

The Formation, Development, and Changing Spatial Structure of the Budapest Agglomeration

Introduction

In common parlance, the term ‘agglomeration’ refers to a concentration or clustering, and at first glance, it aims to convey something similar in urban geography as well. Clearly, the first question is: What characteristics and peculiarities define a cluster with urban geographical content? In other words, the question can be framed as which factors’ concentration creates a cluster that can be referred to as an agglomeration in a specific segment of space. This is also related to the problem of how to delineate the boundaries of an agglomeration, that is, where the concentration integrates into areas with different characteristics.

There are no universally accepted answers to these questions in the literature, making agglomeration research a current critical point in urban geography. The internal structure and delineation of agglomerations are generally determined using density, structural, and relational characteristics. In this approach, several groups of indicators, which are by no means independent of each other, can be developed:

- *Demographic indicators* for describing population density and the structure of the population. These features are most commonly used for defining agglomerations, as censuses provide easily accessible data for this purpose.
- *Economic indicators* for presenting the occupational structure, the economic structure, the labour market, and the educational level of the population. Data for these indicators can also be drawn from censuses.
- *Network indicators* for describing the density of the transport network and accessibility. These indicators are frequently used for defining agglomerations as well, though data availability can be more challenging.
- *Ecological indicators* for presenting environmental conditions.
- *Urban planning and morphological indicators* for reviewing the characteristics of built-up areas.¹

Naturally, it is rarely possible to use the full range of relevant indicators when examining an agglomeration. This is also the case in our study: for the long-term analysis of the Budapest agglomeration, we have endeavoured to use the most relevant indicators for each period, without striving for completeness.

¹ GAEBE 1987: 18.

This was necessary partly because the number of usable indicators necessarily decreases as we go further back in time. However, this does not pose a significant problem, as the overview spanning approximately one and a half centuries illustrates the development of the Budapest agglomeration: initially, only the first signs of agglomeration can be detected, in the next phase, we can speak of a developing agglomerated area, and subsequently, the actual agglomeration takes shape. Thus, in this chapter, we attempt to provide a comprehensive presentation of processes and structures.

1. Factors shaping the spatial structure of agglomerations

By ‘spatial structure’, we refer to the spatial functional arrangement determined by natural and infrastructural landscape elements, including communities, transport corridors, and economic factors. From a spatial structural perspective, Budapest and its agglomeration are undoubtedly among the most complex geographical units in our country. The formation and current spatial structure of the area now known as the Budapest agglomeration is the result of a long historical development, shaped by a combination of natural, political, economic, and social factors.

Among the *natural factors*, the topography and hydrography stand out, with the Danube being the most significant element influencing the spatial structure. Topographically, the agglomeration can be divided into two parts: to the northwest, it meets the mountainous region (including the Buda Hills, Pilis, and Visegrád Mountains), and to the southeast, it connects with the Great Hungarian Plains. The convergence of mountains and plains, along with the river crossing established on the Danube (the Tabán ferry), collectively represented the early situational factors that influenced the city’s development.²

Among the *political factors*, the region’s geopolitical situation, due to its strategic geographical location, is particularly noteworthy. As a central, densely populated area of the Carpathian Basin, it has played a pivotal role in the formation of Hungarian statehood from the outset (even though Esztergom and Székesfehérvár are now located outside of it). Since the 13th century, excluding the Ottoman period, the capital functions have largely been concentrated here. The role of politics is evident in the establishment of Budapest in 1873 and the significant expansion of the city’s territory in 1950. The highly centralised transport network organised around Budapest and continually supported by politics has also influenced the settlement network and spatial order of the city region.

Among the *economic factors*, the impact of modern industrialisation on spatial structure is foremost. Following the Austro–Hungarian Compromise of 1867, the axis of the River Danube, the railway lines converging here, and the early and rapid urbanisation acted like a magnet, attracting industry and subsequently, the establishment of services. Early-starting capitalist industrialisation led to the clustering (‘agglomeration’) of various economic actors. Investments during the decades of socialism (new industrial sites, airports, and highways, etc.) further complicated the already intricate spatial structure.

² MENDÖL 1947: 557.

The economic restructuring that began after the regime change also strongly affected the spatial structure of the settlement agglomeration around Budapest. The role of the industrial zone, which hosted traditional industrial activities, diminished, while the new post-Fordist economy increasingly settled in the suburban belt and beyond, along newly built highways and transport hubs.³ The rise of the post-Fordist economy brought rapid changes to the city's supply belt, which had previously been dominated by agriculture. Areas such as the northern part of Csepel Island and Vecsés saw the emergence of new industrial sites, logistics centres, and office parks.

Perhaps the role of *social factors* has been most indirectly influential in shaping the spatial structure of the region around the city, although they have been present from early times. After the Ottoman period, partly due to population resettlements, the region became highly diverse, with a mix of Germans, Slovaks, and Serbs. Different peoples brought with them their settlement and economic practices, as well as building traditions, which also influenced the internal structure of the agglomeration. However, the role of social factors only became increasingly prominent with the emergence of urban explosion and modern urbanisation, roughly from the time of the Austro–Hungarian Compromise, primarily due to migration. Since the Austro–Hungarian Compromise, this region has been the primary destination for migration in the Carpathian Basin, where a nearly 3-million strong complex unit of a large city and its closely symbiotic suburbs has developed. This intense movement of concentration towards Budapest, lasting nearly a century, eased by the 1970s and 1980s, first shifting to stagnation and then to migration in the opposite direction from the early 1990s. The construction of a ring of highways and outbound expressways around Budapest led to a significant suburbanisation of the population. As a result, development density around the capital surged, with formerly private gardens and recreational spaces becoming permanently settled, while the proportion of natural areas sharply declined.

By the turn of the millennium, the outflow of affluent populations had even reached more distant, previously untouched rural areas.

2. The early history of the agglomeration and its developing spatial structure

The current spatial structure of the Budapest agglomeration is the outcome of extensive historical development. As the central and densely populated region of the Carpathian Basin, this area has been significant since ancient times. Medieval long-distance trade routes converged at the junction of Pest and Buda, and from the mid-19th century, railway lines throughout the Carpathian Basin also intersected at this hub. All of this resulted in above-average population density and created the conditions for the development of close connections between communities.

³ Kovács et al. 2001: 191.

2.1. Demographic factors in early agglomeration

In recent decades, the most studied process of population movement between Budapest and its agglomeration has undoubtedly been suburbanisation. This process has seen a significant outflow of population from the capital to the surrounding areas, substantially enhancing the residential function of the agglomeration. However, centrifugal migration processes were not confined to the period in question; during the Austro–Hungarian dual monarchy, deconcentrating migration patterns were already evident in the Budapest metropolitan area.

From the late 18th century until the Austro–Hungarian Compromise, the predominant migration pattern was characterised by significant immigration, which was the main driver of population growth in Pest and Buda. As a result, by the late 1860s, nearly two-thirds of the capital’s population consisted of immigrants rather than native-born residents. By the time of the Austro–Hungarian Compromise (1867), the combined population of Pest, Buda, and Óbuda, which formed the core of what would later be known as Greater Budapest, had already reached 270,000. The 1872 law that sanctioned the unification of the city effectively recognised the fact of early agglomeration.

This concentration process remained largely unchanged in the quarter-century following the Austro–Hungarian Compromise, with rapid population growth persisting. By 1910, the population of the new capital had tripled, reaching 880,000. At that time, an unusual situation arose where not only the central city of Budapest and the suburban towns annexed in 1950 but also the entire agglomeration experienced significant population growth.

However, the first decade of the 20th century saw significant reorganisation among the city’s three distinct regions: Greater Budapest, the suburbs, and the agglomeration. Population growth in the suburban areas remained highly dynamic, with a further 80% increase over ten years, reaching 217,000 by 1910. In contrast, the capital itself experienced a slower growth rate of only 20% during the same period. The agglomeration, meanwhile, saw a notable growth rate of 25%.

Since there were no significant differences in natural population growth across the three regions, it is clear that the changes are related to differing patterns of migration. Immigration was most influential in the suburban area regarding population growth: three-quarters of this growth was due to migration gains. In Budapest, this was 55%, while in the surrounding agglomeration it was nearly 45%. Contemporary statistical literature also suggests that communities around Budapest have diverted massive populations from the capital by effectively ‘draining’ migration.⁴

This observation holds true from two perspectives. On the one hand, the suburban area, and to some extent even the agglomeration, filtered a substantial portion of immigration coming from different parts of the country. On the other hand, it also welcomed a significant number of people migrating from Budapest. This population movement, referred to as ‘outflow’ by Gusztáv Thirring, represented a non-negligible loss for the capital. Although to a much lesser extent, this “leakage” was also noticeable in the agglomeration (*Figure 1*).⁵

⁴ THIRRING 1935–1937: 2.

⁵ DÖVÉNYI 2001: 251–264.

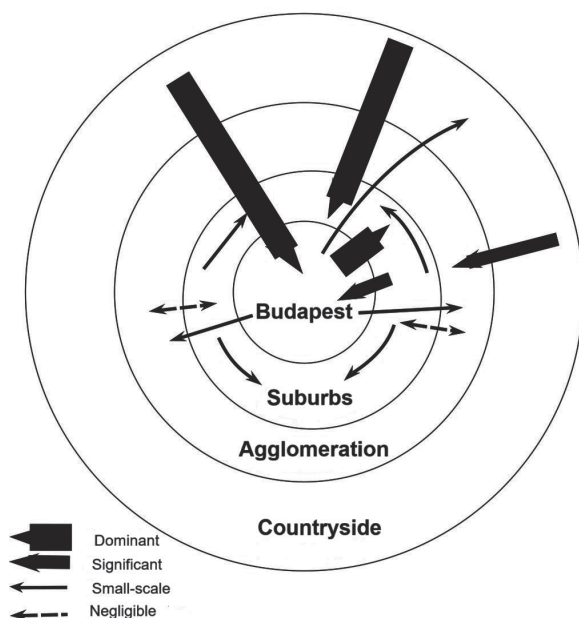


Figure 1: Migration model of Budapest and its surroundings

Source: DÖVÉNYI 2001: 261

The primary reason behind the outflow of population from Budapest was that living costs in the capital were noticeably higher than in the surrounding areas. Those who could not afford this higher cost of living sought refuge in the suburbs as a form of escape. This migration is better characterised not as modern suburbanisation, but by the German geographical term ‘Stadtflucht’, which means ‘escape from the city’. This is acceptable partly because a significant portion of those moving out belonged to the lower strata of society. For this reason alone, it cannot be considered typical suburbanisation of the time. The largest group of movers consisted of industrial workers, but even before World War I, there was also an ‘outflow’ of officials and employees. Alongside the general strengthening of residential functions, certain segregation tendencies began to emerge before the Great War, leading to the development of areas of varying residential quality. For example, officials preferred the communities in the Rákos region.

2.2. The economic factors of early agglomeration

The expansion of suburban development in the early 20th century also involved the relocation of industrial activities beyond the city limits. Economic development in the suburban zone significantly accelerated towards the end of the 19th century. By the early 20th century, with the establishment of mass transit (such as tram and suburban rail lines), commuting became widespread, and industrial activities rapidly extended

into the agglomeration area, including the municipalities (e.g. Kispest, Erzsébetfalva, Csepel, Budafok, Újpest, Pestújhely). The most intense territorial development occurred in what later became South Pest, with the first communities emerging in Kispest and Erzsébetfalva.⁶ By the turn of the century, their populations had multiplied several times over each decade. From the early 1870s, these areas became accessible to workers from Pest and Kőbánya, and the first regular commuters came from here. By the end of the century, industrial communities in Ferencváros also attracted numerous workers. In the suburban zone, Újpest's industry grew so robustly that it began attracting workers from surrounding communities (e.g. Rákospalota). Budafok's industry was also significantly bolstered by the capital's market, with a stable and growing demand for its food industry, winemaking, and brewing products.

The characteristics of the urbanisation process around Budapest in the early 20th century remained largely unchanged until the creation of Greater Budapest in 1950.⁷ At the turn of the 20th century, the northern urbanisation axis experienced the most intense development, extending as far as the Göd communities. The dynamism of the southeastern axis (including Kispest and Pestszentlőrinc) was not much less pronounced; in fact, population growth and territorial expansion there even surpassed that of the northern suburbs of Pest. After the turn of the century, the working class became the majority in suburban communities, partly due to the relocation of less affluent layers from the capital and partly due to job seekers accumulating at the city's borders.

At the turn of the 20th century, the growth of industry in the suburbs achieved remarkable increases. In 1900, the industry in the surrounding communities employed about 11,000 people, which increased to 32,000 by 1910, most of whom worked in factories.⁸ The concentration of workers in the suburbs and the lower costs of industrial establishment (lower local taxes, cheaper land, utilities, and less stringent building regulations) attracted the factory industry en masse to the agglomeration ring, which by then significantly outstripped local handicrafts in importance. Numerous examples of modern industry relocation can be found, including incandescent lamp manufacturing, pharmaceuticals, machinery, and vehicle industries.

By the turn of the century, four major industrial centres had developed around the capital. Before World War I, Újpest was already the country's fourth largest industrial centre (after Budapest, Bratislava, and Timișoara). It was home to tanneries, timber yards, and furniture factories, and later became a hub for the cotton industry and the most modern industries of the time, including light bulb manufacturing, paint, and pharmaceuticals. In 1900, approximately 4,600 workers were employed in its industrial enterprises. Rákospalota's largest employer was the Istvántelki main repair workshop of the Hungarian State Railways, which employed 1,600 workers.

⁶ BELUSZKY 1999: 36.

⁷ BELUSZKY 1999: 47.

⁸ FÓNAGY 1998: 25.

In Kispest, Pestszentlőrinc, and Erzsébetfalva, the number of workers also exceeded 4,000. In Kispest, machinery manufacturing became significant through the Hofherr-Schranz Agricultural Machinery Factory (1,900 workers), with other smaller machinery factories following. Later, the textile industry also settled here. In Erzsébetfalva, the jute and hemp industry was predominant.

Among the peripheral communities, Csepel became the second most important industrial centre after Újpest, where the Weiss Manfréd Steel and Metal Works became the second largest military factory in the Austro–Hungarian Monarchy. While in 1900 it still operated with 915 employees, by taking advantage of the wartime boom, it employed 5,000 workers by 1913. Ultimately, Budafok was distinguished from the peripheral communities by its significant food industry.

Despite the difficulties of rocketing growth, by the early 20th century, the first signs of the communities' transformation into fully-fledged towns were already apparent. Many of them gained administrative independence before World War I, established their municipal organisations, and created their key institutions. Újpest even received the status of a city with a municipal council. Before World War I, Újpest, Kispest, and Pesterzsébet increasingly adopted the character of industrial suburbs, while Pestszentlőrinc remained more of an uptown with no significant industrial presence at the time. Among the former agricultural communities, a significant transformation took place in Rákospalota, Csepel, Budafok, and Nagytétény, with the first two experiencing a particularly rapid change.

Békásmegyer, Rákoscsaba, and Cinkota lost their agricultural character, and within their borders, residential developments began to emerge. However, no industrial enterprises were established in these areas, and their connections with the capital remained looser. By this time, Budapest's allure had already extended beyond the later boundaries of Greater Budapest: the surrounding villages (such as those along the Galga and Tápió rivers and on the Csepel Island) became part of the city's supply zone, and the effects of labour attraction were beginning to be felt. In numerous municipalities (e.g. Dunakeszi, Csömör, Pécel, Budakalász, and Budakeszi), the proportion of industrial job seekers reached that of agricultural job seekers. This period also saw the relocation of some functions to this zone. For example, the Hungarian State Railways established a workshop in Dunakeszi, surrounded by residential areas of the Hungarian State Railways' employees. This was also when Alag, Alsógöd, and Felsőgöd began to be populated.⁹

By the early 20th century, such close connections had developed between Budapest and parts of the suburban area that the idea of creating Greater Budapest was already being considered before World War I. At that time, there were two options envisioned for the unification of the capital with the surrounding socially interconnected municipalities. One was municipal incorporation, where neighbouring municipalities would completely merge into the capital. This was considered particularly suitable for urban communities such as Újpest, Rákospalota, Erzsébetfalva, Albertfalva, and Budafok. The other option was administrative incorporation, where the affected municipalities would leave their

⁹ BELUSZKY 1999: 48.

original administrative boundaries and join the administrative framework of the capital. In this case, the municipalities could have retained their autonomy. Preliminary legislative preparations for this option were underway, but then World War I interrupted this issue as well.¹⁰

3. Development in the agglomeration between the two world wars

Following the border demarcation established by the Treaty of Trianon, both the country and Budapest experienced stagnation in their development. However, the suburban area became the fastest-growing group of communities in the country. Between the two world wars, the suburban areas experienced higher growth rates than Budapest in both population and economic development.¹¹ The establishment of an independent customs area, the liberation from the previous overwhelming dominance of Czech and Austrian textile industries, and the strengthening of the domestic textile industry due to protectionism all created excellent site opportunities in the region. Since there was no significant food industry or construction material production in the suburbs, the post-war recession had little impact on them. Their large heavy industry enterprises adapted more easily to the new conditions. Conversely, the emerging light industry (mainly textiles) found the suburbs to be favourable locations, with an even greater influx of labour compared to the capital itself. As a result of this development, the 1920s saw a shift in focus in the suburban area towards the light industry.

In Újpest, the existing large companies (Egyesült Izzó, Chinoin, Magyar Pamut Rt.) were joined by the textile industry. In Kispest and Pestlőrinc, four new textile factories were established in the 1920s. The industrialisation of Pesterzsébet and Soroksár began at this time, primarily with a focus on textiles. Csepel's character continued to be defined by its heavy industry, but with the establishment of a textile mill and a paper factory, light industry also made its appearance here. Large state projects also supported the development of the suburban economy. The completion of the Csepel Freeport in 1926 accelerated the industrialisation of the southern Pest areas. Alongside the port, warehouses and oil refineries were also constructed.¹²

After the decline following World War I, by 1926, the number of industrial workers in the suburban areas had reached 30,000. By 1938, this number had doubled, and by 1940 it had reached 70,000. By this time, 30% of the workforce living in and around the capital was employed in the suburbs. While in 1926 the industrial output of the peripheral towns and villages accounted for 36% of that of the capital, by 1938, it had risen to 48%.¹³

¹⁰ HENCZ 1973: 36.

¹¹ FÓNAGY 1998: 42.

¹² KOVÁCS et al. 2001: 196.

¹³ BEREND–RÁNKI 1961: 558.

The growth of the suburban population significantly surpassed that of Budapest. Between the two world wars, the urbanisation of the suburban areas advanced. As a result, Kispest was granted city status in 1922, Pesterzsébet and Rákospalota in 1923, Budafok in 1926, and Pestszentlőrinc in 1936. Additionally, new communities were granted municipal autonomy (such as Pestszentimre, Rákoshegy, Sashalom, and Rákosliget). The idea of creating Greater Budapest became increasingly prominent during this time, and by 1937, the powers of the Public Works Council had been extended to include 22 suburban municipalities surrounding the capital.

The effects of urban expansion were evident across nearly the entire area of Greater Budapest between the two world wars (perhaps with the exceptions of Soroksár, Rákoscsaba, and Nagytétény). By this time, the focus of development had begun shifting to more distant areas, as evidenced by population growth rates surpassing rural averages, migration gains, rapid occupational restructuring, and increasing daily connections with the capital. Industrial expansion extended beyond what would later become Greater Budapest to include Pomáz, Szentendre, Dunakeszi, and even Vác. During this period, several small to medium-sized industrial enterprises were established, including textile factories in Budakalász, Pomáz, and Kistarcsa, a paper mill in Szentendre, and a canning factory in Dunakeszi. Additionally, World War II saw the establishment of a significant machine industry base, including aircraft manufacturing, in Szigethalom. This industrial development considerably increased the number of locally employed industrial workers.

The most intense development was observed to the north of Újpest, extending all the way to Vác. In this region, worker settlements were established, and in Dunakeszi, for example, a significant amount of industry was established. In the Great Hungarian Plains, the settlement belt extending from Isaszeg to Dunaharaszti, and to the south, Tököl and Taksony exhibited signs of agglomeration. Suburban development was uneven on the Buda side of the Danube. Érd led the development, but the communities in the Buda Hills showed few signs of urban expansion at that time. The effects of urban expansion were evident not only in population growth surpassing rural averages but also in rapid occupational restructuring and increased daily connections with the capital. By the time of the 1949 census, the population of some industrial suburbs (such as Újpest, Kispest, and Pesterzsébet) had already significantly exceeded 50,000.

The significant upturn in urban expansion also led to the resurgence of the Greater Budapest concept in the 1930s. The idea of removing the surrounding area from the administration of Pest County became increasingly compelling. There was, however, no consensus on what to do with the affected communities. By the end of the 1930s, the term ‘capital and its surroundings’ had become an administrative and legal concept, but the affected communities had not yet been officially separated from Pest County. The area in question included 6 cities and 18 villages, essentially the same circle of places that were actually annexed to the capital in 1950.¹⁴

¹⁴ HENCZ 1973: 46.

4. Development in the agglomeration during the period of state socialism

Following the establishment of the communist dictatorship and the dismantling of the market economy after World War II, the development of the capital's agglomeration continued under entirely new conditions. On 1 January 1950, Greater Budapest was created, incorporating 23 communities, including 7 towns and 16 villages.¹⁵ Following the 'decapitation' of the former agglomeration zone, a new agglomeration area gradually developed outside Budapest's administrative boundaries in the 1950s and 1960s. A peculiar feature of the socialist period was the 'forced growth' of the suburbs. In the 1950s, due to the 'residence ban' introduced to prevent migration from the countryside to the capital and the availability of cheaper properties, the population of commuter towns surrounding Budapest (e.g. Vecsés, Gyál, or Érd) increased. People moving from rural areas who were seeking work in the capital settled en masse in the agglomeration zone and became daily commuters. This once again strengthened Budapest's role as a central attraction, as the population concentrated in the suburbs used a significant portion of the capital's services (such as hospital care, secondary and higher education institutions, and retail). From a statistical and planning perspective, the 1971 National Community Network Development Concept officially recognised the existence of the 'new agglomeration' and defined the boundaries of the Budapest agglomeration in 44 suburban towns or villages. However, this zone did not receive any special consideration and had no planning authority. They were treated as rural communities, which caused numerous problems due to the rapid and extensive development (such as underdeveloped infrastructure, and the absence of institutions, etc.).

However, despite the dominance of residential functions, the development of the suburban ring that was 'decapitated' in 1950 also allowed for some emergence of its own economic activity. The aircraft factory established in Szigethalom was replaced by the Csepel Automobile Factory. In 1952, a new bearing factory started operating in Diósd. In the early 1960s, two more massive investments resulted in the creation of the Százhalombatta Oil Refinery and the Thermal Power Plant. One group of industries around the capital settled north and northwest of the capital (Dunakeszi, Szentendre, Budakalász, Pomáz), while the other settled south and southwest (Szigethalom, Százhalombatta, Diósd). On the eastern part of the agglomeration ring, there was only one significant industrial centre: Kistarcsa. The areas to the east of Budapest were directly connected to the distinctly industrial peripheral districts of the capital. In 1957, the industry around Budapest employed 19,000 people; by 1960, this number had risen to 31,700; and in 1967, it reached 43,500. This was still a relatively small part of the total industrial workforce in the agglomeration, though its proportion increased slowly: from 5.3% in 1960 to 6.4% in 1967. In the towns with industrial facilities, the proportion of the industrial workforce consistently exceeded 50%. In communities with industry, the proportion of the industrial population exceeded 50% without exception. The majority

¹⁵ BELUSZKY-KOVÁCS 1998: 110.

of locally employed industrial workers were based in Szigethalom, Dunakeszi, Budaörs, Törökbálint, Szentendre, and Budakalász. However, by the end of the 1960s, the growth of industrial employment in the zone had come to a halt.¹⁶

During the period of socialism, the economic spatial structure of the Budapest agglomeration was also primarily shaped by economic policy decisions. Between 1949 and 1953, alongside the further development of industrial enterprises established in Budapest, the need for industrial decentralisation also emerged. The industry in Pest County, particularly in the immediate vicinity of the capital, experienced extremely rapid growth between 1949 and 1966.¹⁷

After 1958, the need for industrial decentralisation gained greater emphasis. Proposals were developed to reduce the concentration of industry in Budapest. The goal was to gradually develop the surrounding towns of Aszód, Gödöllő, Vác, Dorog, Bicske, Ercsi, Dabas, Pilis, and Kiskunlacháza into 'satellite towns' around the capital. During this period, efforts to develop industry were primarily focused not on the industrialisation of more distant regions of the country, but rather on the immediate vicinity of the capital. However, the guiding principle of territorial policy soon changed, as it was recognised that the new industrial ring evolving around Budapest posed certain dangers (strengthening of the role of the capital as a 'hydrocephalus'). Therefore, in 1960, the resolution restricting industry installation was extended to include the 64 communities surrounding Budapest. This affected the administrative districts of Aszód, Buda, Dabas, Gödöllő, Monor, Ráckeve, Szentendre, and Vác in Pest County, as well as the towns of Szentendre and Vác. In Fejér County, it affected the Bicske district, as well as two villages within the district boundaries of Dunaújváros and five villages within the district boundaries of Székesfehérvár. Initially, the territorial scope of the 1960 government resolutions on limiting industrial development applied to the immediate vicinity of Budapest, but it was later extended to more distant areas.

Although the regulation was in place, both investment activity and participation in production remained essentially unchanged until the mid-1960s. Around Budapest, despite the restrictive measures, a new industrial ring began to take shape relatively quickly. In the 1960s, the fastest-growing industries were the manufacturing of electrical machinery and equipment, the chemical and rubber industry, the paper industry, and wood processing. The industrial structure of the zone is illustrated in *Table 1*. The heavy industrial nature of the area is indicated by the fact that 69% of the employed workforce worked in various branches of heavy industry. In 1960, there were 207 industrial sites, and by 1965, there were 241 industrial sites in the agglomeration (44 towns, according to the later 1971 designation of the National Community Network Development Concept). The fastest increase in the number of industrial sites was seen in industries that could be established in relatively smaller units (e.g. metal products industry).

¹⁶ KÓRÓDI-MÁRTON 1968: 69.

¹⁷ KOVÁCS et al. 2001: 198.

Table 1: Characteristics of the industry in the Budapest agglomeration in the mid-1960s

Industry	Employees (%)	Fixed asset value (%)
Manufacture of transport equipment	30.6	26.8
Manufacture of metal bulk products	12.4	10.8
Handicrafts and home industry	11.0	1.5
Textile industry	9.6	8.4
Manufacture of electrical machinery and equipment	5.2	21.0
Mechanical engineering	5.4	6.0
Chemical industry	4.5	13.7

Source: KÓRÓDI–MÁRTON 1968: 79

From a statistical and planning perspective, the 1971 National Community Development Network Development Concept officially recognised the existence of the new agglomeration, delineating the boundaries of the Budapest agglomeration across 44 suburban communities. Contemporary spatial planning in the 1970s defined the structure of the Budapest agglomeration into four (*ring-shaped*) zones, as interpreted in the 1989 edition of the *National Atlas of Hungary* as follows.¹⁸

The *core of the agglomeration* was constituted of the pre-1950 administrative area (Smaller Budapest), which consisted of several functional and land use zones. The city centre (Inner City) was made up of institutions, offices, and the commercial district in the southern part. On the Buda side, the Castle District specialised in tourism and cultural functions. The city centre was not without residential functions either. In the so-called *first workplace zone*, the daytime population was approximately three times larger than the night-time population; more than 90% of the jobs were filled by commuters from outside. The housing stock of the *first residential zone* surrounding the city centre had significantly aged and deteriorated; the population in these areas had been declining since the 1960s. The zone was divided into sections by commercial, service, and institutional areas along the main roads. The *second workplace zone* emerged on the city's periphery during the initial phase of industrialisation. This zone concentrated 60% of the city's jobs and 70% of industrial jobs at that time. Its area was segmented by various 'large space-demanding institutions' (such as railway stations, cemeteries, green spaces, etc.). The *second residential zone* represented a transition toward the earlier peripheral districts and suburban areas. The nature of the development was more dispersed, featuring villa and apartment districts (in the Buda hills), family house neighbourhoods, and workers' colonies. From the 1960s onward, large residential estates began to proliferate in these areas.

The *inner agglomeration zone* included the former suburbs and peripheral communities; however, on the Buda side, the zone extended beyond the administrative boundaries of the capital (e.g. Budaörs and Budakeszi). In terms of functions and external appearance, this zone exhibited a highly diverse character: urban-type (e.g. Újpest, Kispest, and

¹⁸ PÉCSI 1989: 335.

Budafok), predominantly residential (e.g. Sashalom and Rákosliget), transitional (e.g. Mátyásföld and Budatétény), and rural (e.g. Cinkota, Soroksár, and Nagytétény) locations alternated. While the distinct ring structure seen on the Pest side was absent on the Buda side (except for the industrial and transport service areas in Óbuda and southern Buda, as well as some residential estates), the prevailing feature was the villa quarter.

The development of the *central agglomeration zone* accelerated from the 1960s onwards, following the establishment of Greater Budapest and the restrictions that curtailed the city's expansion. It was approximately the same extent as the 'official' agglomeration, although the planning also included and treated several additional communities (e.g. Felsőpakony, Délegyháza, Zsámbék, and Telki) in a similar manner. The zone was functionally regarded as the capital's labour supply and recreational area. This was based on the fact that by this time, more than half of the working-age population was already commuting to Budapest for work.

Finally, by this time, a distinction was already made between the *outer ring of the agglomeration*, which had close commuting links with the capital, and the area that extended 30–50 km further along the main transportation routes.

The strongly monocentric nature of the Budapest agglomeration allowed for a different interpretation of its spatial structure. This is the well-known sector model, which divides the agglomeration into six territorial units with distinct functional areas. The areas designated by the cardinal directions (northern, eastern, southeastern, southern, western, and northwestern) were delineated by spatial planning, and they differ significantly from one another in terms of both their size and population.¹⁹

By the mid-1970s, out of the 44 municipalities classified within the agglomeration zone, approximately 20 had significant industrial activity. In the industrial plants of these communities, 90% of the employees worked locally, while only 10% commuted. The heavy industry character remained robust. By the mid-1970s, the economic nature and industrial development in the zone diverged from earlier expectations and objectives. Consequently, in 1974, the Council of Ministers reviewed the implementation and effectiveness of the earlier measures and regulations concerning the development of the agglomeration. To further reduce the industrial weight of the Budapest agglomeration, facilitate the implementation of the tasks outlined in the selective and intensive industrial development concept, and ensure the capital's labour supply, the Ministry of Construction and Urban Development issued a decree (No. 9/1975) concerning the establishment and development of industrial plants within the capital's daily labour catchment area. The size of the restricted development areas increased compared to the 1960s regulations. In addition to the 44 agglomeration municipalities, the cities of Gödöllő, Százhalombatta, Szentendre, and Vác, as well as all the villages in the administrative districts of Buda, Dabas, Monor, Ráckeve, and Szentendre, along with 16 villages in Fejér County, were included in the daily labour catchment area of the capital.

¹⁹ KŐSZEGFALVI 2012: 72.

According to the decree, the Minister of Construction and Urban Development's approval was required for the establishment of new industrial plants within the capital's daily labour catchment area or for the development of existing plants exceeding 100 employees over a five-year period. Detailed regulations specified which industrial or industrial-type activities did not require ministerial approval for establishment (e.g. industrial investments serving local daily needs, council budgetary enterprises, plants employing only locally mobilised female labour, agricultural co-operatives' food and wood processing investments based on the existing workforce). The regulations primarily restricted labour-intensive developments and also hindered the establishment of relocated plants from the capital. Relocations within the zone were considered as establishing new plants from the perspective of the receiving area.

The central leadership was prompted to take this drastic step due to the increasing shortage of industrial labour in Budapest. The growth of industry in the countryside and the agglomeration area, as well as the expansion of the service sector in both the capital and the agglomeration zone, significantly narrowed the labour reserves available to the city's industry. The situation was further exacerbated by the dominance of heavy industry in the zone, which primarily employed male workers locally, leading to a decline in the male workforce available for Budapest's industry.

The decree restricted and prevented the natural process by which industry and economic activity could have expanded beyond the city boundaries, potentially leading to a more complex agglomeration with better functional distribution. This measure also affected the capital, as the main potential environment for relocations was lost. As a result, within the capital, the central district's industry was kept in a stage of urbanisation where other functions could have taken precedence. Thus, through regulatory intervention, they prevented industrial suburbanisation, which was already well underway in Western European countries at the time. As a result, the number of locally employed industrial workers in the agglomeration was relatively low, while still exhibiting significant spatial characteristics.

The state of the economic spatial structure of the Budapest agglomeration by the late 1980s was essentially the result of the economic policy measures of socialism. During the decades of socialism, economic development was largely synonymous with industrial development, although there were notable advancements in some sectors of agriculture and services. Agricultural production did not exhibit significant differentiation, although a few communities, such as Gödöllő and Herceghalom, functioned as centres due to specific factors. Certain areas (such as Vecsés and the Danube Bend) were part of the urban supply belt with their specialised production, where the intensity and volume of agricultural production exceeded the regional average. In the distribution of services, the primary organising force was the settlement hierarchy, mainly due to the territorial concentration processes of the 1970s.²⁰

²⁰ Kovács et al. 2001: 200.

The industrial spatial structure that emerged during the regime change (considering the current agglomeration communities) can be understood based on the number of employees in industry and the gross value of industrial fixed assets. Data from the series of communities clearly show that the industry of the zone was concentrated in the current southern sector (with 31.5% of the employed and 58.4% of the gross value of fixed assets). The only town in the southern sector, Százhalombatta, represented a significant concentration, accounting for half of the zone's fixed assets, embodied by the Danube Oil Refinery and the Thermal Power Plant. The only other sector with a comparable level of concentration was the northern sector represented by the Vác–Dunakeszi urban pair (with 25.8% of employees and 17.4% of the gross value of fixed assets). By 1990, the first signs of economic transformation had appeared, but their consequences were not yet significant enough to notably alter the spatial structure established during the decades of socialism. Although several major factories had been closed by this time (such as the Hungarian Silk Industry Company's Lining Weaving Factory in Vác, the Ganz Danubius Container Factory, the Bakery Company, and the Optical Instruments Factory in Budakeszi), most company closures and transformations occurred between 1991 and 1995.

5. The transformation of the agglomeration after the regime change²¹

The nature of the relationships and division of labour between Budapest and its suburbs entered a new phase of development with the regime change, through the restoration of democratic local governance and market economy. The official boundary of the Budapest agglomeration was defined by Government Decree 89/1997, which originally included 78 municipalities; due to subsequent splits of municipalities, this number increased to 80.²² This completed the zoning system still in use today, which distinguishes between the compact city (essentially Greater Budapest), the peripheral districts (municipalities independent before 1950), the inner agglomeration (the 44 communities defined by the 1971 National Community Network Development Concept), and the outer agglomeration (the 36 communities added to the agglomeration in the 1997 expansion) within the Budapest agglomeration area (*Figure 2*). As a result of the spatial processes initiated by the regime change in 1990, the Budapest agglomeration has now functionally extended well beyond the geographical boundaries defined by the 1997 government decree.

²¹ This part of the chapter relies on the authors' recently published work: Kovács–Dövényi 2021: 128–139.

²² Beluszky–Kovács 1998: 122.

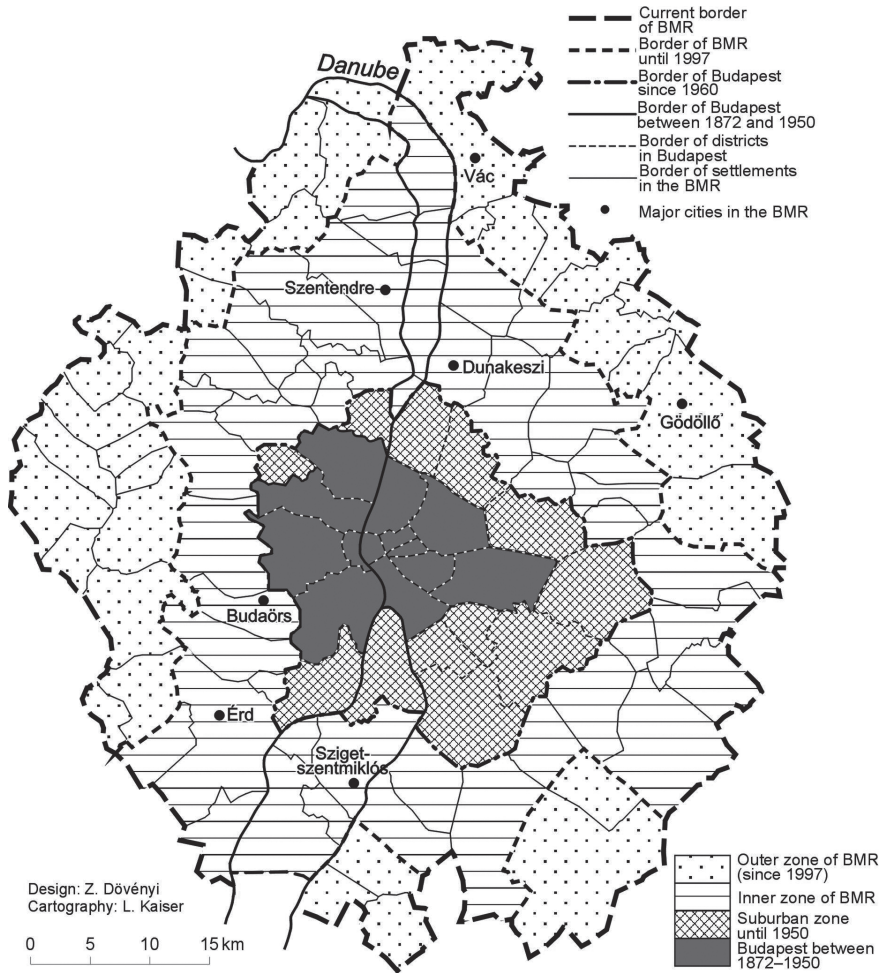


Figure 2: Zones of the Budapest agglomeration

Source: compiled by the authors

With the creation of a free, unrestricted real estate market, it became possible for younger and wealthier families to move to the suburbs and into their own family homes.²³ As suburbanisation progressed, not only did the population, but also numerous businesses relocated to the suburbs, leading to significant transformations around Budapest due to urban sprawl. Among these changes, the notable aspects are the ‘settling’ of the natural landscape and the re-zoning and improvement of areas that had previously been used for agricultural purposes or so-called hobby gardens (Figure 3). According to our calculations, between 1990 and 2012, the area of artificial surfaces used for residential, economic, and recreational purposes increased by 145 m², more than 20%, across the

²³ DÖVÉNYI–KOVÁCS 1999: 33–57.

80 communities of the Budapest agglomeration. To the greatest extent, former arable fields, vineyards, and orchards fell victim to the expansion of artificial surfaces around the capital. This took place despite occasional central or local efforts to limit the expansion of developed areas.

In addition to the spatial reorganisation of the population, by the turn of the millennium, the establishment of productive (industrial) and service functions in the Budapest agglomeration became increasingly prominent. However, the presence of companies in this area is not primarily linked to the ‘suburbanisation’ of Budapest-based enterprises but rather to investments from outside, often from abroad. A characteristic feature of the agglomeration economy around Budapest is its concentration into functionally specialised areas (*Figure 4*).²⁴

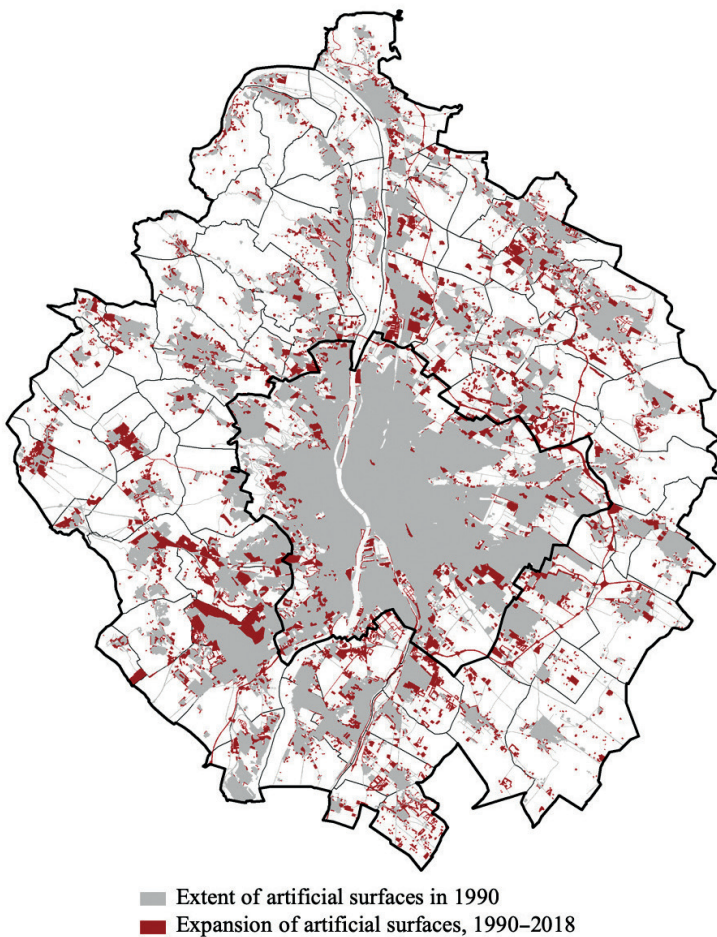


Figure 3: Changes in built-up surfaces in the Budapest agglomeration, 1990–2012

Source: compiled by the authors

²⁴ Kovács et al. 2001: 214.

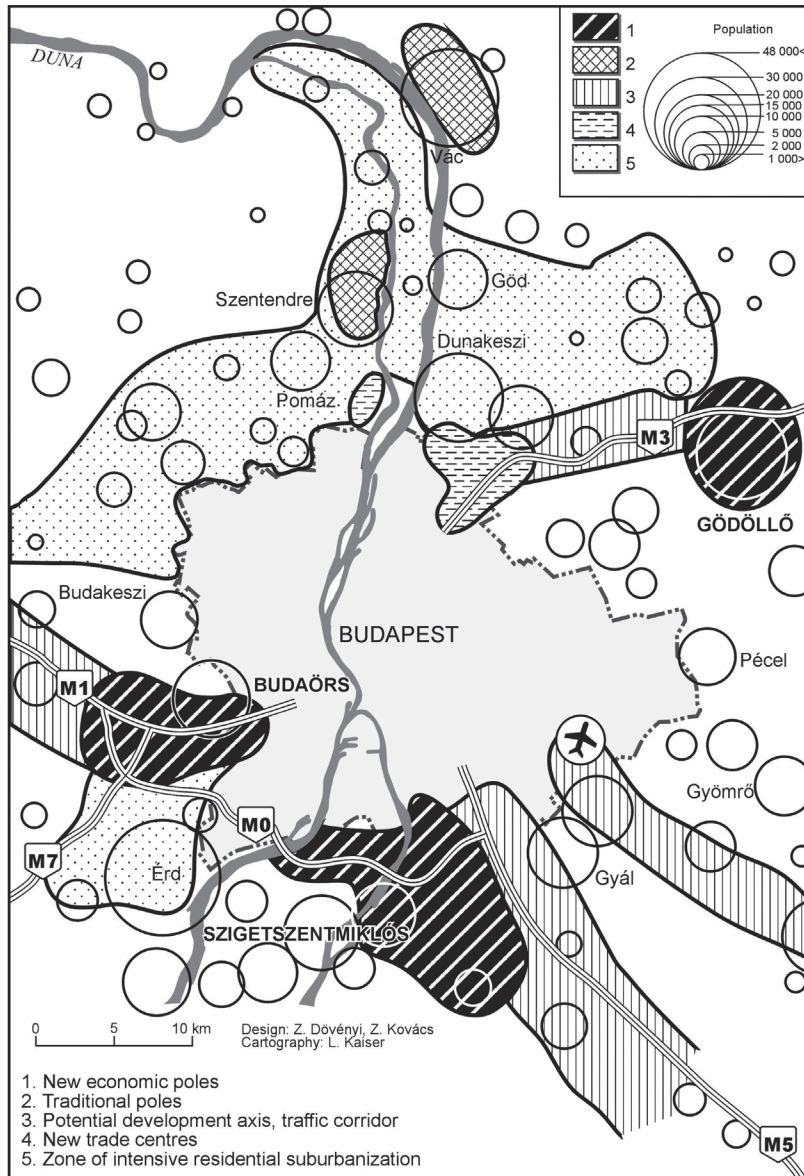


Figure 4: Functional spatial structure of the Budapest agglomeration after 1990

Source: compiled by the authors

First and foremost, the growth pole that developed in the Budaörs–Törökbálint area should be mentioned. At the western gateway of the capital, where three highways intersect, a profound economic transformation took place in the 1990s, which closely resembles the

development of American edge cities. This economic growth sometimes also revitalised traditional centres, with Gödöllő being the prime example. A completely new spatial structure type is represented by the logistics zone that developed in the Szigetszentmiklós–Dunaharaszti–Alsónémedi region, specialising in warehousing, distribution, and wholesale. Due to recent logistics investments in municipalities along the M0 motorway, the southern sector of Budapest is on its way to becoming the largest logistics hub in the Carpathian Basin. This hub is already a crucial point in the trade between the western Balkans, Asia, and Western Europe. Similarly, there are no prior municipal precedents for the spatial units defined by new commercial centres (e.g. Budakalász and Fót, the M3 motorway exit from Budapest) or for the new business clusters created through the opening of the eastern section of the M0 motorway and the development of Liszt Ferenc International Airport.

5.1. Society in the agglomeration

Considering the 1997 delineation, the population of the agglomeration fluctuated around 2.5 million following the regime change, meaning that one in four of Hungary's residents lived there. This relatively stable population figure emerged as the population of the capital decreased from over 2 million in 1990 to 1.729 million by 2011, partly due to outward migration. Meanwhile, the agglomeration's population increased from 566,000 to 805,000. Consequently, the demographic weight of the suburban zone within the agglomeration grew from 22% to 31.8% between 1990 and 2011.²⁵

While the population in most of the capital's districts continuously decreased after the regime change, the agglomeration zone experienced very few instances of declining population (1990–2000: Visegrád; 2001–2011: Vác and Tök) (*Figure 5*). On the contrary, as a result of suburbanisation, many communities saw a very dynamic increase in population, with ten locations more than doubling their population between 1990 and 2011. For example, Telki experienced a six-fold growth (1990: 629; 2011: 3,661 residents). For originally populous communities, the growth was on the order of tens of thousands (Érd: 20,304; Szigetszentmiklós: 15,336; Dunakeszi: 14,434).

While natural population decline, a characteristic of the majority of the country's communities, also occurs in the agglomeration, the situation overall is more favourable here. As with many other indicators, there are pronounced differences in natural population growth between the capital and the agglomeration zone: Budapest's parameters are noticeably worse. This was particularly evident during the period from 1990 to 2001, when the number of deaths exceeded the number of births by nearly 130,000. Between 2001 and 2011, there was an improvement: the excess of deaths was reduced to just below 75,000, but natural decline continued to affect the population of all municipal districts.

²⁵ Kovács–Dövényi 2021: 137.

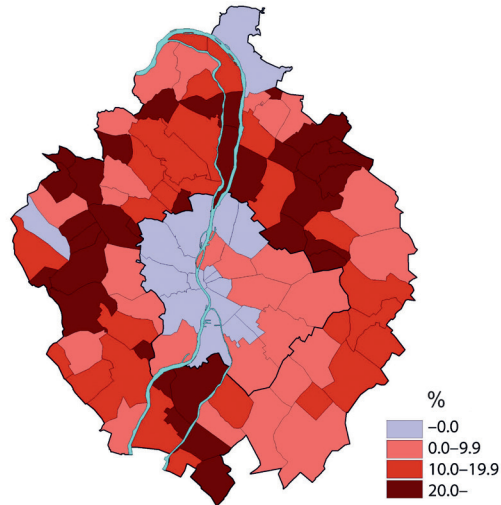


Figure 5: Population change in the Budapest agglomeration, 2001–2011

Source: compiled by the authors

Between 1990 and 2001, most of the 80 agglomeration communities also experienced natural population decline, but in 21 cases, the number of births already exceeded the number of deaths. The significant improvement in the following decade is indicated by the fact that natural population growth was observed in the majority of communities (47 cases). Concurrently, the rate of natural population growth also increased: between 1990 and 2001, the highest rate was 4.9 per thousand (Százhalombatta), whereas in the following decade it had risen to 8.9 per thousand (Telki).

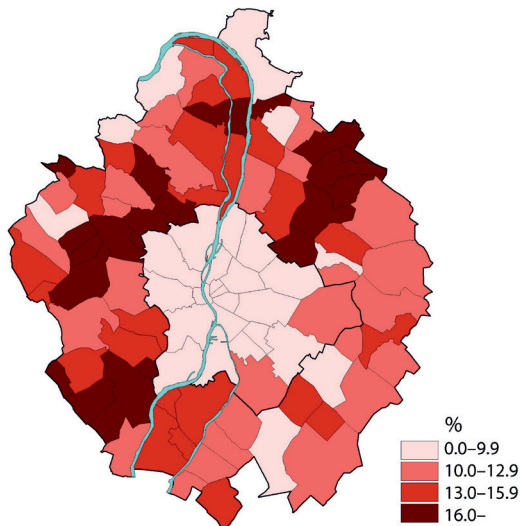


Figure 6: Migration balance per 1,000 inhabitants in the Budapest agglomeration, 1990–2011

Source: compiled by the authors

For a long time, Budapest and its surrounding area have been the most important population-attracting region in Hungary, and this remained true in the period following the regime change. However, a significant change compared to the past is that the phase of urbanisation has been replaced by suburbanisation, which brought about a markedly different migration pattern (*Figure 6*). The most important feature of this change was the significant outflow of people from the capital to the agglomeration. This caused substantial population losses primarily in the 1990–2001 period, with only five peripheral districts experiencing modest migration gains. In contrast, within the agglomeration, only one town experienced a migration loss (Százhalombatta –3.5%), while in 11 cases, the migration gain exceeded 30%, with Telki recording an exceptionally high value (97.6%).

In the first decade of the 21st century, the migration differences between Budapest and the agglomeration area somewhat eased. This is indicated by the fact that, in terms of total migration volume, the capital had already recorded a gain of approximately 27,000 people, and there were positive migration balances in 14 districts. During this decade, all agglomeration communities had migration gains, with 16 of them showing values above 30%. The winner of migration between Budapest and the agglomeration area continued to be the latter, as between 2001 and 2011, 265,000 people relocated from Budapest to one of the agglomeration communities, whereas only 156,000 moved in the opposite direction.

The migration patterns following the regime change transformed the composition, housing market needs, and spatial usage of the local society, as mainly younger and more educated families settled in the suburban areas.²⁶ While the population of the capital has traditionally been highly educated, this is not true for the majority of communities in the agglomeration area. This is also reflected in the fact that the proportion of degree holders exceeded the national average in only 27 communities. However, suburbanisation has notably increased the proportion of degree holders in some communities, with several surpassing 40% (Telki: 55.9%; Remeteszőlős: 48.0%; Nagykovácsi: 46.1%; Budajenő: 40.4%; Üröm: 40.3%).

Commuting data clearly indicate that the spatial movement of the workforce in the Budapest region changed after the regime change, with the work-residence dynamic shifting towards a new spatial structure of polycentric development. An evident sign of this shift was the emergence of new commuting patterns, such as reverse commuting from the capital to agglomeration communities, or cross-commuting between suburban centres (e.g. Budaörs, Törökbálint, and Érd). Despite these changes, the most significant commuting still remains towards the capital (*Figure 7*). In 2011, the 225,000 registered commuters accounted for nearly a quarter of Budapest's workforce, with a substantial proportion coming from the agglomeration area. The proportion of those commuting into Budapest was exceptionally high (around 60%) among all local workers, particularly in smaller communities close to the capital (e.g. Üröm, Pilisborosjenő, and Remeteszőlős) and those with good suburban rail connections (e.g. Budakalász, Csömör, and Nagytarcsa).

²⁶ TIMÁR-VÁRADI 2000: 153–175; DÖVÉNYI-KOVÁCS 1999: 33–57.

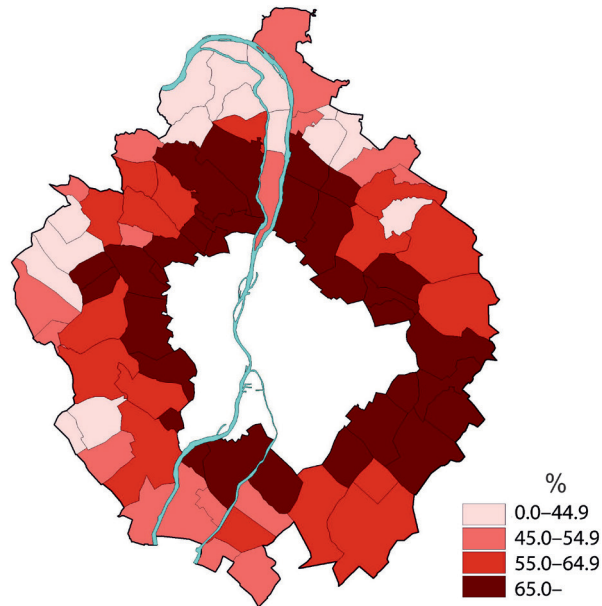


Figure 7: Proportion of commuters to Budapest among local employees, 2011

Source: compiled by the authors

At the same time, it can be demonstrated that the number of commuters from the capital to the agglomeration increased much more rapidly, doubling over the 21 years following the regime change. Within the more narrowly defined inner agglomeration zone, the number of people commuting out of the capital grew particularly strongly, surpassing the number of people commuting into Budapest. In 2001, approximately 5,200 people commuted in both directions, evenly distributed; however, by 2011, the number of people commuting from Budapest (7,847) had exceeded the number of people commuting from Budaörs to the capital (5,392) by 45%. In addition to Budaörs, other more populated municipalities where the proportion of commuters from Budapest exceeded 40% include Budakalász (48.3%), Pécel (45.4%), Törökbálint (45.3%), Vecsés (43.4%), and Budakeszi (42.2%).

5.2. Housing market in the agglomeration

The increasing spatial mobility of the population, changing residential preferences, and the demand-supply-based consolidation of the housing market resulted in significant transformations in the Budapest urban area after the regime change. In the development of the local housing stock, along with external demand, municipal governments also played a crucial role, as they determined the quantity and quality of available building plots. Of the 307,000 occupied homes in the agglomeration, 35.8% were built after 1990 (up to 2011). This proportion is more than twice the value for the capital city (15%), while also showing striking regional differences (Figure 8).

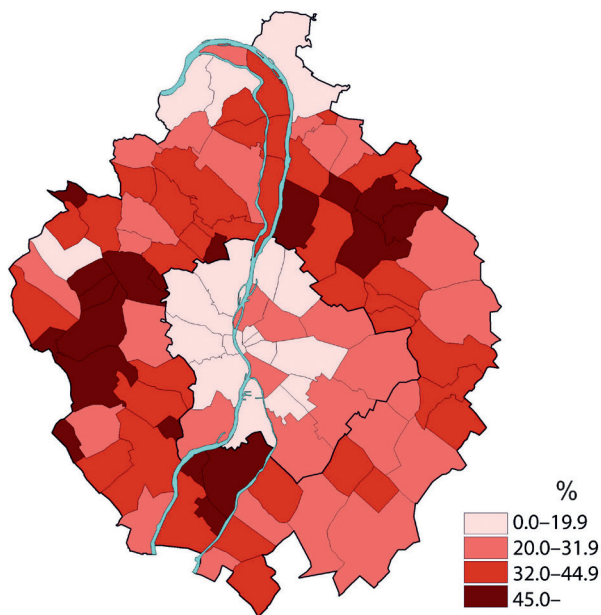


Figure 8: Proportion of housing built after 1990 in the Budapest agglomeration, 2011

Source: compiled by the authors

In general, the majority of new housing built after the regime change was concentrated in the hilly and mountainous areas with attractive natural features surrounding the capital to the north, while only a notable group of communities appears at the northern tip of Csepel Island to the south. Among these communities, Telki stands out as the leader, with 80.4% of its 1,186 apartments constructed after 1990. It is closely followed in housing market dynamism by Remeteszőlős (68.3%), Veresegyház (58.8%), Herceghalom (58.8%), and Budajenő (57.5%). In contrast, less than one-fifth of the apartments in Visegrád (14%), Vác (15.7%), Perbál (16.5%), and Dunabogdány (19.4%) were built after the regime change. Thus, the activity of local municipal leadership in terms of selling new plots and attracting new residents significantly varied within the agglomeration area.²⁷

The picture is further refined by the number of newly built flats per 1,000 residents after 2001 (see Figure 9). At the top of the list is Herceghalom with 198 flats, followed by Csomád (177), Telki (156), Remeteszőlős (154), and Dunakeszi (152). These communities were the main targets for residential mobility in the agglomeration area during the decade following the turn of the millennium. The construction of new flats also often brought about a qualitative transformation, with an increased share of large, multi-room flats. In 2011, the proportion of four-room and larger flats was highest in Telki (72.6%), Remeteszőlős (64.8%), Nagykovácsi (57.1%), and Budajenő (55.8%). These are the most exclusive target settlements in Budapest's suburban zone.

²⁷ KOVÁCS–DÖVÉNYI 2021: 139.

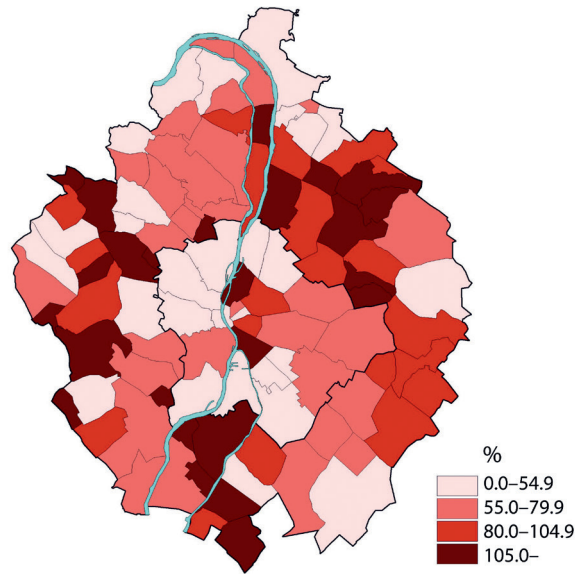


Figure 9: Proportion of newly built apartments in the Budapest agglomeration after 2001, 2011

Source: compiled by the authors

Budapest and its surrounding area's housing prices are among the highest in the country. Before the Covid–19 pandemic, in the years 2018–2019, the average price of used apartments was 32.2 million HUF in Budapest and 30 million HUF in its agglomeration. It is evident that today, in terms of housing market prestige, the agglomeration has caught up with the capital. Particularly, municipalities in the western and northern sectors of the agglomeration are characterised by high housing prices, which closely match those of the neighbouring Buda districts. In the decades following the turn of the millennium, most of the new housing was built here, primarily in the form of large-area, exclusive (e.g. with swimming pools) family houses and residential parks. The most expensive municipalities are Remeteszőlős (61.9 million HUF), Nagykovácsi (59.2 million HUF), Üröm (58.1 million HUF), and Telki (56.1 million HUF), which can be compared with the most expensive districts of the capital. On the southeastern side of the agglomeration, however, the average price of used apartments does not reach 20 million HUF, with the cheapest being Csörög at only 10.5 million HUF.

Summary

One characteristic of the formation and long-term development of the Budapest agglomeration is that the number, area, and population of the associated settlements have all shown an increasing trend. In 1950, this was 'facilitated' by the administrative consolidation of 23 neighbouring towns and villages with the capital. However, this trimmed-down agglomeration continued to grow, and the 1971 official delimitation already included

44 municipalities. A further delimitation of the agglomeration took place 26 years later, in 1997, when a government decree expanded the concept of the Budapest agglomeration to include the capital and 80 surrounding municipalities. This delimitation was incorporated unchanged into Act LXIV of 2005, which governs the Budapest Agglomeration's Zoning Plan. Since then, there have been no government-level changes to the boundaries of the Budapest agglomeration, and this remains the official delimitation.

However, a quarter of a century has passed since the current delimitation of the agglomeration was established, making it unrealistic to assume that no changes have taken place that might warrant a revision of these boundaries. This perspective is supported by professional studies; for example, a 2014 model calculation suggested that 117 municipalities should be included in the Budapest agglomeration. Additionally, the study indicated that six municipalities currently within the existing delimitation would no longer be part of the agglomeration. With the above, we do not intend to say that an expansion of the Budapest agglomeration to this extent is clearly justified, but we agree that it would be worthwhile to thoroughly review the list of municipalities included in the agglomeration and, if necessary, make adjustments.²⁸

While we do not claim that such an extensive expansion of the Budapest agglomeration is unequivocally justified, we do believe, it would be worthwhile to thoroughly review the list of municipalities included in the agglomeration and make adjustments if necessary.

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²⁸ TÓTH 2014: 294.

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