

## POPULATION DYNAMICS OF THE HUNGARIAN VILLAGES 1995–2016

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**Abstract:** In our pioneer study, we explore the number of population change in Hungarian villages based on the latest available statistical data (1995–2016), looking for the answer to whether the rapid and profound economic and social structural changes of post-socialism and the historically unique periods of accession to the European Union have rearranged the numerical dominance of the earlier largest rural population in Hungarian society. According to the concept of the post-socialist demographic turn, the population of the villages began to grow during the transformation crisis of the 1990s, and a significant part of the villages became marginalized. In contrast, agglomeration and suburbanization processes also intensified, which also contributed to changes in the number of villagers. We used the data of the Central Statistical Office (CSO) and the Regional Information System (RIS), which were organised into a new database for the purposes of the research. The theory and methods of the population dynamics approach emphasize the need for more complex demographic studies. We argue that the absolute population of the villages has greatly decreased, but this is only an apparent shift because it is a consequence of the administrative designation of a large number of villages as cities. The paper concludes that from 1995 to 2016 population number of villages with the same administrative classification (village) remained relatively stable, and this is radically different from previous research findings.

**Keywords:** Hungarian villages; population dynamics; the role of administrative designation, migration balance, the constancy of the number of villagers, classification of villages

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## 1. Introduction

In Hungary, as in most Central and Eastern European countries, the proportion of the rural population is much higher than in the EU's development centres. The share of the rural population in the total population in Europe was 25% in 2018. Among the CEE countries, the Bulgarian figure is similar, but the proportion of rural population is higher everywhere else. The highest 45% is in Romania and Slovakia. (World Bank 2020). The rural population has often been seen throughout history as a source of survival for nations, in both a demographic and cultural sense (Bell 2006, Granberg et al 2001). In the second half of the 20th century, agricultural collectivisation, industrialisation, urbanisation and policies to incentivise them led to a more rapid decline in the population of villages in Hungary, an increase in commuting, and especially the emigration of young people and the better qualified (Czibere et al 2021). The fall of the socialist regime in 1990 started a new era that led to rapid changes to the economy and social structure (Harcza et al 1998/1).

There is a great deal of uncertainty in the interpretation of "rural" in both international and Hungarian literature (Csatári 2007, Kovách 2012, Kulcsár 2017). Although there is an overlap between the concepts of rural and villager, a new study classifies those living in both villages and small towns to be rural and establishes their proportion in Hungarian society at 54 percent (Balogh et al. 2020). These data warn that statistical and administrative categories should be used with caution when assessing population movements because, for example, people living in larger villages and smaller towns do not have radically different living conditions and presumably do not follow very different lifestyles. Nevertheless, in this analysis, due to the examination of administrative data sources, we identify the rural population as those living in villages, at the bottom of the Hungarian settlement hierarchy. Thus, in our analysis, we examine the population change of villages since the change of regime until recently.

Public opinion and scientific analysis have focused on the continuous population decline of villages according to decades-long trends, which is understandable because *after 1990, the village population fell by around 700,000* (Kovách, Megyesi 2018). However, a more complex and multi-database cross-analysis can lead to more accurate results and more traceable trends in population change in villages. The proportion of villagers within the total Hungarian population, despite the numerical decrease, is around one-third, which is not unusual in Central and Eastern Europe (World Bank 2020, Csatári 2004, Kovách 2012).

The population of small villages is mainly moving to larger villages. The population of small villages is indeed declining rapidly, but the rate of migration and demographic change is much more balanced if we count all villages, including medium and large ones. The decrease of villagers by hundred of thousands is mostly due to the administrative declaration of 152 small settlements as towns<sup>3</sup>, which hardly changes the quality of the urban environment (Szepesi 2008). In fact, it is difficult to find well-assembled data on trends in the actual extent of change in the rural population.

The aim of our work is to find the real extent of the change in the rural population and to analyze its trends between 1995 and 2016 using complex methods. The main question of our research is how the change in the population of the villages can be most accurately interpreted theoretically and statistically, and what trends can characterize this population movement. We are interested in what can be said about the population processes of municipalities with an unchanged administrative classification between 1995 and 2016. The novelty of this paper is that it complements the change in the population of rural municipalities with relative indicators compared to all settlements. We also analyse complex population processes using a typology that considers changes in demographic dynamics.

## 2. Theoretical considerations

The theory of the "post-socialist demographic turn" (Ladányi – Szelényi 1997) found that a century-old trend turned around in the 1990s: the urban population, including that of Budapest, started to decline

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<sup>3</sup> The phenomenon that continuously shaped the settlement structure of Hungary was the change in the administrative classification of settlements, which mainly included classifying some villages as towns.

and the rural population began to grow steadily, not primarily due to a positive birth balance, but to a positive migration balance. Migration to the village was a life management strategy for two social groups. The well-off and more educated families of Budapest and the big cities moved to settlements around the cities to create better living conditions in green environment (Cséfalvay, 1999, Kovács Z., 2000). Urban losers in the transition to a market economy opted for a rural way of life because of cheaper housing and living conditions. Their migration was mainly due to social reasons and they settled in the lower status settlements of urban agglomerations and in remote villages. With the disappearance of industrial jobs, it is mainly unskilled industrial workers who became unemployed and many of them moved back to the family's former village residence. The wealthier population left the peripheral villages, and social groups struggling with problems remained in the ghettoized settlements. Due to the differentiation of villages, the small village areas in the southwest and northeast became the inner periphery. The villages were not depopulated, but they have become segregated places for the underclass. These masses had no chance of escaping the social or spatial trap (Ladányi – Szelényi, 1997).

According to the literature on agglomeration and suburbanisation (Kok-Kovács Z 1999), rural migration to cities has not stopped, the population movement is continuous between cities, but of the greatest importance is the migration from cities to adjacent smaller settlements. One of its destinations is the urban agglomeration, but larger social groups are also moving to small settlements further away from city centres. As a result of the emigration of the inhabitants of Budapest and immigration from other directions, the population growth of the agglomeration accelerated from the mid-1990s (Dövényi – Kovács 1999). Between 2001 and 2007, the population of the settlements around Budapest increased by 12%. The increase was 16% in villages and 9.7% in cities (Bakos et al. 2008).

Migration to the countryside in Hungarian literature is primarily a part of suburbanization debate and appears as an element of urban extension, assuming that urbanization is the first step, an essential corollary of development. Enhanced appearance of urban features in Hungarian literature also referred to the phenomenon of suburbanization (Enyedi 1984, Cséfalvay 2008) Other research considers suburban processes to be the decentralization of cities (Tímár 1999, Kovács K. 1999, Kocsis 2000). The peculiarity of suburbanization in Hungary, the emigration of the urban population started in a special period compared to Western Europe, not in the period of economic growth, but during the recession, when the proportion of the rural population was much higher nationwide than in the West (Bajmózy 2004). Csanády and Csizmady (2002) emphasized that the movement of the townspeople to the villages took place with the participation of different social groups.

Amongst literature sources, it is a difference in the definition of the concept of *population dynamics*. While some authors suggest that population change in itself is a good indicator of population dynamics, others suggest that population dynamics should be interpreted comprehensively (Kulcsár and Obádovics 2016). The basic model of population dynamics is surrounded by the largest consensus, which is formed on the basis of data from so-called primary vital events (birth, death, migration) (Yusuf et al 2014). This is the basis for life course transitions, which allow for more complex demographic studies, such as school progress, entering or leaving the labour market, marriage, and so on, which interact strongly with the demographic processes in each area. (Raymer et al 2019) In our analysis, we interpret the concept of population dynamics in a regional context, since we seek to present the change in the population of Hungarian villages. The study of population dynamics is performed by reproducing the typology used by ESPON (2008), taken over by an Hungarian pair of authors (Kulcsár and Obádovics 2016). The population dynamics typology allows for uniregional analysis as defined by Raymer et al. (2019): each municipality is characterised by a category of the typology.

### **3. The demographic and historical context that determines the evolution of population in villages**

In most EU countries, the proportion of people living in rural areas is declining due to internal migration (Schmied 2002, Solana-Solana 2010), which has encouraged migration research with much more nuanced thematics than in Hungary (Boyle, Halfacree, 1998, 2014, Scott et al. 2017). In the international literature, the reasons for the migration of people living in rural areas are structural factors (occupational structure,

income structure, labour market, school system, infrastructure, material indicators of lifestyle and values are usually highlighted as such factors). Stockdale (2002) points out that migrant entrepreneurs are often motivated by complex factors, including rational considerations; however, local attachment, the idea of rural idyll and the security provided by family and other relationships (Callela 1986, Alston 2004, Thissen et al. 2010), gender (Leibert 2016), and altered perceptions of the countryside (Farrel et al. 2012) can all play an important role as well.

Németh and Dövényi (2016) also conclude that migration in Hungary increasingly determines the population development of settlements (villages and towns). Migration (Dövényi 2009, Bálint 2012, Gödri – Spéder 2009, Németh-Dövényi 2016), and to a lesser extent, natural loss (Kulcsár – Obádovics 2016, Bálint-Obádovics 2018), the increasing number of declarations of town status and the decrease of the total Hungarian population (Szepesi 2008, Kovách – Megyesi 2018, Csurgó et al 2018), also contributed to the decades-old trends in changes in the population size of villages.

Historically, the concentration of land ownership and land use structure, as well as the rapid decline in agricultural employment can be considered the biggest transformations that affect the resources of the rural population, which accelerated in the period after the change in the regime (Csurgó et al 2018, Czibere et al 2021). The National Assembly had already passed a law on land compensation and the transformation of cooperatives in the early 1990s<sup>4</sup> (Harcsa et al 1998). Three-quarters of the arable land was privatised and one and a half million people became landowners. The average size of land acquired through compensation was 4.4 hectares (Burgerné Gimes, 1996) and the contradictions in the land compensation are accurately expressed by the fact that two-thirds of those who received land ownership were retired or had a non-agricultural professional background.

The restructuring of agriculture took place in parallel with the transformation crisis of the entire Hungarian economy and society, and fundamentally reshaped the living conditions of the inhabitants of rural settlements. In 1998, agricultural production reached only 60 percent of the 1988 level (Harcsa et al 1998). In 1988, the number of people employed in agricultural cooperatives and state farms was 1,028,000; by 1996, this number had fallen to 326,000, i.e., 31.8 percent of the 1988 level (Harcsa et al 1998). Unemployment in rural areas was much higher than in urban areas, unemployment was above average among rural, commuter and unskilled workers, due to the declining number of those employed in agriculture, and also industrial unemployment. Developments in the 1990s transformed the society of rural settlements with dramatic force and speed. One of the consequences was the emergence of new forms of large-scale rural poverty (Kovács 2007). After 1993, the masses lost their jobs in the countryside, their control over their former property and the opportunity to join the production chain with the help of the cooperatives, through traditional “backyard” farming. Experts on the creation of poverty trace the establishment of rural poor areas from here (Ladányi and Szelényi 2006, Virág 2006).

By the time of accession to the EU, the structure of land use had essentially already shown signs of strong concentration. According to the CSO's farm structure census conducted in 2007, farms larger than fifty hectares used eighty percent of the arable land (CSO, 2014). As a sign of concentration, the number of economic organisations has been steadily increasing, and since the turn of the millennium, the land use of larger farms has also increased significantly in individual farms (Kovács 2012). By 2007, half of the land used by individuals was cultivated on farms larger than 50 hectares<sup>5</sup>. In 2010, 13,830 farms, just over two and a half percent of all production units, used three-quarters of agricultural land: 1752 farms cultivated 44 percent of the land, i.e., 2,032,474 hectares (AMÖ 2010).

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<sup>4</sup> Of the 5 million hectares used by producer cooperatives, 1.9 million hectares were set aside for compensation. Compensation tickets were due according to the value of the previously owned land. Up to HUF 200,000, each owner received a compensation ticket for his previously owned land. Above HUF 200,000, the former land-owners were entitled to compensation tickets in a declining proportion; above a HUF 10 million value threshold, no compensation was due. Members who had joined cooperatives without land ownership also received compensation tickets. Ownership of the land set aside for compensation could be acquired at auctions in exchange for compensation tickets or, to a lesser extent, using cash as a means of payment.

<sup>5</sup> The largest estates were already being used by economic organisations in the first decade of the 21st century. The number of individual farms declined rapidly. There were 1,395,800 individual farms in 1992, and only 958,500 left by 2000 and 446,000 by 2013 (CSO, 2014)

After the turn of the millennium, the share of agricultural companies and larger family farms in agricultural production increased steadily. A new agricultural structure has emerged, in which the number of joint ventures and commodity-producing family farms has increased and the number of small-scale and part-time farms has decreased. While in 2000, there were still 966 thousand family farms in operation, ten years later, there were 575 thousand, and only 365 thousand in 2016. In terms of basic trends, the degree of land use concentration did not change after 2010 (Kováč 2016).

The complete transformation of land use and agricultural structure in villages has reduced the proportion of full-time employees in agriculture to less than fifteen percent, so agriculture is not a primary source of livelihood for those living in smaller towns, nor even for villagers.

#### 4. Definitions, data, notes on methodology

The database developed for the analysis of the population change of municipalities contains data from 1990 until 2016 in a settlement series. The Hungarian settlement hierarchy consists of four main levels: the villages are at the bottom and towns are above them. The second level comprises towns with county status, which, with a few exceptions, coincide with the county seats (In this paper, we called them major cities). The top of the settlement hierarchy is the capital city; there is no other similar big city in the country. The administrative classification of settlements is not always related to their sizes: it is a common phenomenon that some settlements have earned town status due to their historical significance. These town declarations were particularly characteristic of the period under review, making it more difficult to analyse demographic changes at the settlement level. Therefore, in the database created for analysis, the legal status of the settlements is listed every year according to the classification valid in that year. This makes it possible to filter out changes in the settlement structure; in this way, for example, the development of town declarations between 1995 and 2016 can be well monitored. It is common practice in scientific analyses to extrapolate the administrative classification valid in the last year of the study period<sup>6</sup> to all years, in order to ensure homogeneity of data and time series comparison. This is a correct procedure for a given paper, but may result in the fact that, in many cases, in the analyses made in different years, the group of settlements belonging to the “villages” category is not the same. In an analysis covering such a long period as we undertook, we had to reflect on this methodological challenge. In this paper, therefore, we present the absolute numbers of the change in the population of villages, i.e., how large the population of settlements classified as villages at certain points in time was, and how the population of the settlements classified as villages all the time since 1995 has evolved. In our analysis, we first examine the evolution of the population living in settlements classified as villages at a given time, while in the other parts of the analysis our findings (population development, population dynamics, migration) relate to the municipalities with unchanged administrative classification.<sup>7</sup>

The variables in the database measure the components of population change: they cover the number of births and deaths in the given year in that settlement, as well as the data of those who migrated to and from there. The database was established from TEIR's<sup>8</sup> settlement data and the individual data provided by the Central Statistical Office (CSO). Data on domestic migration and the end-of-year resident population were publicly available in the TEIR database. Data on other population processes (number of births and deaths, number of those involved in international migration) were obtained from the CSO. These data were combined, based on the settlement code and the year number.<sup>9</sup> The settlement-level data downloaded from the TEIR were aggregated to the national level and compared to the national data available on the CSO's website, so we verified their quality. The resulting database primarily enables the descriptive examination of settlement-level population processes.

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<sup>6</sup> Or a year selected according to some other criteria.

<sup>7</sup> That is, between 1995 and 2016, they were always classified as a village.

<sup>8</sup> <https://www.teir.hu/>; National Spatial Development and Spatial Planning Information System, which publishes the data of different data owners at spatial (settlement, county, regional) level in a single system.

<sup>9</sup> In the resulting longitudinal database, the series are made unique by an identifier formed from the year number and the settlement code.

Difficulties in defining administrative data measuring population processes constitute limitations to our analysis: the interpretation of data on internal migration<sup>10</sup> may be made more difficult by the changing use of the concepts of permanent and temporary migration. Hungarian studies also use these categories according to varying practices. There are times when temporary and permanent migration are calculated jointly (Dövényi 2007, 2009), there are times when they are calculated in a differentiated manner (Gödri, Spéder 2009, Bálint 2011), and in some cases, only permanent migration is taken into account (Bálint, Gödri 2015, Bálint, Obádovics 2018). The underlying reason for this is that, on the basis of the address notification system, it can be differentiated if someone changes their domicile across the border, which is considered as permanent migration, or changes their residence while maintaining domicile, and notifies the new home as a place of residence. However, the enumeration of temporary migrations is subject to methodological limitations, as most of them remain latent, as in many cases those temporarily away from their domicile do not report their place of residence, so it does not appear in the address registration system.

Another methodological problem is related to the enumeration of temporary migrations and can be traced back to administrative reasons; the number of temporary migrations also includes those who, despite the legal requirements, have not extended the registration of their place of residence within the deadline, so they are considered (temporarily) returning migrants. A further difficulty in interpreting the time series data is that the statutory deadline changed in 2006 and increased from two to five years, and this already has an impact on the 2008 data, as there is a decline in the number of migrations. Due to methodological limitations to measuring temporary migration, many authors work with data on permanent migration that are considered more reliable. In this paper, we use an aggregate recording of migrations, on a dual ground. On the one hand, this data was available to us as a longer time series, and on the other hand, in order to typify the population change of villages, by jointly taking migrations into account, it can be better estimated whether a settlement is more of an issuing or a target area.

Data on international migration (number of immigrant foreigners and number of Hungarians migrating abroad) were obtained through the individual data release of the CSO, but these data could only be made available to us back until 2000, which restricted their use.

We mainly examine the period between 2006 and 2016, as the earlier, thorough and more detailed analyses covered the 1990–2011 period (Dövényi 2007, 2009, Kulcsár, Obádovics 2016), so in most cases, we take into account the ten-year period preceding the last available data, and in some cases, we also present long time series data.

## 5. Results

### 5.1 Change in population numbers per settlement category

In this and the next chapter, we deal with the numeric evolution of the population of the municipalities. On the one hand, we give an overview on the evolution of the population by using time series graphs, and on the other hand, we draw a balance between the 1995 and 2016 population data of the municipalities.

According to the end-year population data, the population of Hungary decreased from 10,212,300 in 1995 to 9,797,561 by the end of 2016. During this period, the number of settlements (villages and towns together) in the country increased from 3125 to 3155. By 2016, the population of the municipalities had decreased to 2,894,854. During this period, the number of municipalities fell, due to administrative changes, from 2,931 to 2,809. In 21 years, 152 villages were declared towns.

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<sup>10</sup> With regard to migration statistics, it is important to note that the source of the data is the address notification system, about which the Deputy State Secretariat for the Keeping of Records of the Ministry of the Interior (BM NYHÁT, formerly KEKKH) provides data files to the CSO for statistical processing. Based on the address notification system, we do not get to know the number of migrants, but the number of migration cases in a given year, so if someone changes their domicile during a year, he will appear in the statistics more than once. (KSH-STADAT methodology, <http://www.ksh.hu/docs/hun/modsz/modsz10.html>, last download: April 2, 2020; Gödri, Spéder (2009).

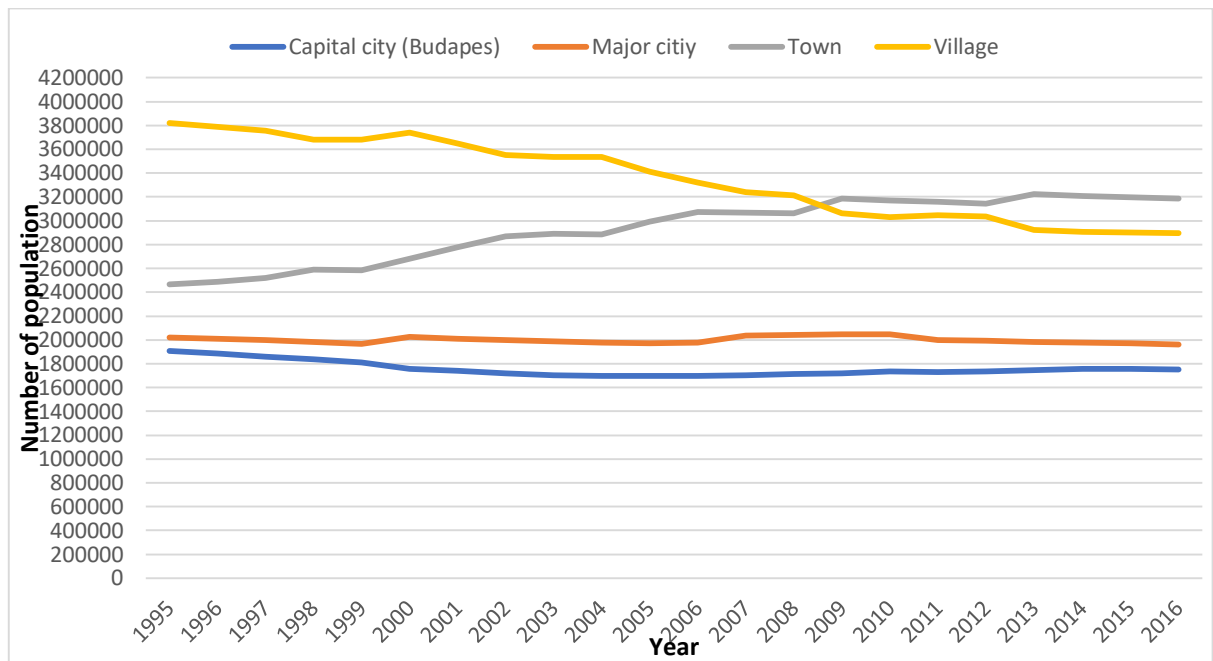


Fig 1. Population change in Hungarian settlements (1995–2016). Source: TEIR, Own compilation

The declining population of municipalities is continuous, but it is a remarkable coincidence that in the capital, major city, town and village division, villages were pushed back to second place in 2009 according to the size of the population when the impact of the financial and economic crisis was strongest (Figure 1).

As a result of the decline of the total Hungarian population, nearly seventy percent of the settlements lost some of their population. Of the 23 major cities and Budapest, 18, and approx. two-thirds of the other towns along with 70% of villages are also on this list. In 12% of the municipalities, the population size is static. Among the 586 settlements with increasing population, 509 were villages, and 53 of the 73 towns with an increasing population were declared towns after 1995.

At the beginning of our paper, we pointed out that, although there is a great overlap between the concepts of village and countryside, the population of villages cannot be identified exclusively and rigidly with the rural population, especially due to the interpretation uncertainties of the term “countryside”. The literature on new towns strongly warns that a declaration of township is based less on qualitative elements rather than on interest struggles and resource-acquisition dependence, (Kulcsár, Brown 2010, Trócsányi et al. 2007). It is not certain that a formal change in administrative status would attract a strengthening of the town functions within a short period of time, and, in particular, the abandonment of rural lifestyles (Pirisi 2009). Between 2000 and 2010, there were many more declarations of town status than in the previous decade (Kovách, Megyesi 2018), but the number of villages also increased by approximately the same proportion. The loss of rural population between 2008 and 2009 can be considered primarily a consequence of emigration and natural loss. The decline is similar between 2012 and 2013, which may be the result of a crisis involving the introduction of a new social and social policy system that affects the social benefits and labour market opportunities of the rural population in a particularly disadvantageous manner. From 2014, the population loss of the municipalities decreased to a few thousand per year, returning somewhat to the long-term trend line.

The population loss of municipalities due to population processes can be followed in Figure 2. The continuous nature of the natural decline of the rural population is clearly visible, which has meant a loss of 10–15 thousand per year since 1995. The positive migration balance became negative from 2006 onwards. Moving from villages meant the biggest loss in 2008 and 2010.

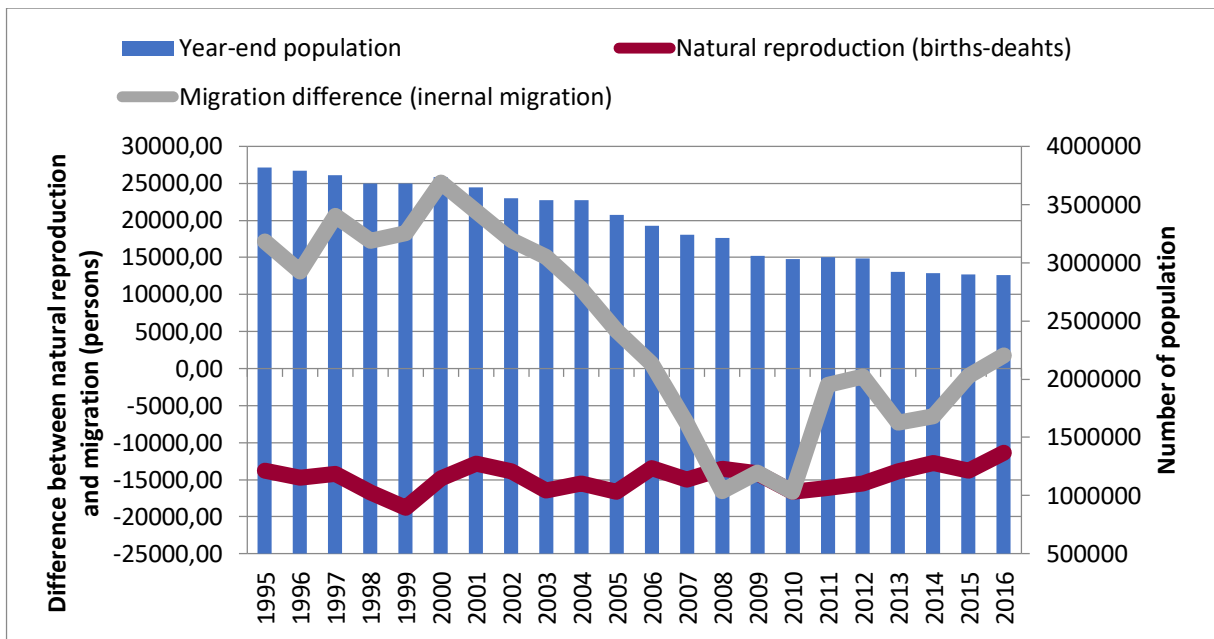


Fig 2. Population change of villages in Hungary. Source: TEIR, CSO, own editing

If we want to eliminate the population loss due to declarations as towns, it is worth analysing the population change of the settlements whose administrative classification was a village throughout the period under review (Figure 3). In 1995, 846,044, while in 2016, 938,670 people lived in settlements that were declared towns between these two dates, so this administrative change is the primary reason for the decline in the rural population (Annex No. 1)

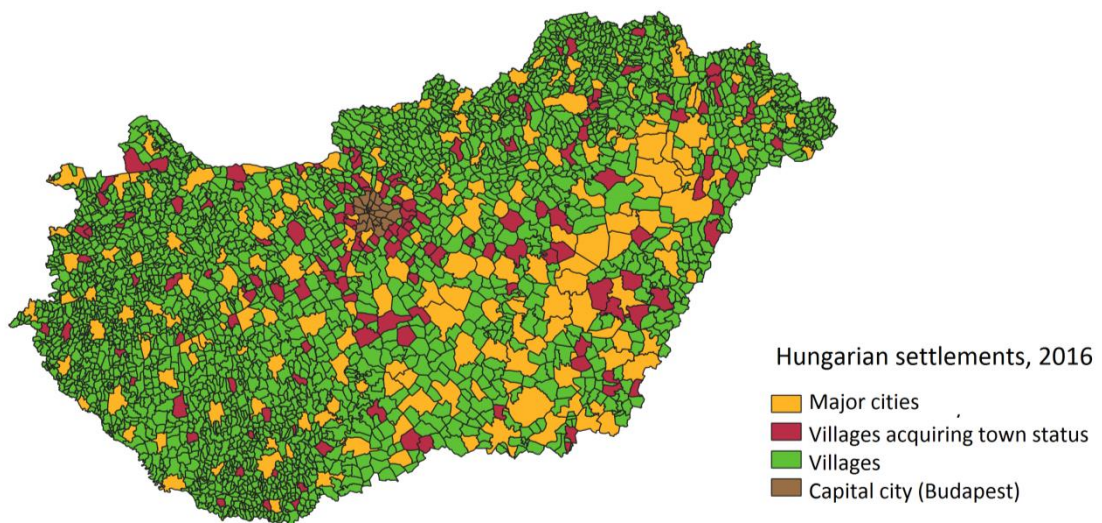


Fig 3. Administrative classification of settlements in Hungary, 2016. Source: TEIR, Own compilation

The acquisition of town status did not necessarily change the direction of the given settlement's population processes. According to the data in Table 1, about a third of new towns had an increasing population, while 44 percent had a declining population. In most cases, declaration as a town does not change the regional population characteristics of the affected settlements. The population of the settlements that had been declared towns in the catchment area of Budapest has been constantly increasing, while the acquisition of town status has not changed the declining trend in the population of the new small towns in the Great Plain.



Tab 1. The change in the population of the municipalities declared towns between 1995 and 2016. Source: TEIR, Own compilation

Categories of population changes	Number of settlements:
1) Increasing	53
2) Static +/- 3 per cent	25
3) 4 to 9 per cent decrease	19
4) 10 to 19 per cent decrease	49
5) <= 20 per cent decrease	6
<b>Total</b>	<b>152</b>

Figure 4 clearly demonstrates that the population of villages with an unchanged administrative classification was more stable; 2,972,667 people lived in these villages in 1995 and 2,894,854 people in 2016, which means a decrease of only about 78,000 people. In addition, between 2000 and 2008, more people lived in these villages than in 1995. The natural loss and migration difference does not deviate from the trends presented above.

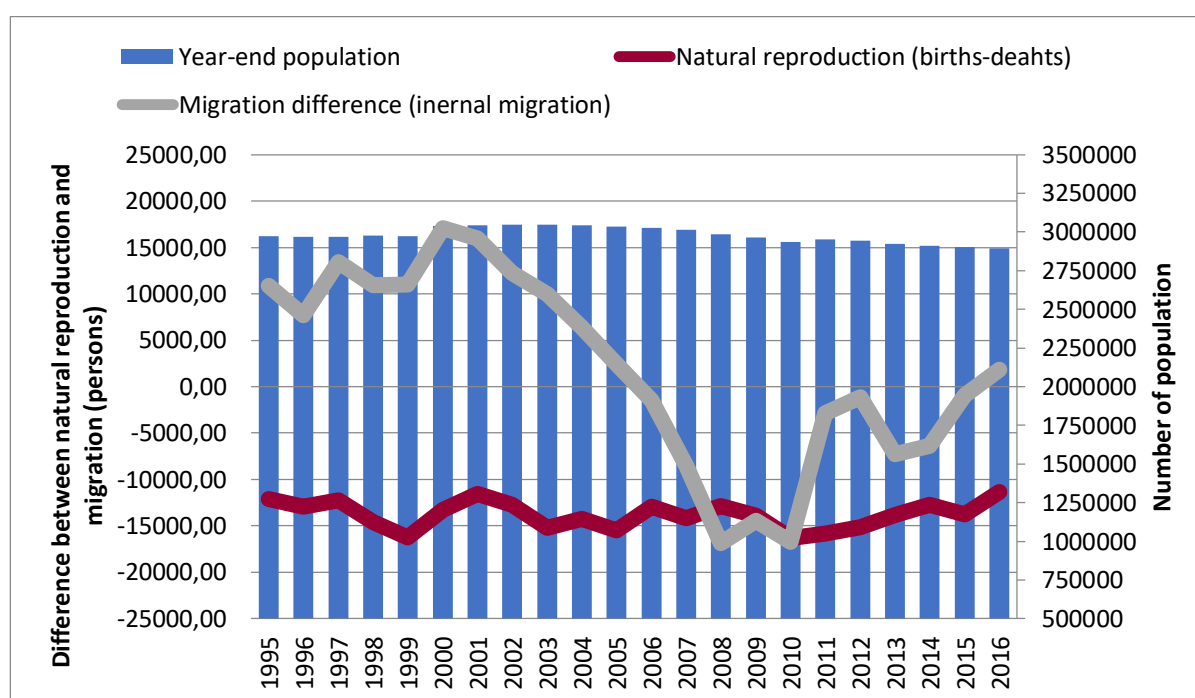


Fig 4. Population change of villages with unchanged administrative classification. Source: TEIR, CSO, own editing

## 5.2 Population change and migration trends of villages with unchanged administrative classification

There are increasingly few settlements showing natural reproduction, and the situation is even worse at the micro-regional level, as the small degree of natural reproduction within a region cannot compensate for the natural decrease. The evolution of the population of settlements is mainly determined by migration: as long as this is positive, the population will increase, remain at the same level or, in the worst case, it will only decrease slightly (Dövényi 2009). The increasing dynamics of the measured number of migrations per thousand persons since 1994 started to decrease in 2008 (Statistical Mirror 2012), which is presumably related to the administrative change in the address notification system, which we have already discussed in the methodological part. The villages with the most stable population are mainly located in the northeastern part of the country, in the central north-south strip of the Great Plain, in the areas surrounding the Budapest agglomeration, and in the north-western Transdanubia areas.

According to the migration balance, the target area of migration is mainly Central Hungary and Western Transdanubia, which, based on long time series data, always means a general migration trend from east to west (Gödri-Spéder, 2009), i.e., the domestic migration flows from more economically disadvantaged areas to more developed regions (Figure 5). The largest loss due to domestic migration affects Northern Hungary and the Northern Great Plain (Bálint-Gödri 2015).

It is known, however, that while before 1990 Budapest was a priority migration target area, from the mid-1990s, due to housing privatisation and a number of structural and lifestyle changes, migration started from Budapest, mainly to the surrounding agglomeration (Gödri, Spéder 2009, Németh 2011). The emigration from Budapest slowed down until the mid-2000s, then from 2007 the migration loss of the capital stopped, but the population gain did not stabilise and, after the turn of the millennium, emigration from Budapest was seen again (Statistical Mirror 2012, Gödri, Spéder 2009).

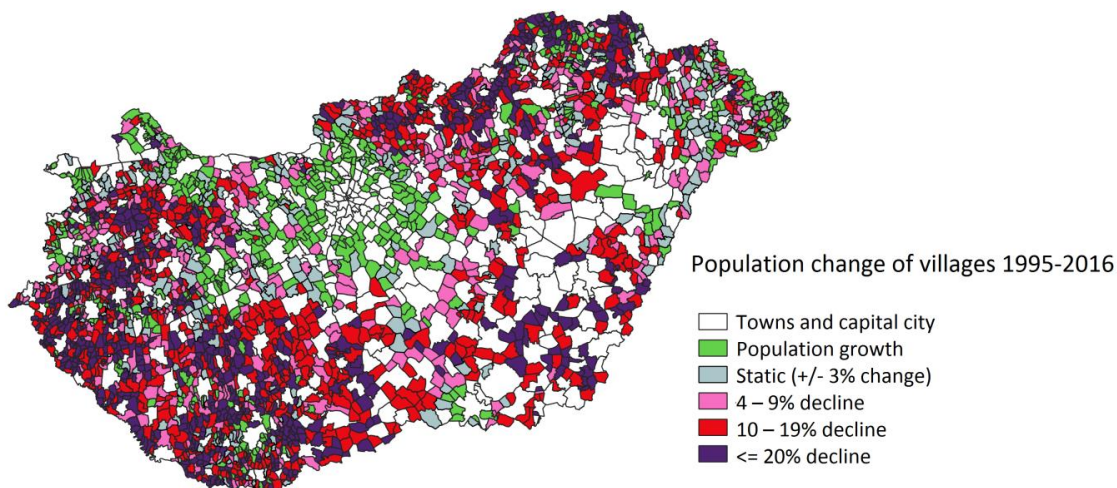


Fig 5. Types of change in the population of villages with unchanged administrative classification between 1995 and 2016. Source: TEIR, Own compilation

The development of the population of the villages is greatly influenced by domestic migration, especially in relation to the migration trends affecting Budapest. The loss suffered in the 1990s was largely absorbed by the Budapest agglomeration, so the migration gain can be seen in the case of villages (a phenomenon of suburbanisation) and, when the migration loss of Budapest stopped in 2007, the migration balance in villages became negative again (Gödri, 2009).

Among the areas favourably affected by migration processes, the micro-regions belonging to the agglomeration of the capital city should be mentioned first. There was a favourable balance of migration in some micro-regions on the shores of Lake Balaton, which basically serve as holiday locations, in the northeast and on the western border. In contrast, there is active migration from areas with unfavourable economic features, suffering from low employment and high unemployment, especially in the northeastern, eastern and southwestern parts of the country (Bálint, Gödri 2015). In the case of municipalities, with the exception of the Budapest agglomeration, immigration is lower due to economic underdevelopment, which generates further disadvantages. According to the research results of Németh (2008), low-status groups migrate to or between below-average or low-status areas, so that low-status populations accumulate in low-status areas.

Indicators of population change according to the population of the municipalities (Table 2) clearly indicate that *villages with the smallest population are most at risk of population decrease*. About 80 percent of municipalities with fewer than 500 people are among the declining villages, and more than 50 percent of them have losses in excess of 20 percent. The larger the population of a village, the smaller the trend of population decline, which also shows that changes in the population of municipalities also result in a rearrangement of population processes between smaller and larger villages. *A significant proportion of the inhabitants of small villages do not migrate to the towns but to larger villages*. Behind the relatively more stable population of settlements with continuous village status (loss of around 80,000 between 1995

and 2016), there is a dramatic rearrangement between villages. Small villages are losing their population at an accelerating rate, while the population of the majority of larger villages tend to show an increasing trend. Of the 23 villages with more than 5,000 inhabitants, 18 have increasing population and 136 of the 372 villages with a population of between 2,000 and 4,999 have increasing population (Table 2). Among the villages with an increasing population, there are only 211 out of a total of 1,769 with fewer than 1,000 inhabitants, while in more than three-quarters of this category (1,395) the population is declining.

Tab 2. Types of population changes in villages with unchanged administrative classification by size of population between 1995 and 2016. Source: TEIR, Own compilation

Size of the settlement's population (person)	Categories of population change	Number of settlements	The ratio of settlements within the category of population size (%)
<b>0–499</b>	Increasing	105	9.3
	Static +/- 3 per cent	77	6.8
	4–9 per cent decline	111	9.8
	10–19 per cent decline	236	21.0
	<= 20 per cent decline	598	53.1
	jointly	1127	100.0
<b>500–999</b>	Increasing	106	16.5
	Static +/- 3 per cent	86	13.4
	4–9 per cent decline	111	17.3
	10–19 per cent decline	224	34.8
	<= 20 per cent decline	115	18.0
	jointly	642	100.0
<b>1000–1999</b>	Increasing	144	23.4
	Static +/- 3 per cent	106	17.3
	4–9 per cent decline	134	21.8
	10–19 per cent decline	176	28.6
	<= 20 per cent decline	55	8.9
	jointly	615	100.0
<b>2000–4999</b>	Increasing	136	36.5
	Static +/- 3 per cent	61	16.4
	4–9 per cent decline	72	19.4
	10–19 per cent decline	89	23.9
	<= 20 per cent decline	14	3.8
	jointly	372	100.0
<b>5000–9999</b>	Increasing	17	77.2
	Static +/- 3 per cent	2	9.1
	4–9 per cent decline	2	9.1
	10–19 per cent decline	1	4.6
	jointly	22	100.0
<b>10000–49999</b>	Increasing	1	100.0
	jointly	1	100.0
<b>Total</b>	Increasing	509	18.3
	Static +/- 3 per cent	332	11.9
	4–9 per cent decline	430	15.5
	10–19 per cent decline	726	26.1
	<= 20 per cent decline	782	28.2
	jointly	2779	100.0

The examination of the migration gap also supports mobility between villages and the strong migration loss of small villages. When we aggregate the migration difference yearly between 1995 and 2016, it is obvious that settlements with fewer than 1000 people lost more than 45,000 people due to internal migration processes.

### 5.3 Changes in the population of villages according to the typology of population dynamics

We have seen in the above that the absolute population of the municipalities is constantly declining in the aggregate; however, this data does not differentiate between the individual settlements. In this chapter, we analyse the differences in the population change of the settlements using the typology of population dynamics (Methodology see in Chapter 2).

This typology divides settlements into six categories based on the natural reproduction (number of births – number of deaths) and the migration balance, according to whether the population of the given settlement shows a declining or increasing trend. As the main goal of our analysis is to characterise the population change of settlements, we have combined domestic and international migration in the migration balance. There is great latency in international migration, especially in the enumeration of Hungarian citizens moving abroad (Gödri 2018). Only those who declare their intention to settle abroad are registered in the CSO statistics on emigrants; there are no data on other Hungarian citizens living abroad for a longer or shorter period of time. Their numbers can be estimated on the basis of mirror statistics of the host states, based on which 20–30 thousand people appear in both emigration and immigration statistics per year. We have also included these data in the migration balance necessary to determine population dynamics, although to what extent these figures cover the actual extent of migration abroad is highly questionable.

Establishing the basic types of population dynamics is possible according to the relationships between natural reproduction and migration differences (Table 3).

Tab 3. Basic types of population dynamics. Source: Kulcsár, Obádovics 2016

Natural reproduction	Migration difference	
	Negative	Positive
Negative	Negative population dynamics	Population dynamics resulting from positive results of migration
Positive	Population dynamics resulting from natural reproduction	Positive population dynamics

However, the basic correlations determining the population dynamics only give an answer to the trends in the given settlement in each dimension, i.e., whether the given territorial unit is more of an issuing or more of a receiving area in terms of migration, and how natural reproduction/loss evolves. According to this approach, two “pure” categories can be distinguished: the parallel presence of a negative migration gap and the natural decline resulting in a declining population, while the settlements belonging to the opposite group are characterised by an increasing population.

In the case of the other settlements, the rate of natural reproduction/loss and emigration determines whether we can speak of a population-losing or gaining settlement. In this way, with changes in population determined by natural reproduction and migration differences, the typology can be differentiated further. Within the two main groups determined by population change (declining, increasing), three subgroups can be formed according to the trends of natural reproduction and migration difference.

Tab 4. Typology of population dynamics. Source: Kulcsár, Obádovics 2016

Main types of population dynamics	Subtypes of population dynamics	Change in the population number	Migration difference	Balance of natural reproduction
<b>1. Declining</b>	1.1	Declining	Negative	Negative
	1.2	Declining	Negative	Positive
	1.3	Declining	Positive	Negative
<b>2. Increasing</b>	2.1	Increasing	Negative	Positive
	2.2	Increasing	Positive	Negative
	2.3	Increasing	Positive	Positive

Every year since 2006, there are many more villages with a declining than an increasing population. In several years, the difference is doubled or even higher (Figure 6). According to the population dynamics indicator, which presents the complex changes in a more nuanced way, more than a third of the municipalities belong to the fully declining category from year to year, while the proportion of increasing municipalities is around 10 percent. The study of population dynamics changes also proves that migration has a greater impact on the population development of settlements. More than half of the villages capable of presenting an increasing population collect a surplus due to their positive migration balance (Appendix 2).

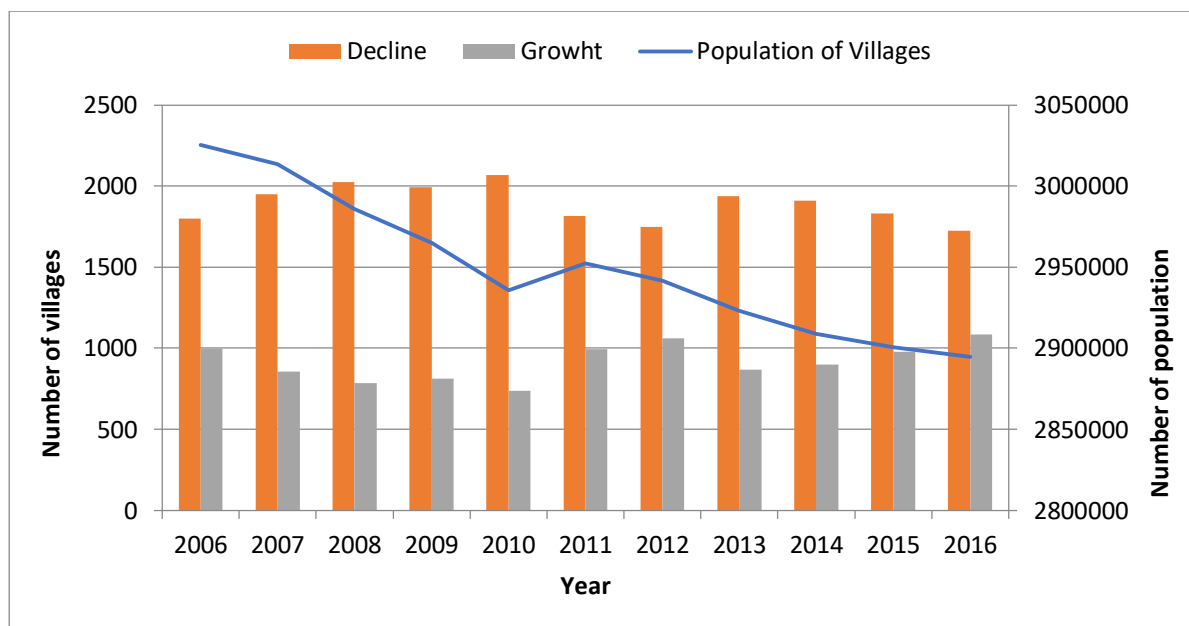


Fig 6. The villages with unchanged administrative classification by categories of population change (2006–2016). Source: TEIR, CSO, own editing

Figure 7 shows the national pattern of the distribution of villages according to population dynamics. Settlements with increasing population are in the majority around the capital city and in Győr-Moson-Sopron County, in addition to around Lake Balaton, between the Danube and the Tisza, and in smaller patches in Southern Transdanubia. In the rest of the country, especially in Northern Hungary and Southern Transdanubia, the vast majority consists of villages that lose population, which also proves the attractiveness of the more economically developed part of the country.

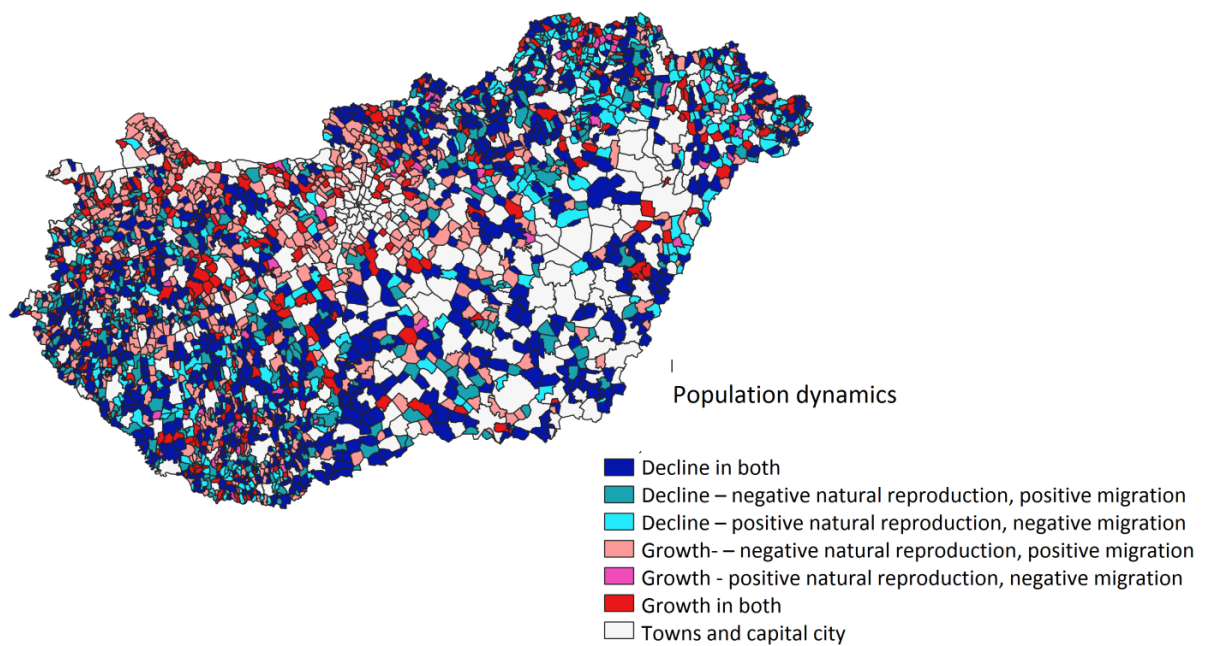


Fig 7. Population dynamics of villages, 2016. Source: TEIR, CSO, own editing

## 6. Discussion and conclusion

In our study, we undertook to provide an overview of population change in municipalities based on the latest available data (2016), looking for the answer to whether the rapid and profound economic and social structural changes of post-socialism and the historically unique periods of accession to the European Union have rearranged the numerical dominance of the rural population in Hungarian society. We strongly believe that the proportion of rural people will remain high despite structural changes in agriculture and de-peasantization (Granberg et al 2001). The source of suburbanization and agglomeration, the filling up of popular holiday areas, was rather the outflow of the urban population. Poor urban immigrants also appeared in remote villages. The target settlements of emigrants from declining small villages are primarily larger villages and not cities.

In the first part of the analyses, we examined the absolute data of the population, and then we analysed the data of the municipalities with the same administrative classification. According to the complex methods of migration and then population dynamics calculations, and according to the indicators compared to other settlement categories, we studied the population change of the villages.

The decline in the population of the villages was continuous between 1995 and 2016, but it was most strongly inflected by the declaration of 152 municipalities as towns. This administrative reclassification did not really eliminate the rural characteristics of the new towns. The decisive *part of* the loss of village population comes from a change in the administrative designation of new towns. The population of new towns increased in the catchment area of Budapest, while in other regions the population decreased, despite the new city rank. As at least half of the new towns lack a urban centre functions, the transformation of rural lifestyles is long-lasting. However, the rural population has declined significantly, but it cannot be stated that the loss has materially changed the proportion of the rural population, which is a lot higher than the average of pre-2004 EU Member States. Among the individual settlement categories, the population loss of the rural municipalities with an unchanged administrative classification is by no means the largest in percentage terms.

According to the literature on the "post-socialist demographic turn", population change increasingly depends on the balance of immigration and emigration and less on demographic events (e.g., number of births, deaths). Our results confirmed this perception. According to the migration data of the CSO, between 1995 and 2005, the migration difference in the villages was positive. Thereafter, the positive migration balance declined, then turned strongly negative between 2006 and 2012, and essentially

stagnated between 2013 and 2016. The directions and magnitude of migration affecting municipalities have changed several times since 1990, and evaluating each era is not an easy task. The period of immigration between 1995 and 2005 increased the population of municipalities on the one hand and contributed to the deepening of inequalities amongst municipalities on the other. Immigration has increased the proportion of disadvantaged social groups in backward villages, while people having higher social capital, settled in developed villages and towns. The total number of emigrations from and immigrations to municipalities is between 300,000 and 400,000 per year, which is one-third of the national data on internal migration, i.e., a slightly higher proportion than the share of villages in the total Hungarian population. It follows from this data, on the one hand, that rural local societies are by no means closed communities, and, on the other hand, that population movements of this magnitude have led to significant and continuous social re-stratification. Not all the consequences of this can be demonstrated on the basis of the available migration and demographic statistics, all of which require more complex data collection.

The post-socialist demographic turn, as well as suburbanization and agglomeration, had an impact on the change in the population of villages in fluctuating cycles. The calculations of population dynamics and the consideration of the effect of administrative reclassifications pointed out the high degree of constancy of the number of villagers. All this does not suggest that rural society has not changed, as we have emphasized through numerous examples of social transformation. However, it is clear that while the population of rural municipalities with an unchanged administrative classification was relatively stable over 20 years, with a population loss of barely three percent, there were significant shifts between village categories in terms of population volumes. The population of villages of 1,000 people, and especially those with fewer than 500 people, is rapidly declining, ageing, growing poorer and moving to larger villages, especially in metropolitan agglomerations, where urban depopulation also contributes to population growth. The radical differentiation (Kovách 2012) between peri-urban and remote villages has continued in recent years, and the differences have stagnated and hardly changed. According to the population dynamics method suitable for measuring complex changes (migration, natural reproduction/loss), the population increased in 574 villages; in 1,638 villages, the population decreased at an average rate or only to a lesser extent, and the population of 614 settlements decreased to a greater extent. Our results confirmed the importance of migration for the development of the population of the settlements. Among the municipalities of a country with a steadily declining population as a whole, those settlements where the migration balance was positive were able to grow. Behind the vision of depopulated, vacant villages, is the flow of population into better, economically more developed, larger villages.

All this can bring about a qualitative change: while the village population together with small towns people may permanently account for half of Hungarian society, after the disappearance of the traditional peasantry, the idyllic villages of the past may be substituted with a new rural settlement quality. Perhaps the international significance of the research can be deduced from the fact that it confirmed the previous statement that while, in the Central and Eastern European region, de-agriculturalisation and de-peasantisation took place (Granberg et al 2001), it was not followed by de-ruralisation.

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**Annex No 1****The change in the population of the settlements declared town between 1995 and 2016**

Year	Number of settlements	End-year population
1995	152	846,044
1996	152	849,517
1997	152	854,775
1998	152	859,433
1999	152	864,207
2000	152	889,889
2001	152	898,001
2002	152	904,588
2003	152	911,997
2004	152	919,128
2005	152	922,864
2006	152	928,613
2007	152	933,716
2008	152	936,594
2009	152	940,481
2010	152	938,548
2011	152	935,374
2012	152	935,672
2013	152	934,398
2014	152	934,226
2015	152	934,353
2016	152	938,670

## Annex No 2

### Distribution of municipalities by population dynamics categories

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Number of inhabitants in villages	3025468	3013742	2986018	2965077	2935927	2952383	2941860	2923250	2908904	2900645	2894854	
Number of municipalities	Fully declining	1079	1228	1279	1252	1310	1071	1023	1174	1149	1059	978
	Declining – natural reproduction negative, migration positive	350	337	308	345	389	419	397	337	347	366	312
	Declining – natural reproduction positive, migration negative	371	384	436	396	369	324	328	428	415	405	434
	Increasing – natural reproduction is negative, migration is positive	566	498	419	438	432	640	677	523	459	562	642
	Increasing – natural reproduction positive, migration negative	63	44	72	53	46	44	67	49	82	63	66
	Fully increasing	370	315	292	322	260	310	316	297	357	354	377
	Total	2799	2806	2806	2806	2806	2808	2808	2808	2809	2809	2809