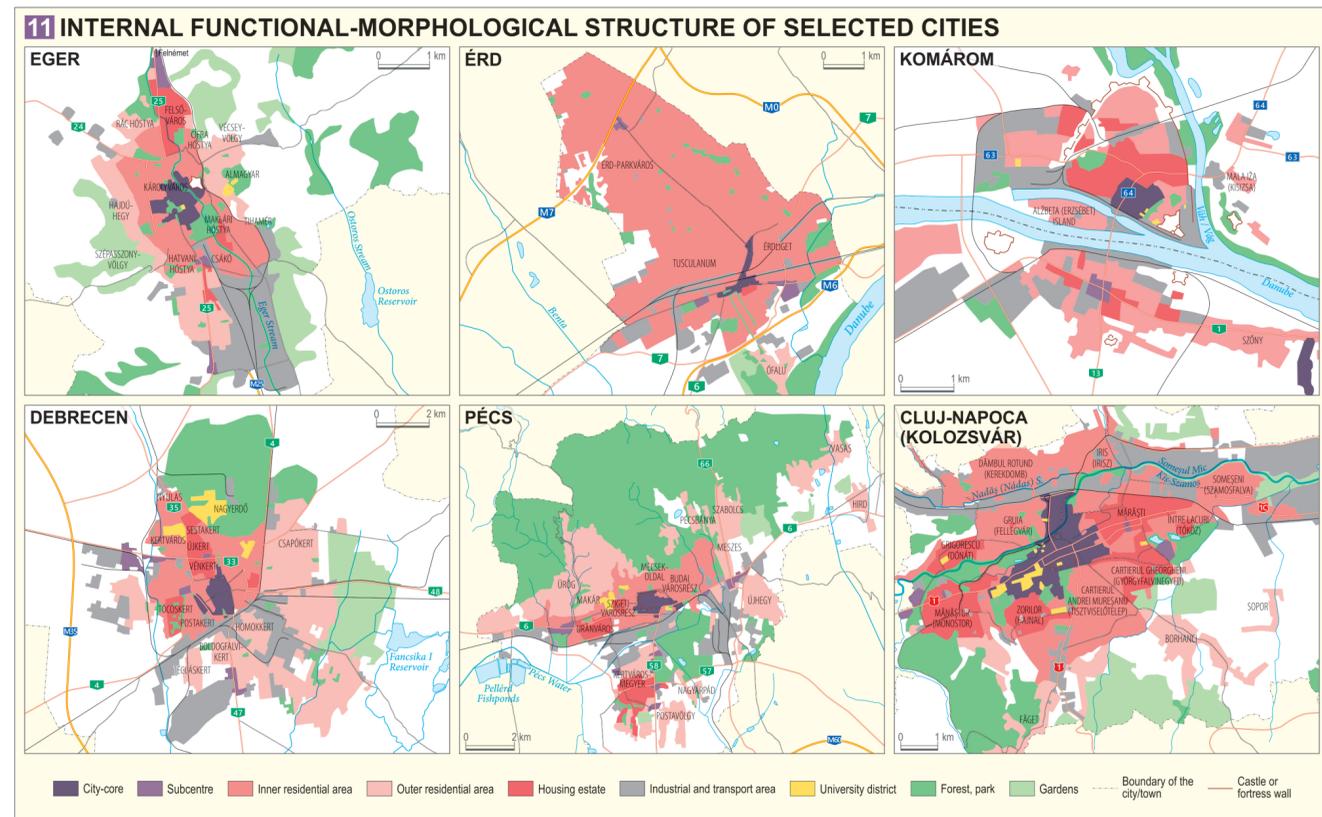
The functional structure of Érd is very simple. The town is a suburb comprising vast areas of single-family homes near Budapest. The town centre consists of a few tall buildings near the railway station.

Situated at a crossing point on the Danube, Komárom (Komárno) arose on the left bank of the river, in the southeastern part of the *Zitnyí ostrov* (Csallóköz) region (today in Slovakia). It lies at the confluence of the Váh (Vág) and Danube rivers. A castle was erected in the Middle Ages to protect this strategically important place. With its busy market and port, it received a town charter from Béla IV in 1265. The construction of the imposing Komárom fortress system began during the Ottoman-Turkish occupation, after the fall of Buda (1541). The fortress was only completed in the

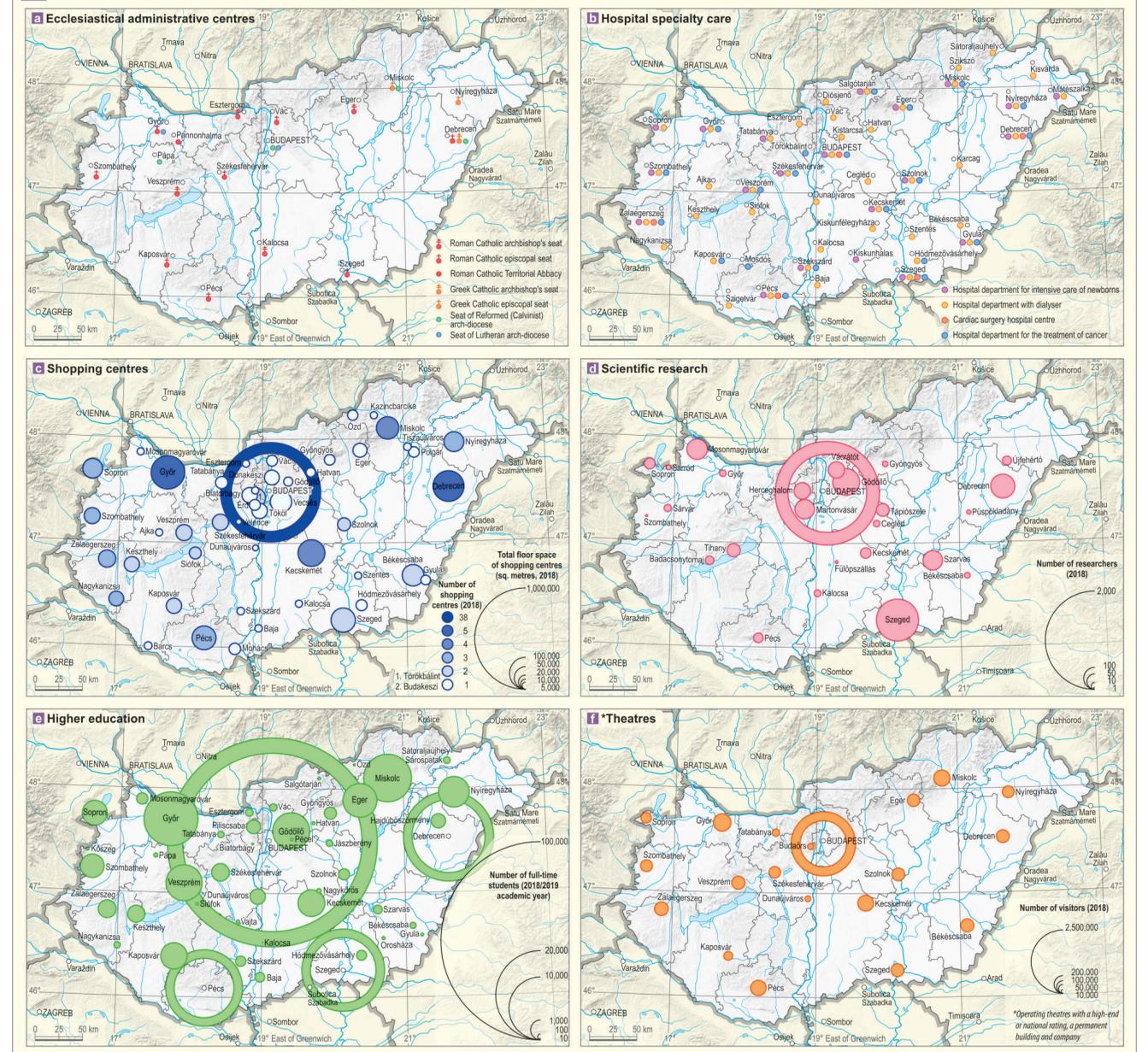
second half of the 19th century. After the Turkish period, Komárom became one of the centres of Hungarian corn exports along the Danube. This is also the time when Újszóny was formed on the right bank of the Danube; it was attached to Komárom in 1896, shortly after the opening of the Elisabeth Bridge connecting the two sides of the river. Under the Treaty of Trianon (1920), the town was cut in half. The subsequent period saw the rapid development of the smaller Újszóny settlement and its shaping into a town. Today, the twin towns on the two sides of the Danube have a combined population of 53 thousand people. Around the town centres lie extensive single-storey residential areas and industrial-commercial zones.

The development of the urban form of Debrecen was not affected by the terrain. The core of the city lies around a single main street (Piac/Market utca). Just a few metres from the main axis, an excessive inner residential area with low-rise buildings begins, reflecting small-town character. The high-rise blocks built under communism intrude into this area. Adjoining the inner residential area is a district of entertainment venues and large houses with gardens. Then there is the university district with several hospitals and clinics. Even further from the city centre, there are the gardens that are so typical of towns in the Alföld surrounding the city. These were village-like settlements of lower-class inhabitants a few decades ago. Today, however, new housing estates and residential parks (i.e. gated communities) are found here. A new gateway to the city is evolving along the route from the motorway to the city (sub-centre).

Pécs was built along the main road (No. 6) at the southern foot of the Mecsek Mountains, between the higher ground and the wet valley of the Pécs Water. The city lies along a west-east axis. It has a densely built compact centre surrounded by a medieval wall and enclosed by a residential area of single-storey buildings and commercial premises that climb up the slopes



### 12 SOME HIGH-RANK INSTITUTIONS IN THE URBAN SYSTEM



of the Mecsek to the north. On these slopes, the city transforms almost unnoticed into the suburban villa district of the outer residential area. On the high ground south of the city centre, beyond the Pécs Water, lies a high-rise housing estate. Built in the 1960s and 1970s, it forms the other large outer residential area in the city. The sub-centres of the city were also formed along the main traffic axis (the revitalised Zsolnay factory is part of the eastern city gate).

Cluj-Napoca (Kolozsvar) is the spiritual and economic centre of Transylvania. An ancient market town, it was founded on the banks of the Someşul Mic (Kis-Szamos), at the base of the Citadel providing protection. Its wealth in the 15th and 16th centuries was based on the guild industry and trade within the town walls (most of which has remained intact to this day). All this resulted in a regular town centre with a grid street network and multi-storey buildings, including the palaces of the lords and civic houses. Thanks to the relative independence of Transylvania, the structure of the city remained largely unchanged under

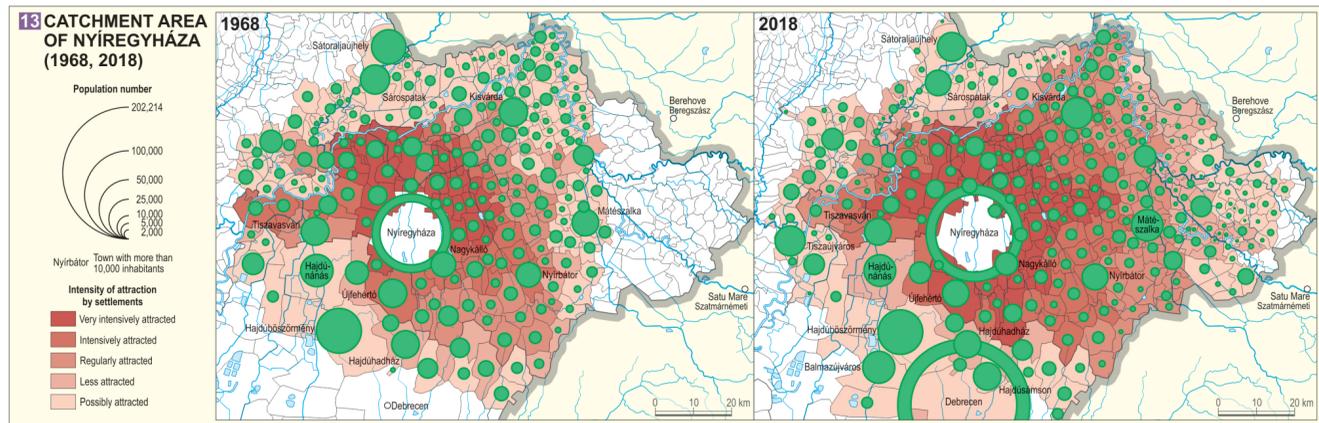
the Ottoman suzerainty. At the turn of the 20th century, it was enriched with high-quality institutions (e.g. a university, theatre and museum). The city expanded mainly on the terrace of the Someşul Mic (Kis-Szamos) in an east-west direction, following the main road along the valley and then the railway line. This is where its suburbs arose, with the closed-row buildings typical of small towns. In the eastern part of the city, an extended industrial and commercial zone has arisen near the railway station.

### Distribution of some high-rank institutions in the urban system

The series of maps showing the location of metropolitan institutions complements the information on the hierarchical rank of cities, highlighting within the settlement system the range of cities that provide higher (specialist) levels of supply **12**.

*Ecclesiastical administrative centres* – the seats of

archdioceses, dioceses and church districts – perform not only the tasks of church administration. Their cultural, educational, social and tourism activities also influence the hierarchical level, role and atmosphere of a city or town. There are currently 17 towns in Hungary with ecclesiastical administrative roles. Reflecting the denominational composition of the country, the Roman Catholic ecclesiastical centres are the oldest and most numerous. The first dioceses were founded by Stephen I shortly after he ascended to the throne in the nascent Kingdom of Hungary. The ecclesiastical centres of Esztergom, Veszprém, Győr, Pécs, Eger and Kalocsa existed as early as 1009, and Vác was also founded by Stephen I. On the present-day territory of Hungary, new dioceses were founded in 1777 (Szombathely, Székesfehérvár), and in 1923 the Diocese of Csanád moved its seat from Timişoara (Temesvár), which had been ceded to Romania, to Szeged. The last amendment to the territorial organisation of the Roman Catholic Church in Hungary occurred in 1993: dioceses were established in Kaposvár, Debrecen,



and Veszprém became an archdiocese. The Territorial Abbey of Pannonhalma has fulfilled diocesan tasks for 15 parishes since 1993. Debrecen, Nyíregyháza and Miskolc are the ecclesiastical centres of about 180 thousand Greek Catholic believers living in the northeastern part of the country, mainly in the Nyírség region. The church district (diocesan) seats of the Calvinist (Reformed) denomination, which has 1.1 million adherents, include: Debrecen (the ‘Calvinist Rome’), the centre for Calvinists living in the Tiszántúl region; Miskolc, which superseded Sárospatak, the former ecclesiastical centre; Budapest; and Pápa. The Lutheran Church, which has more than 200 thousand adherents, has two diocesan centres: in Győr and Budapest.

The standard of *healthcare* is indicated by the presence or absence of four institutions. The regional distribution of healthcare institutions reflects the relatively even distribution of patients around the country. Consequently, healthcare institutions are spread fairly evenly in Hungary and are largely aligned with the urban hierarchy. In addition to Budapest, full healthcare services are provided in the various regional centres with the exception of Miskolc and Győr, where there are no medical universities or clinics, as well as in Zalaegerszeg. The institutional facilities in the county seats are similar, with the exception of Békéscsaba (the county hospital of Békés is situated in Gyula).

The first *shopping centre* was opened in Hungary in 1976. Since then, they have gained ground in the retail sector. By now, their number has increased to 123 in 48 towns, with 7,116 shops operating on more than 2 million square metres of floor space. (Budapest is the location of 38 shopping centres with 4,531 shops.) The regional distribution of shopping centres is determined by the spatial structure of consumers (more populous settlements) and transport factors. Even so, such centres do not require neighbourhoods with dense traffic and commercial streets as they are able to generate their turnover themselves. Typically, they are established at sites in the outer districts of towns or in the suburbs of cities. This explains why shopping centres have been established at the so-called city gates of Budapest and in settlements at the lower hierarchy level (Budakeszi, Tököl, Batorbágy, Dunakeszi and Törökbálint). At the same time there are no shopping centres in, for example, Salgótarján, Pápa, Jászberény and Cegléd. The impact of tourism on the retail sector is indicated by the presence of shopping centres in such resorts as Velence, Siófok and Keszthely.

Urban centres of *scientific research* are indicated by the number of scientific research staff working at high-profile research institutes. However, many other institutions (universities, archives, museums, the KSH, the

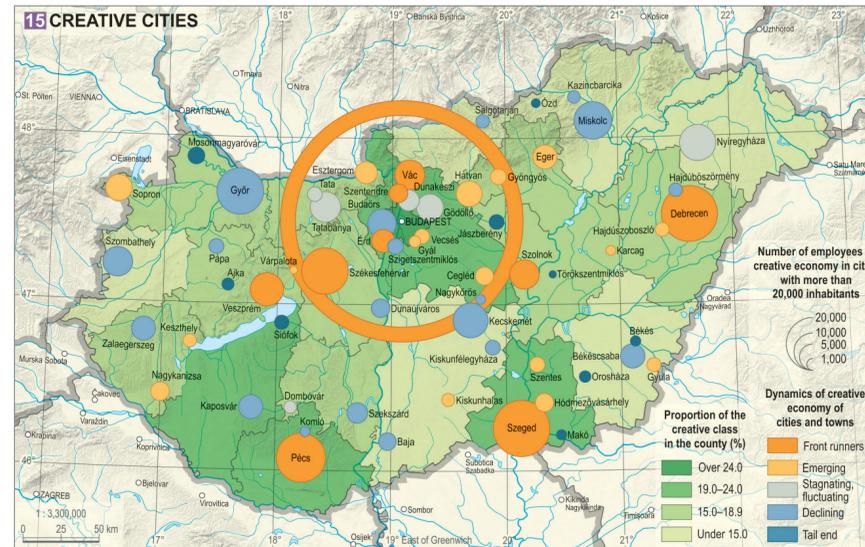
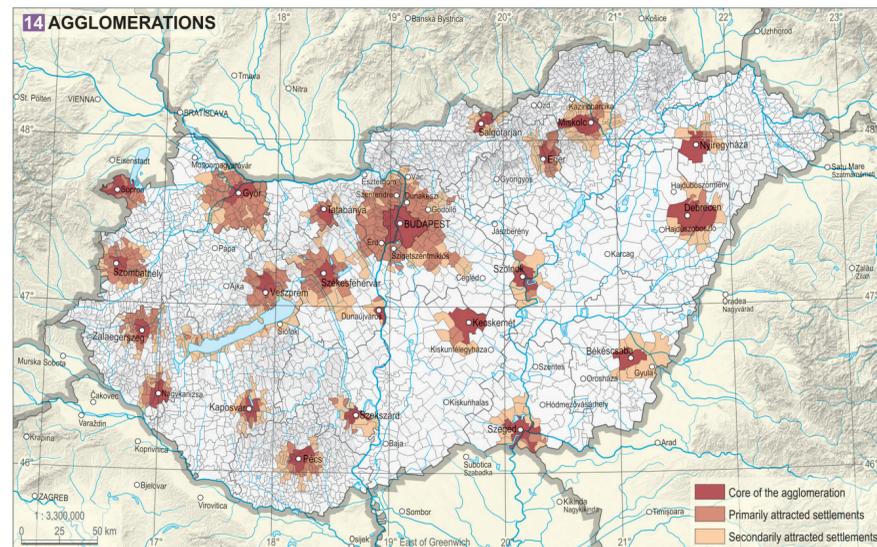
National Meteorological Service, the research and development departments of major companies, etc.) also carry out this kind of activity. In most fields, scientific research is clearly concentrated in the capital city. Outside Budapest, major research institutes are found only in Szeged (e.g. Szeged Biological Centre and ELI-ALPS Laser Research Institute) and in Debrecen (ATOMKI). In addition, several agricultural research institutes employ large numbers of researchers (Gödöllő, Szarvas, Mosonmagyaróvár, etc.). It is striking that in the regional centres of Győr and Pécs only a few researchers are employed by independent institutes. And in Miskolc there are no independent research institutes.

In 1910, there were no more than 14 thousand university students in Hungary (with more than 8 thousand studying in Budapest). Currently, higher education institutions can be found in 44 municipalities. In the 2018/2019 academic year they were attended by nearly 200 thousand students, of which around 110 thousand students were studying in Budapest. *Higher educational centres* not only provide significant intellectual capital to the host city but also affect the local labour market, economy and housing market. The dominant role of Budapest in the urban hierarchy is reflected in the location of higher education institutions; 55% of students in higher education study here. In addition to Budapest, three cities, Debrecen (20,146 students), Szeged (17,004 students) and Pécs (14,664 students), can be considered dominant university cities, both because of the number of students and because of the range of courses on offer. Here it should

be noted that among the regional centres courses in medicine are missing in Győr and Miskolc. In some towns, higher education is only symbolically present in the form of several extramural courses. The number of students in higher education is less than 100 in 10 towns and less than 500 in a further 15 towns.

Theatre performances are given regularly in more than 100 municipalities (festivals, summer theatres, stages without a permanent theatre company, etc.). Yet the number of cities with permanent theatre company companies is only twenty. *Theatres* are the typical institutions of the county seats; 17 of the county towns in Hungary have a theatre (Salgótarján and Szekszárd do not have a permanent company). The theatres of Sopron, Budaörs and Dunaújváros are the only ones in operation outside the county towns. Budapest is also outstanding in this field, with an annual audience of 2.6 million people, which is 20 times the audience of major theatres outside Budapest.

Urban institutions providing specialist goods and services (e.g. specialist shops, secondary schools and hospitals) serve the needs of both local residents and people living in the surrounding area. The latter (i.e. the area benefiting from institutions in the city) is called the *catchment area*. The extent of a catchment area depends on the size of the city, the number and significance of the central functions, and the accessibility of the core. Such factors change over time. The traditional method of delimiting a catchment area was to assess the frequency of contacts (e.g. the number of customers and students travelling into the town, data on hospitalisations). In this way, a map of the



catchment area of Nyíregyháza was created in 1968, based on research by Pál Beluszky 13.

In view of such factors as higher population mobility, the expansion of the motorway network and the cessation of previous administrative burdens (e.g. choosing a school and a doctor), the previous inventory-evaluation method is hardly applicable today. On the other hand, the location data of mobile phones can be used to map the daily movement of the population. The map of catchment area of Nyíregyháza, which is based on mobile-cell data from the autumn of 2018, indicates numerous changes compared to the situation 50 years earlier. The catchment area of the city has expanded in an east-west direction mainly thanks to the M3 motorway, while contact with the smaller settlements in the area has intensified. At the same time, the city’s influence on the eastern regions of the county, in the historical Bereg and Szatmár areas, is still weak. These areas became disadvantaged not only because of their peripheral location, but also due to the loss of their traditional administrative centres after the Treaty of Trianon (Uzhorod/Ungvár, Berehove/Beregszász, and Satu Mare/Szatmárnémeti).

### Agglomerations

Metropolitan areas, also known as agglomerations, play a decisive role in the settlement system of all countries. Their emergence is the result of the high density of jobs and services in and around major cities, coupled with the movement of the population towards them. As a result of this process, the major city and its environs are functionally interconnected and very often integrated 14. Ten indicators were taken into account in the delimitation of agglomerations in Hungary:

- percentage change in the number of inhabitants in the period 2000–2017;
- number of newly built dwellings per 10 thousand people between 2000 and 2017;
- population density on 1 January 2018, people/sq. kms;
- personal income tax base per taxpayer in 2017, HUF;
- number of cars per thousand inhabitants in 2017;
- proportion of commuters in the residential population in 2011, %;
- proportion of the active earner population in 2011, %;
- proportion of those working in industry, the construction industry and in the service sector in 2011, %;

- proportion of those commuting to Budapest daily in 2011, %;
- balance of migration per thousand inhabitants, 2000–2017.

The values (maximum, minimum or difference) on each indicator varied greatly, so they were normalised for comparability. As a result of normalisation, the values in the data set range from zero to one. The values of the normalised indicators were averaged, and the resulting indicator was considered a complex value. The following boundary conditions were defined for the delimitation of urban areas:

In all cases, the value of the complex indicator had to be higher than the rural average. Accordingly, only municipalities with a higher rate of housing than the rural average were included among the urban areas. The centres of the settlements had to be no more than a 35-minute drive from the core city. Another important criterion was that the population decline in the municipalities should be lower than the rural average. The closeness of the connection between the core and the agglomerating settlements was measured by commuting. Thus, a municipality was only taken into account if at least 8% of its population was commuting to the core in 2011.

The population and economy of Hungary are largely concentrated in the 22 delimited urban areas. These agglomerations contain 645 of the 3,155 settlements in Hungary (i.e. 20.4% of the settlement system). More than half of the population of Hungary lives in such areas. With the increasing spatial concentration of the population, the share of agglomerations is growing over time. In 2000, 53% of the population of Hungary lived in such urban areas, and this proportion increased to more than 56% by 2018. Regarding income, the importance of these areas is even greater, as more than 60% of national income is generated here. In the cores of the agglomerations, 40% of the national income is produced, while 13% and 7% is produced in primarily and secondarily linked municipalities respectively.

The agglomeration of Budapest is the most significant among Hungarian agglomerations. The extent of the Budapest agglomeration was determined by the Government Decree No 89/1997, according to which it contains the capital and 80 surrounding settlements. Spatial processes, however, have already moved beyond this delineation. Indeed, 112 municipalities can be classified in the Budapest agglomeration today. This urban area includes more than a quarter (2.7 million people) of the population of Hungary and more than

a third of the income. In economic terms, the dominance of the Budapest agglomeration is so great that the share of the combined income of the 21 agglomerations outside it is only 29% of the national income, while that of Budapest exceeds 33%! The agglomeration of Lake Balaton is a special one. Having been created by leisure and recreation, it was recognised by Act CXII of 2000. In terms of population size, the smallest agglomeration is that of Salgótarján, with about 47 thousand people, while the agglomeration of Dunaújváros has the fewest settlements (only five).

### Creative cities

In recent decades, global economic restructuring has enhanced the role of creativity and innovation in economic development and competitiveness. The emergence of the creative economy has given rise to a creative class that increasingly contributes to the economic performance of a city or region 15. The creative class includes highly qualified intellectuals creating new ideas, forms, technologies and services (e.g. scientists, engineers, artists, influencers and designers) as well as professionals working in knowledge-based industries (e.g. robotics, micro-electronics and informatics) and in the media and entertainment sectors. Members of the creative class live mainly in cities and towns. The number and proportion of creative workers tend to reflect the size and international prestige of a city.

The KSH registered 222 thousand creative businesses in Hungary at the end of 2015 (32.5% of businesses in operation), employing 845 thousand people (22.2% of all employees). In 2015, 48.3% of the creative companies and institutions in Hungary were based in the Budapest agglomeration, employing 56.6% of the creative workforce. Budapest and its region therefore play a decisive role in the creative economy of Hungary, and the significance of the city has increased steadily over the past two decades. In terms of the creative economy and the creative class, wide gaps have appeared between the capital and the rest of the country and between the major cities (regional centres, university centres) and rural areas dominated by villages.

The relationship between the socio-economic development of cities and the extent of the creative economy can be detected with the help of a complex statistical indicator (proportion of higher education graduates, unemployment rate, population change, level of business tax revenue, number of companies per thousand inhabitants, proportion of industrial, construction and mining companies/ in negative sense). According to the results, we could identify cities where the local economy is diverse and varied, the proportion of the creative class is higher, and also cities where the local economy is dominated by one industry or traditional agricultural activity, and the proportion of creative workers is significantly lower. Based on the indicators, the most creative city in Hungary is Budapest. The capital is followed by a group of regional centres (Pécs, Székesfehérvár, Debrecen and Szeged) that have significant higher education traditions, an R&D base, a vibrant intellectual life and strong cultural background. Due to the proximity of the capital, several towns in the agglomeration of Budapest (Szentendre, Vác, Érd and Dunakeszi) also have favourable indicators. The less-favoured group includes the former heavy industrial cities (e.g. Ajka and Ózd) and market towns in the Alföld (e.g. Makó, Orosháza).

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