Recent demographic developments in urban Romania

Maria-Magdalena LUPCHIAN1* and Despina SAGHIN1

¹ Department of Geography, Ștefan cel Mare University of Suceava, Romania

*Correspondence to: Maria-Magdalena LUPCHIAN. E-mail: mmlupchian@gmail.com.

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ABSTRACT: In the last 10 years, Romanian society has undergone important changes both economically, socially and culturally. If the 2011 population census captured the first changes brought about by the recent integration into the European Union, changes that are incipient and reversible, it is assumed that the 2021 census will outline a more stable picture of a Romania that has managed to partially and, above all, unevenly integrate the benefits of integration. This article aims to analyse briefly and in general terms some characteristics and transformations of the population in the Romanian urban environment, starting from the idea that the city remains the vector of change in society. Using data from the last two censuses, the changes in the structure of the urban network, demographic dynamics, the dynamics of the structure by gender and age group, the share of the population with higher education, as well as the degree of attractiveness resulting from the structure of the city population by place of birth and the share of people who have temporarily moved abroad were analysed. The analysis of these indicators was carried out, depending on the available data, either at the urban level or by city size categories.

KEY WORDS: urban population, demographic characteristics, Romania, cities.

1. Introduction

The changes that have marked Romanian society since 1989 and that continue today have also generated essential demographic changes. These changes have manifested themselves differently throughout the country depending on the size, location and economic development of the settlements. Today we speak less in terms of urban/rural and more in terms of large cities or large urban areas and deep countryside and small towns. In between are the category of urban or rural settlements near large and medium-sized towns, which are characterised by demographic, sometimes also economic, and dynamism, but which have to face problems they did not have to face 10 to 20 years ago. In 2011, the Population and Housing Census gave a picture of the changes that had taken place in the Romanian urban environment but which had only just begun. The short time elapsed since accession to the European Union and the crisis of 2009 - 2010 did not allow the 2011 data to outline a stable, clear picture of what Romanian cities represented at that time.

Rather, it was a snapshot of a moment in which some elements have survived over time, while others have disappeared or faded. In this context, we considered that the recently published data from the 2021 census can contribute to a more stable picture of the population of Romanian cities. Who lives in these cities today? What has been their demographic evolution and to what extent has it depended on the size of the cities? Which are the most dynamic (categories of) cities and which are in decline?

Numerous studies approach the evolution of Romanian cities from different perspectives. The analysis of small Romanian cities, with their strengths but also their vulnerabilities, is a theme of interest in studies in recent years (Zamfir et al., 2009, Grigorescu et al., 2012; Bănică et al., 2013; Stoica et al., 2020). Peri-urbanisation, with its consequences on the expansion of built space and its implications at the administrative level, is another subject often addressed (Suditu, 2010; Dumitrache et al. 2016; Popescu, 2020). The role of industrialisation and de-industrialisation in the evolution of Romanian cities has also been studied (Popescu, 2014) The characteristics of the urban population compared to those of the rural population were also investigated (Antonescu, 2012; Otoiu, 2018). In addition to the general studies, which consider all cities or different categories of cities in Romania, case studies (Dranca, 2013; Şoşea et al., 2014) are carried out to identify the role of the local context in the evolution of a settlement. In this context, the current study aims to make use of the most recent data on the population of Romanian cities and to outline an overall picture of the way they have evolved, especially from a demographic point of view.

3. Methods

The results obtained are based on simple processing of data from the last two population and housing censuses of 2011 and 2021; simple indices such as population growth rate, population share by city category, population share by gender and age group, demographic ageing index, share of population born in the census locality were calculated. The data thus obtained were used either to produce charts in Microsoft Excel or to produce cartodiagrams in Philcarto.

4. Results and discussion

4.1. Urban network in Romania - changes in the last 10 years

There are currently 319 municipalities and cities of various sizes in Romania, only one fewer than in 2011, when the current commune of Băneasa in Constanța county had urban status; this town became a commune again following a referendum in which the inhabitants voted in favour of returning to rural status before 2004. More than half of Romania's population lives in the more than 300 Romanian cities, but the percentage is still slightly lower than 10 years ago. Romania's urbanisation accelerated in the second half of the last century but stagnated after 1989 (Figure 1), in the new economic and political context, despite administrative tricks that elevated settlements that had nothing to do with urban living conditions to the status of cities.

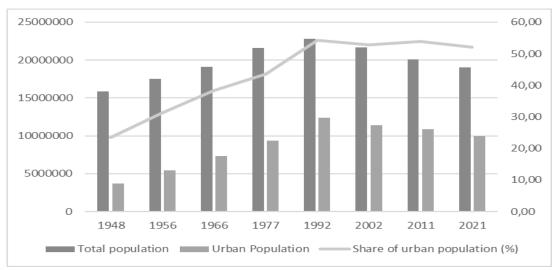


Figure 1 The evolution of the number and share of the urban population in Romania.

The distribution of the 319 cities and towns by size category reflects their influence and importance in the territory, with the size of the categories increasing as the size of the cities decreases. The most numerous are currently cities with less than 10 000 inhabitants, whose number has increased by 14 in the last 10 years. The number of very small towns and cities with fewer than 5000 inhabitants has also increased since 2011; today these very small towns and cities account for more than a quarter of all towns and cities with fewer than 10000 inhabitants, whereas in 2011 they accounted for just over a fifth. The number of larger towns and cities has been reduced between 2011 and 2022 by around 10%, with the most affected category being towns and cities with between 20 000 and 50 000 inhabitants. Cities acting as regional metropolises (over 100 000 inhabitants) are less numerous in 2021 than in 2011, and their average size has decreased. At the same time, although the population of the capital city has decreased, it still accounts for more than 17% of Romania's urban population and has a ratio of 5.9 to the second largest city in the urban network (Cluj-Napoca), which is very similar to the situation in 2011. Romania today has almost 10 million city dwellers, but more than a third of them live in cities with fewer than 50 000 inhabitants, slightly higher than in 2011.

The average size of the Romanian city has been decreasing over the last ten years and is now around 30 000 inhabitants. By size category, there are also decreases in average size for all size categories, except for cities with a population between 10000 and 20000 inhabitants, whose average size has slightly increased. A quarter of Romania's population and almost half of its urban population live in cities with more than 100,000 inhabitants; the share and number of inhabitants of large cities has decreased over the last 10 years (Table 1).

Table 1 Cities and urban population in figures.

Total populat	tion							
2011		2021		Total num	ber of cities	Medium siz	Medium size	
20 121 641		19 053 815		2011	2021	2011	2021	
Urban Population			320	319	33 933,7	31 157,06		
2011 2021				Number of cities with Medium size over 100000 inhabitants				
Nr.	%	Nr,	%	2011	2021	2011	2021	
10858790	53,97	9 939 103	52,16	20	18	282 455,7	271 262,2	
Population o	f cities with	over 100000 in	habitants					

				Number of cities with Medium size			
2011		2021		50000 – 100000			
2011		2021		inhabitants			
FC4011F	F2 02	4 002 724	40.13				
5649115	52,02	4 882 721	49,13	2011 2021 2011 2021			
Population of cities with 50000-100000 inhabitants				21 23 70 868,5 67 131,7			
				Number of cities with Medium size			
2011		2021		20000 – 50000			
				inhabitants			
1488239	13,71	1 544 029	15,53	2011 2021 2011 2021			
Population of cities with 20000-50000 inhabitants				54 48 30 084,8 29 634,4			
				Number of cities with Medium size			
2011		2021		10000 – 20000			
				inhabitants			
1624584	14,96	1 422 453	14,31	2011 2021 2011 2021			
Population of cities with 10000-20000 inhabitants				91 82 13 453,4 13 900,3			
2044	2024			Number of cities with less Domensiunea medie			
2011		2021		10000 inhabitants			
1224268	11,27	1 139 831	11,47	2011 2021 2011 2021			
Population of cities with less than 10000 inhabitants			0 inhabitants	134 148 6511,8 6419,3			
2011		2021		Of which less than 5000 inhabitants			
872584	8,04	950 069	9,56	29 38 3715,8 3665,6			

4.2. Demographic dynamics of cities

A detailed analysis of the evolution of the number of inhabitants in Romania's cities between 2011 and 2023 reveals some interesting aspects (Figure 2). All large cities with more than 100 000 inhabitants, including the capital, have lost population, some by more than 10%. The most affected city seems to be Timisoara, whose population has dropped by more than 20%, followed by Braila, Galati, Craiova, Ploiesti, Cluj-Napoca, Targu Mures, which have lost more than 10% of their 2011 population. There are generally two situations in the case of these large cities: either it is a question of the relocation of city dwellers to neighbouring localities, to which is added a component of decline through a negative natural balance (Timişoara, Cluj-Napoca, Ploieşti), or it is a question of a loss of attractiveness, combined with an ageing population and relocation to the less important peri-urban areas (Brăila, Galați, Târgu Mureș). In the case of the other categories of cities, the situation is very heterogeneous. Most affected is the category of cities with a population between 10 000 and 20 000 inhabitants, where more than 20% of cities have lost population, and less affected seems to be the category of cities with less than 10 000 inhabitants, where only 11% of cities have a smaller population in 2021 than in 2011.

Against this general background, however, there are very large discrepancies. There are towns whose population has more than doubled in the last 10 years (Popești Leordeni, Bragadiru) as well as towns that have lost more than 20% of their 2011 population in the same period (Anina, Uricani, Lupeni, Oțelu Rosu). As regards the towns whose population registered a positive evolution, regardless of their size, several situations can be identified: towns located close to the capital and large cities, which are most often dormitory towns in the area of influence of the large city (Btagadiru, Popești-Leordeni, Otopeni, Ghimbav, Năvodari, Cisnădie, etc.).), cities that have grown as a result of their location close to Romania's northern or eastern border (Vaslui, Darabani, Negrești-Oaș), cities that combine a positive natural balance with a favourable location to the borders mentioned (Vicovu de Sus, Cajvana, Rădăuți).

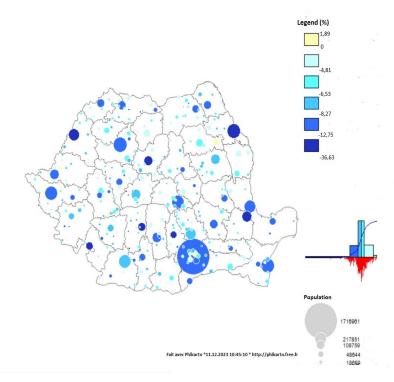


Figure 2 Growth rate of cities' population 2011 – 2021 (Source: www.insse.ro).

As a result of the differentiated evolution of the number of inhabitants, there have also been changes in the rank of cities in the urban network (Figure 3). The most significant changes occurred among cities with less than 50 000 inhabitants, and of these, very small cities experienced the most positive changes (41% of them experienced an increase in rank), while cities with between 20 000 and 50 000 inhabitants experienced the most negative changes (70% of them experienced a decrease in rank). Cities with more than 50 000 inhabitants were quite stable; if we exclude the city of Popesti-Leordeni which gained 53 places in the ranking of Romanian cities, the other cities recorded small changes of 1-2 places. The city of Vaslui stands out, with a gain of 8 places, and Hunedoara, which dropped 4 places. In the case of cities with more than 100 000 inhabitants, only Baia Mare stands out, which climbed 5 places in the ranking of cities by population size. At the level of the whole urban network, the most spectacular positive changes occurred in Ghimbav, Bragadiru, Cajvana, Popești-Leordeni and Otopeni (which climbed more than 50 places), while the most spectacular negative changes occurred in Anina, Moldova Nouă, Uricani and Oţelu Roṣu, which fell more than 30 places.

4.3. Gender and age structure of the urban population

The gender structure of the population of Romanian cities shows that the urban population is slightly more feminised than the total population, and this has become more pronounced over the last ten years; by city category, the highest degree of feminisation was characteristic of cities with more than 100 000 inhabitants in 2011, and this situation will continue in 2021. However, the speed at which this feminisation is occurring has been higher in the last ten years in cities with populations between 50 000 and 100 000, probably as a result of demographic ageing.

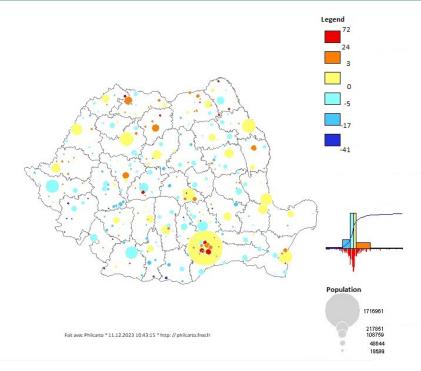


Figure 3 Evolution of cities rankings 2011 -2021 (Source: www.insse.ro).

Although there has been a very slight increase in the share of young people under 15 in Romania's population over the last 10 years (by only 0.28%), this increase is not reflected in the urban population (the under 15 population has decreased by 0.64% over the last 10 years). However, the picture is more nuanced by city category (Table 2). The increase in the share of under-15s has increased between the last censuses in cities with more than 20 000 inhabitants and decreased in smaller cities. However, the increases are insignificant (by a maximum of 1.8% in cities with more than 100 000 inhabitants), while the reduction in the share of under-15s is close to 10% for the smallest cities, those with less than 10 000 inhabitants.

In terms of the proportion of elderly people, the situation is currently similar for the urban population as for the population of the whole country. However, it is clear that the urban population has been ageing at a faster pace in the last 10 years than the total population. In 2011, the share of older people in the urban population was lower than in the total population, and the urban ageing index was significantly lower than in the total population; today the situation is reversed (Table 2). By city category, the highest level of ageing has been and remains specific to very small cities with less than 5000 inhabitants, followed by cities with more than 100 000 inhabitants. The most favourable situation was specific to cities with less than 10 000 inhabitants in 2011, against the background of a high proportion of young people under 15 years of age, and is now found in cities with between 10 000 and 20 000 inhabitants. At the same time, however, the same cities under 20 000 have been ageing at the fastest pace in the last ten years.

Table 2 Age structure of the urban population.

le d'ant au	< 15 years old			DAI*	> 65 yares old	DAI
Indicator	2011	2021	2011	2011	2021	2021
Total population	15,85	16,13	101,83	16,14	19,55	121,20
Urban population	16,28	15,64	88,08	14,34	19,75	126,27
Cities over 100000 inhab.	13,26	15,06	99,10	13,14	20,84	138,41
Cities between 50 000 - 100 000 inhab.	14,93	15,94	76,65	11,44	18,83	118,12
Cities between 20 000 - 50 000 inhab.	15,67	16,12	83,16	13,03	19,54	121,21
Cities between 10 000 – 20 000 inhab.	16,63	16,42	84,57	14,06	18,91	115,16
Cities with less than 10000 inhab.	24,97	15,65	63,27	15,80	19,80	126,51
From which cities with less 5000 inhab.	15,04	14,41	113,56	17,08	21,08	146,31

^{*} Demographic ageing index

The detailed analysis shows that the youngest city was and remains Ṭăndărei, where the share of young people has increased from 30% to 39% in the last 10 years. Youth shares of over 20% are only recorded in cities with fewer than 50 000 inhabitants, both in 2011 and 2021. It is worth noting the situation in lasi, which in 2021 will have 20% of young people under 15, compared to 13% in 2011. Other cities where the share of young people was and remained above 20% are: Vicovu de Sus, Salcea, Cajvana, Murgeni, etc. Very low shares of young people under 15 years (under 11%) are recorded in 2021 in 8 cities, most of them in the west of the country but not only (Baia de Arieș, Brad, Vașcău, Nucet, Bechet, Sulina, Sinaia, Țicleni), while in 2011 only 3 cities were in this situation (Timișoara, Sinaia and Băile Govora).

As regards the share of elderly people, while in 2011 none of the towns with more than 20 000 inhabitants reached 20%, in 2021 the exception will be towns with a share of elderly people below 20%. In fact, in some towns (Dăbuleni, Sinaia, Băile Govora and Vașcău) the elderly represent almost a third of the total population. It should also be noted that in more than half of the large towns with more than 100 000 inhabitants, the proportion of elderly people exceeds 20% of the total population. The most accelerated increase in the proportion of elderly people in the last 10 years has been in Piatra Neamţ, Focşani, Sinaia, Târgovişte, Roşiorii de Vede, Mangalia, Orşova, Plopeni, Agnita, Bălan and Băile Herculane.

The demographic ageing index analysed in terms of its evolution over the last 10 years shows a marked ageing process that has affected cities of all demographic categories. If in 2011 the value of this index exceeded 200 in only one town (Băile Govora), in 2021 this situation is found in 19 towns. With one exception (Câmpina), all these towns have fewer than 20 000 inhabitants and are located either in the mountains (Sinaia, Predeal, Bușteni, Breaza, Brad, Nucet, Baia de Arieș) or in the Banat (Orșova, Băile Herculane) or scattered in the rest of the country (Dăbuleni, Sulina, etc.). The number of cities where the demographic ageing index has a value of less than 100 has decreased from 211 in 2011 to 76 in 2021, and those with an index of less than 50 are exceptions in 2021 (Țăndărei, Bragadiru, Popești-Leordeni, Rovinari, Cajvana and Vicovu de Sus). Among the cities that have aged rapidly in the last 10 years are Motru, Uricani, Copșa Mică, Slatina, Zalău, Năvodari, Târgu Frumos, Mioveni. For all of them, the demographic ageing index has doubled between 2011 and 2021, which draws attention even if their population is not yet very old.

4.4. Other characteristics of urban population

The population structure by place of birth is an indicator that, together with the net migration rate, can show the attractiveness of a city in the past and/or present. In the case of Romanian cities, the data available for 2021 show that the "closed" cities where the share of those born in the same locality exceeds 75% are, with one exception (Borşa), cities with less than 20 000 inhabitants (Figure 4). Attractive cities for which the share of those born in another locality is higher than 50% are either large cities (Timişoara, Cluj-Napoca, Braşov) or cities located near the capital or large cities (Bragadiru, Popești-Leordeni, Voluntari, Otopeni, Năvodari, Cisnădie, Ghimbav, etc.). The same category also includes a number of cities for which the high proportion of 'newcomers' can be explained by their past attractiveness; these are former industrial or tourist cities that attracted labour from all over the country before 1989 but which, unlike the others, also have a very old population: Călan, Victoria, Anina, Ștei, Sinaia, Bușteni, Băile Tuṣnad, etc.) The lack of data by basic administrative-territorial units for 2011 makes it impossible to analyse the evolution of this indicator.

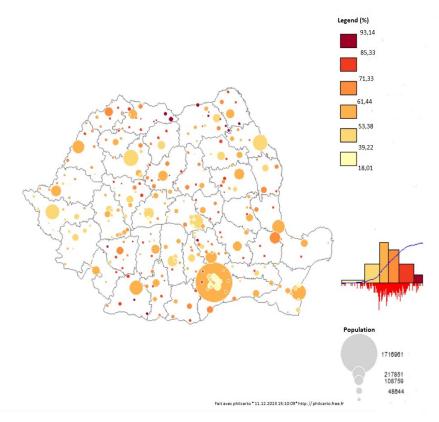


Figure 4 Share of persons born in the same locality (Source: www.insse.ro).

The level of education of the population is another important characteristic for cities; it is on this level that the innovative and attractive capacity of cities, and hence their future development, largely depends. The data available in 2021 only allow us to analyse this indicator at county level, not at city level. However, we believe that the results are relevant enough to be worth mentioning, at least in terms of the population with higher education. The differences between urban and rural areas are significant: in urban areas more than 25% of the population had higher education in 2021, while in rural areas only 8.2% of the population was in this situation. Apart

from the capital, where the share of those with higher education was the highest (37%), the counties of Cluj (33%), Ilfov (30%), Timis (29%), lasi (28.4%), Dolj (27.2%), Bihor and Brasov (26.2%) stood out with higher education graduates, while the counties of Vaslui, Calarasi, Ialomita and Botosani were at the opposite end of the scale - with values below 16% of the share of higher education graduates. The largest differences between urban and rural areas were recorded in lasi, Dolj and Cluj counties, and the smallest in Ilfov, Hunedoara, Maramures and Giurgiu counties. In 2011, the share of the population aged 10 and over with tertiary education was 22.8% in urban areas and 4.9% in rural areas, indicating slow progress in both environments over the last 10 years.

5. Conclusion

The analysis of the numerical evolution of the population of cities and the evolution of some demographic and socio-cultural characteristics over the last 10 years allows the following conclusions to be drawn:

- in the current administrative configuration, the discrepancy between the capital city and secondtier cities is maintained, which are losing rather than gaining population and becoming even less numerous; if cities with a regional role were to form unitary administrative structures of the agglomeration type with some of the neighbouring communes and towns (which are in fact inhabited by city dwellers who have come from the large city), this discrepancy would be reduced;
- more than half of Romania's urban population lives in towns with fewer than 100 000 inhabitants, and the phenomenon of population concentration in small towns (fewer than 10 000 inhabitants) has become more marked in the last ten years; practically two thirds of the country's population lives in urban and rural areas with fewer than 100 000 inhabitants;
- Romania's urban population has aged significantly in all categories of towns and cities, but the most affected remain the small towns and cities with fewer than 10 000 inhabitants, marked not only by an increase in the proportion of older people but, above all, by a significant reduction in the number of young people under 15;
- the discrepancy between the level of education of the urban population and that of the rural population remains significant, against the backdrop of a low percentage (in both urban and rural areas) of the population with higher education; unfortunately, progress in this area has been almost invisible over the last ten years, especially in urban areas.

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